Note!

Before using this information and the product it supports, read the information in "Notices" on page 213.

This edition of IBM Tivoli System Automation for Multiplatforms Reference applies to IBM Tivoli System Automation for Multiplatforms Version 3, Release 1, program number 5724-M00, and to all subsequent releases of this product until otherwise indicated in new editions.

This edition replaces SC33-8417-00

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About this book

This book contains reference information including commands and system-generated messages for IBM Tivoli System Automation for Multiplatforms running on System x, System z, System i, System p, AIX, Solaris (SPARC), and Windows.

Who should use this book

This book is intended for system administrators who want to look up command and message information for System Automation for Multiplatforms. The automation and failover capabilities of System Automation for Multiplatforms are described in the manual IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide SC33-8415.

How to use this book

This book is divided into the following chapters:

- Chapter 1, “System Automation for Multiplatforms commands,” on page 1 describes how to use the System Automation for Multiplatforms commands.
- Chapter 3, “Messages generated by System Automation for Multiplatforms,” on page 141 lists the messages that are generated by System Automation for Multiplatforms, the sampolicy command and the end-to-end automation adapter.

What’s new in release 3.1

New operating system support
This version of System Automation for Multiplatforms supports automation and high availability functionality on Solaris 10 (SPARC-based systems). Supported features include all required components of the underlying clustering infrastructure provided by RSCT, and the automation adapter for connections to the SA operations console in direct access mode and to System Automation Application Manager (if installed).

Additional operating system versions
Support for System Automation for Multiplatforms is extended to include the following operating system version: AIX 6.1.

Additional features on Windows
The following features previously unavailable on Windows are now supported:

- End-to-end automation adapter
  Support for the automation adapter means that:
  - you can include Windows automation domains as first-level automation domains in end-to-end automation management (requires System Automation Application Manager).
  - you can use the SA operations console to operate resources that are automated by System Automation for Multiplatforms on Windows.
• XML-based policy
  Resources and relationships can now be created using the sampolicy command as well as the command line interface.

• The IBM Tivoli System Automation TEC event interface option is now available on Windows. This means that System Automation for Multiplatforms can send events raised in Windows clusters to the Tivoli Enterprise Console (TEC).

Graphical automation policy editor
System Automation for Multiplatforms now provides a graphical interface for creating and maintaining automation policies.

What’s new in Fixpack 3.1.0.1

IPv6 Support with the sampolicy command (XML policies)
IPv6 addresses can now be created, changed or removed with the sampolicy command.

Where to find more information

In addition to this manual, the IBM Tivoli System Automation for Multiplatforms library comprises the following books:

• IBM Tivoli System Automation for Multiplatforms Installation and Configuration Guide SC33-8416
• IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide SC33-8415

You can download the complete documentation at

The System Automation for Multiplatforms home page offers up-to-date information and services, and other items of interest to System Automation for Multiplatforms users.

You find the System Automation for Multiplatforms home page at
Conventions

The following highlighting conventions are used in this book:

<table>
<thead>
<tr>
<th><strong>Bold</strong></th>
<th>Identifies commands, subroutines, keywords, files, structures, directories, and other items whose names are predefined by the system. Also identifies graphical objects such as buttons, labels, and icons that the user selects.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Italic</strong></td>
<td>Identifies parameters whose actual names or values are to be supplied by the user.</td>
</tr>
<tr>
<td><strong>monospace</strong></td>
<td>Identifies examples of specific data values, examples of text similar to what you might see displayed, examples of portions of program code similar to what you might write as a programmer, messages from the system, or information you should actually type.</td>
</tr>
</tbody>
</table>

ISO 9000

ISO 9000 registered quality systems were used in the development and manufacturing of this product.

Related information

The following IBM Reliable Scalable Cluster Technology (RSCT) publications are available on the IBM Tivoli System Automation for Multiplatforms CD:

- RSCT Administration Guide, SA22-7889
- RSCT for AIX 5L: Technical Reference, SA22-7890
- RSCT for Multiplatforms: Technical Reference, SA22-7893
- RSCT Messages, GA22-7891
- RSCT Diagnosis Guide, SA23-2202

RSCT publications can also be found at the following Web site:
www.ibm.com/servers/eserver/clusters/library/

You might also need to refer to the following IBM Redpaper:
- Linux on IBM zSeries® and S/390®: High Availability for z/VM® and Linux

It can be found at the following Web site:

How to obtain publications

The System Automation for Multiplatforms publications are also available (valid at the time of release) at these Web sites:

www.ibm.com/servers/eserver/clusters/library/
www.ibm.com/servers/eserver/zseries/software/sa/
www.ibm.com/software/sysmgmt/products/support/

How to reach us by e-mail

If you would like to contact us by e-mail, send your comments to eservdoc@de.ibm.com
### Chapter 1. System Automation for Multiplatforms commands

The following table lists the System Automation for Multiplatforms commands that are described in this manual:

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<th>Command</th>
<th>Description</th>
<th>For details, see page:</th>
</tr>
</thead>
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<td>chequ</td>
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<td>lsrg</td>
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<td>lsamctrl</td>
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<td>91</td>
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</tbody>
</table>
### Special considerations regarding Windows line endings

System Automation for Multiplatforms uses the Subsystem for UNIX-based Applications (SUA) to run as a UNIX program under Windows, and as such it uses the control character `\n` (that is, newline) to signify line endings. However, the Windows convention recognizes line endings with the control character sequence `\r\n` (that is, carriage return followed by newline). This convention is used, for example, when you use Windows text editors such as Notepad to create text files. Such files will not work unmodified with the System Automation for Multiplatforms command line interface. For example, the command `mkrsrc` will not accept definition files with Windows line endings. If you need to work with Windows files when using System Automation for Multiplatforms, you must first convert them to adopt the UNIX convention for line endings. You can use the command `flip` which comes with the "Utilities and SDK for UNIX-based Applications_X86" package for SUA to perform the conversion. This package is a requirement for System Automation for Multiplatforms, so you should have it already installed. Open a SUA Korn Shell and convert your text file from Windows to UNIX format with the following command:

```
flip -u <file>
```

SUA also provides UNIX editors such as `vi`. You do not need to convert line endings when using one of these editors because such files already conform to the UNIX format.

### RSCT RMC commands and files

The following table lists the RSCT commands that you need for working with System Automation for Multiplatforms. For detailed information, see the appropriate man page or see *RSCT for Linux: Technical Reference, SA22-7893.*

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>addrpnode</td>
<td>Adds a node to a cluster</td>
</tr>
<tr>
<td>chrsrc</td>
<td>Changes persistent attribute values of a resource within a specified resource class</td>
</tr>
<tr>
<td>lsrpdomain</td>
<td>Lists information about clusters</td>
</tr>
<tr>
<td>lsrpnode</td>
<td>Lists information about nodes in a cluster</td>
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<tr>
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<td>Lists resources of a resource class</td>
</tr>
<tr>
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</tr>
<tr>
<td>mkrsrc</td>
<td>Creates resources of a specified resource class</td>
</tr>
<tr>
<td>preprpnode</td>
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<tr>
<td>Command</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------------------</td>
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<td>Resets resources of a specified resource class</td>
</tr>
<tr>
<td>rmrpdomain</td>
<td>Removes a cluster</td>
</tr>
<tr>
<td>rmrpnode</td>
<td>Removes a node from a cluster</td>
</tr>
<tr>
<td>rmrsrc</td>
<td>Removes resources of a specified resource class</td>
</tr>
<tr>
<td>runact</td>
<td>Runs an action on a resource class</td>
</tr>
<tr>
<td>startrpdomain</td>
<td>Brings a cluster online</td>
</tr>
<tr>
<td>startrpnode</td>
<td>Brings a node in a cluster online</td>
</tr>
<tr>
<td>startsrc</td>
<td>Brings an individual resource online</td>
</tr>
<tr>
<td>startsrc</td>
<td>Starts an individual subsystem</td>
</tr>
<tr>
<td>stoprpdomain</td>
<td>Brings a cluster offline</td>
</tr>
<tr>
<td>stoprpnode</td>
<td>Brings a node in a cluster offline</td>
</tr>
<tr>
<td>stoprsrc</td>
<td>Brings an individual resource offline</td>
</tr>
<tr>
<td>stopsrc</td>
<td>Stops an individual subsystem</td>
</tr>
</tbody>
</table>

### Setting the environment variables

**CT_CONTACT**

When the CT_CONTACT environment variable is set to a host name or IP address, the command contacts the Resource Monitoring and Control (RMC) daemon on the specified host. If the environment variable is not set, the command contacts the RMC daemon on the local system where the command is being run. The resource class or resources that are displayed or modified by the command are located on the system to which the connection is established.

**CT_LOCAL_SCOPE**

The CT_LOCAL_SCOPE environment variable sets the RMC subsystem scope to the stand-alone environment. By default, the RMC subsystem monitors and controls the resources and resource classes on all nodes in the cluster. A cluster can consist of one or more nodes. When a cluster consists of one node, it is said to operate in a stand-alone environment. The scope of a command in the stand-alone environment is the local node. The scope of a command in a cluster environment of more than one node is the entire cluster. For a cluster of more than one node, to return or change resources or resource classes only on the node where RMC is running, set the CT_LOCAL_SCOPE environment variable to 1, as follows:

```bash
export CT_LOCAL_SCOPE=1
```

For example, assume that a cluster consists of nodes A, B, and C and the following command is run:

```bash
lsrc IBM.FileSystem
```

Resources for the file systems associated with nodes A, B, and C are returned.

If CT_LOCAL_SCOPE is set to 1 and the lsrc command is run on Node A, then only the file system resources associated with node A are returned.

**CT_MANAGEMENT_SCOPE**

The CT_MANAGEMENT_SCOPE environment variable must be set on all
nodes for all users of System Automation for Multiplatforms.
Enter `CT_MANAGEMENTSCOPE=2` (peer domain scope). The variable
may be permanently set in the profile.
adrgmbr

Name

adrgmbr - Adds one or more resources to a resource group

Synopsis

adrgmbr [-h] [-f data_input_file] [-T] [-V]

Resource_class:"selection_string" [Resource_class:"selection_string" [...]]

Resource_class:Resource_name[:Node][] Resource_name[:Node][,...]
[Resource_class:Resource_name[:Node][] Resource_name[:Node][,...]][,...]

Description

The adrgmbr command adds one or more new resources to a resource group. If a data_input_file and the -f option is not specified, then either a selection string or a resource name must be specified when this command is used. A resource name or selection string must be specified with the resource class to which it belongs. A fixed resource must include the resource class and the node name at which it resides. A member resource cannot be included in more than one resource group at the same time. A member resource cannot be in a resource group and in an equivalency at the same time. Each member of the resource group must exist as an RMC resource before being added to a resource group. A resource group member can only be defined on an online node in a cluster.

You can only add multiple resources to a resource group if they are offline and if the nominal state of the resource group is offline. If the OpState of a resource to be added is online, the addition of that resource would cause an immediate stop of that resource. If the resource is in the process of stopping, then the addition of another resource would be rejected.

Member resources and their attribute flags can be specified on the command line as the syntax indicates or from a file when used with the -f option. The value must be the same data type that is defined for this resource attribute. Use the lssrcdef command to verify the data type and attribute field for each attribute.

Options

- **-f data_input_file**
  Name of the file which contains member resource attribute information.
  On Windows, the file must conform to the UNIX convention for line endings. (See \["Special considerations regarding Windows line endings" on page \[2\])

- **-g Resource_group**
  The unique name of the resource group, to which the member resources are to be added. This represents the MemberOf attribute of the Managed Resource.

- **-h**
  Help. Writes the command’s usage statement to standard output.
addrgmbr

-m T | F
  Mandatory Attribute. Specifies whether this managed resource is required in the resource group.
  T   TRUE (the Default). These managed resources are required by the resource group.
  F   FALSE. These managed resources are not required by the resource group.

-p A | O
  Specifies the method to be used when selecting a node for placing the resource on. The value can be:
  A   Any.
  O   Ordered. This is the default.

-s
  Specifies that a selection string will be used instead of the resource name.

-T
  Writes the command’s trace messages to standard error. For your software-service organization’s use only.

-V
  Writes the command’s verbose messages to standard output.

Parameters

Resource_class:"selection_string"
  Specifies the selection string. The -s option determines this parameter. Each selection string must be preceded by a resource class. The specified selection string is applied to its corresponding Resource_class attributes to determine which resources are to be made members of the Resource_group. The selection_string and its resource class must be separated by the colon or ": " delimiter.

  The selection string must be enclosed within either double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:
  -s IBM.Application:'Name == "testing"
  -s IBM.Application:'Name != "test"
  -s IBM.Application:'Name like "%" (For all resources)

  For information on how to specify selection strings, see "Using expressions" on page 100.

Resource_class:Resource_name[:Node]
  Member Resources. This specifies one or more member resources that are to be acted on. Resources belonging to different resource classes can also be specified using this syntax. However, member resources belonging to different classes must be separated by spaces. A member resource is identified by the resource’s class (Resource_class), the resource’s name (Resource_name), and optionally the node (Node) the resource is on. The Resource_class, Resource and Node must be separated by a colon.

  Resource_class is the name of the resource class the member resource belongs to. Resource is the name of the actual member resource in its class. The node may have to be included when trying to act on a fixed member resource. The node and its resource must be separated by the colon or ": " delimiter. Multiple resources belonging to the same resource class can also be specified and are separated by a comma:

  Resource_class:Resource[.Node][.Resource[.Node][...]]

  The member resources must exist in the resource group for the requested action to take place.
Exit Status

0   Command has run successfully.
1   Error occurred with RMC.
2   Error occurred with CLI script.
3   Incorrect flag on command line.
4   Incorrect parameter on command line.
5   Error occurred with RMC that was based on faulty command line input.
6   The specified resource was not found.
7   Resource already exists.

Security

This command requires root authority, or a user ID with appropriate permissions.
(For more information, see IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide section "Setting up non-root security").

Examples

1. To create member resources using the data input file, do the following:
   a. To generate a template to aid in the defining of these resources in a file, enter the command:
      
      lsrsrcdef -i IBM.ManagedResource >/tmp/MgdR.rdef
   
      b. Edit the file /tmp/MgdR.rdef with your preferred file editor: (Enter values for all of the attributes, substituting an appropriate value for the type, or leave it blank if you want the default value.)
   
      c. Run the addrgmbr command with the file as follows:
         
         addrgmbr -f /tmp/MgdR.rdef

   Sample Data Input file for addrgmbr:
   You can enter values for all of the attributes and thus change the value shown below, or remove the line with the attribute if you want the default value.

   PersistentResourceAttributes::
   resource 1:
      ManagedResource = IBM.Application:App1
      MemberOf = "charmC"
   resource 2:
      ManagedResource = IBM.Application:Res2:saopt02
      MemberOf = "charmC"
   Mandatory = false

2. To add a member resource tester belonging to resource class IBM.Application, to a resource group foo, enter:
   
   addrgmbr -g foo IBM.Application:tester

3. To add a floating resources tester belonging to resource class IBM.Application, as member to a resource group foo, enter:
   
   addrgmbr -g foo IBM.Application:tester,Jfoo,Dfoo

4. To add the floating resources tester and Jfoo belonging to resource class IBM.Application, and the fixed resource ip1 of class IBM.ServiceIP, residing at node node1, as members to a resource group foo, enter:
   
   addrgmbr -g foo IBM.Application:tester,Jfoo,Ip1:node1

5. To add selected member resources of the resource class IBM.Application, to a resource group foo as a mandatory resource, enter:
   
   addrgmbr -m T -g foo IBM.Application:jfoo,foo
addrgmbr

**Sample data input file:**

```
PersistentResourceAttributes::
  resource 1:
  ManagedResource = "0x001b 0xffff 0x35c05b13 0x00000000
                   0x9a6ee5e0 0x0de8934c"
  MemberOf = "charmC"
  resource 2:
  ManagedResource = "0x001b 0xffff 0x35c05b13 0x00000000
                   0xb4d7e1b0 0x0def4ba2"
  MemberOf = "charmC"
  Mandatory = 0
  NominalState = 0
```

**Files**

`/usr/sbin/rsct/bin/addrgmbr`  Location of the `addrgmbr` command.

`data_input_file`

**See Also**

- `samctrl`, `chrel`, `chrg`, `chrgmbr`, `lsrg`, `mkrg`, `mkrel`, `rmrel`, `rmrg`, `rmrgmbr` commands.
- The `rmclcli` General Information file.
- The `Resource_Data_Input` file
Name

chequ - Changes an already-defined resource equivalency.

Synopsis


Description

The chequ command changes a resource equivalency. Resources can be added, removed, or totally replaced in an equivalency. All resources in an equivalency must be from the same resource class. Even the name of the equivalency can be changed with this command.

Equivalencies and their attribute flags can be specified on the command line as the syntax indicates. The value must be the same data type that is defined for the resource attributes. Use the lsrsrdef command to verify the data type and attribute field for each attribute.

Options

-u a | d | r

Update Equivalency resources.

a     Adds the specified resources to the specified equivalency.
d     Deletes the specified resources from the specified equivalency.
r     Replace/Overwrite Equivalency resources. Replaces the equivalency resources with the specified equivalency resources.

-c New_Equiv

Specifies a new name that replaces the current Equivalency parameter.

-D "Dynamic_selection_string"

The specified selection string will be saved as the SelectString attribute for the concerned equivalency. This dynamic_selection_string is then applied to all resources of the specified resource class by the Recovery Manager to dynamically determine what members are to be included in the specified equivalency. This option must be used with the r option and can also not be combined with the Resource_name [: Node] operand. The selection string must be enclosed within double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:

-D 'Name == "testing"'
-D 'Name != "test"'
The -D option can neither be combined with the -S option nor with an ORDERED SelectFromPolicy (-p O).

-h Help. Writes the command’s usage statement to standard output.

-i Interactive Prompt. Prompt before changing equivalency.

-p A | O | Failback | NoFailure | NoControl
Specifies the equivalency select-from policy. The value can be:
  A    Any. This is the default value.
  O    Ordered. The value cannot be used together with the -D option.

Additional, optional (comma-separated) values:
- Failback (only in combination with Ordered)
- NoFailure
- NoControl

-m Minimum_Necessary
Minimum Necessary Equivalency. Specifies the minimum necessary members to make an equivalency valid.

-S "Static_selection_string"
The specified selection string will be applied to the specified resource class to determine the resources that make up the equivalency. These resources will then be saved as the Membership attribute for the concerned equivalency. This option cannot be combined with the Resource_name [: Node] operand. Resources can be added, deleted and replaced when using this string. The selection string must be enclosed within double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:
  -S 'Name == "testing"'
  -S 'Name ~= "test"'

-S cannot be combined with -D.

For information on how to specify selection strings, see "Using expressions" on page 100.

-T Writes the command’s trace messages to standard error. For your software-service organization’s use only.

-V Writes the command’s verbose messages to standard output.

Parameters

Equivalency
Specifies the unique name of the already defined equivalency to be changed.

Resource_class:Resource_name[:Node]
Specifies one or more resources that will be added to or deleted from the specified equivalency. All of the resources must be from the same resource class. An equivalency resource is identified by the resource class (Resource_class) and the resource name (Resource_name), and, optionally, the node (Node) at which the resource resides. Resource_class, Resource_Name, and Node must be separated by a colon. Resource_class is the name of the Resource_class the equivalency resource belongs to. The first resource or Resource_name[:Node] must be preceded by the Resource_class it belongs to and it must be separated by the colon (:) delimiter. Multiple resources
can be specified and are separated by a comma. Since all resources must be from the same class, the Resource_class is to be specified only once as the syntax indicates.

Exit Status
0  Command has run successfully.
1  Error occurred with RMC.
2  Error occurred with CLI script.
3  Incorrect flag on command line.
4  Incorrect parameter on command line.
5  Error occurred with RMC that was based on faulty command line input.
6  Resource specified was not found.
7  Resource already exists.

Security
This command requires root authority, or a user ID with appropriate permissions.
(For more information, see IBM Tivoli System Automation for Multiplatforms [Administrator’s and User’s Guide](#) section “Setting up non-root security”.)

Examples
1. To add another resource tester that belongs to resource class IBM.Application to an equivalency called foo, type:
   chequ -u a foo IBM.Application:tester:node-name
2. To delete a resource tester1 that belongs to resource class IBM.Application from an equivalency called test, enter:
   chequ -u d test IBM.Application:tester1:node-name
3. To add an equivalency called Jfoo with selected members of the resource class IBM.Application by using a select string, enter:
   chequ -u a -S "ResourceType==0" Jfoo IBM.Application
4. To overwrite an equivalency called Jfoo with selected members of the resource class IBM.Application by using a dynamic select string, enter:
   chequ -u r -D "ResourceType==0" Jfoo IBM.Application

Files
/usr/sbin/rsct/bin/chequ  Location of the chequ command.

See Also
The samctrl, lsequ, mkequ, rmequ commands.
The rmccli General Information file.
Name

**chrel** - Changes one or more managed relationships between resources.

Synopsis

```
chrel [-h] [-i] [-u a | d | r] [-s "Selection_string"] [-c relation_name]
        [-p relationship] [-o condition] [-W
        New_Target_Class::Resource_name::Node][,New_Target_Class::Resource_name::Node]
        [...]]] [-w "New_Target_string"] [-T] [-V]
```

```
        New_Target_Class::Resource_name::Node]
        [,New_Target_Class::Resource_name::Node][,...]]] [-w "New_Target_string"]
        [-T] [-V] Managed_Relation
```

```
chrel [-h] [-i] [-u a | d | r] [-c relation_name] [-p relationship] [-o condition]
        [-W New_Target_Class::Resource_name::Node][,New_Target_Class
        [:Resource_name::Node][,...]]] [-w "New_Target_string"] -S Source_Class
        [:Resource_name::Node] [-s "Source_string"] [-G Target_Class::Resource_name::Node]
        [,Target_Class::Resource_name::Node][,...]]] [-g "Target_string"]
```

Description

The **chrel** command modifies a managed relationship between resources. The managed relationship is between a source resource and one or more target resources. The source resource must be a member of a resource group. A target resource does not have to be in a resource group. Managed relationships and their attributes can be specified on the command line as the syntax indicates. The attribute value must be of the same data type that is defined for the resource attribute. Use the **lsrsrscpdef** command to verify the data type and attribute field for each attribute.

Options

```
-u a | d | r
```

Update targets.

```
a    Add the specified new target resources to the relationship defined for the source resources.
```

```
d    Delete the specified new target resources from the relationship defined for the source resources.
```

```
r    Replaces (overwrites) the relationship defined for the source resource with the specified new target resources.
```

```
-o condition
```

Specifies the new condition to be used when a Location relationship (Collocated, AntiCollocated, Affinity, or AntiAffinity) or a StartAfter relationship (IfPossible condition only) is defined. The value can be the numeric value or the word (not case-sensitive):

```
0x0000 or NoCondition
```

Specifies unconditional location relationship.
0x0001 or IfOnline
  Specifies that the target resource is online.

0x0002 or IfOffline
  Specifies that the target resource is offline, failed offline, or
  unknown.

0x0003 or IfNotOnline
  Specifies that the target resource is not online.

0x0004 or IfNotOffline
  Specifies that the target resource is neither offline nor failed offline.

0x0005 or IfPossible
  Used in conjunction with the StartAfter relationship. Specifies that
  the target resource group may be bypassed if it cannot be bound,
  in which case it ends up in Sacrificed state and the StartAfter
  relationship is ignored.

-O condition
  Specifies the condition value to query all the defined relationship
to find a match with an existing condition. The value can be the numeric value or
the word (not case-sensitive):

0x0000 or NoCondition
  Specifies unconditional location relationship.

0x0001 or IfOnline
  Specifies that the target resource is online.

0x0002 or IfOffline
  Specifies that the target resource is offline, failed offline, or
  unknown.

0x0003 or IfNotOnline
  Specifies that the target resource is not online.

0x0004 or IfNotOffline
  Specifies that the target resource is neither offline nor failed offline.

0x0005 or IfPossible
  Used in conjunction with the StartAfter relationship. Specifies that
  the target resource group may be bypassed if it cannot be bound,
in which case it ends up in Sacrificed state and the StartAfter
  relationship is ignored.

-g Target_string
  The Target_string is applied to all resources of the resource class specified
  by the -G option, to determine the targets of the relationship.

  If the -g option is used to specify a target selection string, Resource_name
  and Node must not be specified for the -G option.

-G Target_class[Resource_name[:Node]]
  Specifies the target resources to add, delete, or replace with the
  relationship. The target resource or resources will be used with the source
  and any other specified query to find a match from all of the defined
  relationships. A target resource is identified by the resource’s class
  (Target_class), the resource name (Resource_name), and, optionally, the node
  (Node) on which the resource resides. Target_class, Resource_name, and Node
  must be separated by colons. Multiple target resources can be specified and
  are separated by commas. The colons are required, but omitting Target_class
or Resource_name causes the previously specified class or name to be used when multiple target resources are specified.

If the -g option is used to specify a target selection string, Resource_name and Node must not be specified for the -G option.

-h Writes the command’s usage statement to standard output.

-i Interactive. Prompt before changing relationships.

-c relation_name
   Specifies the new name for the specified managed relationship. This change-of-name can only be applied to one relationship. This means that if a name change is required, Queries and Selection strings should match with only one relationship.

-p relationship
   Specifies the new managed relationship to apply. The value can be the numeric value or the word (not case-sensitive):

0x0001 or Collocated
   Specifies that the source and the target resources are to be located on the same node.

0x0002 or AntiCollocated
   Specifies that the source and the target resources are to be located on different nodes.

0x0003 or Affinity
   Specifies that the source resource and its specified affinity resource are to be located on the same node, if possible.

0x0004 or AntiAffinity
   Specifies that the source resource and its specified affinity resource are to be located on different nodes, if possible.

0x0005 or IsStartable
   Specifies that the source and its target resources are startable.

0x0006 or StartAfter
   Specifies that the source is to be started after the target resources.

0x0007 or DependsOn
   Specifies that the target resources must be online before the source resource is started.
   • A DependsOn relationship also includes an implicit collocation between the source and target resources (see the description of Collocated relationship in IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide).
   • If a target resource fails, the source resource will also be stopped.

0x0008 or DependsOnAny
   Specifies that the target must be online before the source resource is started. It is identical to the DependsOn relationship except that it does not provide the collocated constraint for the start sequence. Therefore the source and target resources may not be started on the same node.

0x0009 or StopAfter
   Specifies that the source resource may not be stopped until after the target resource has been brought offline.
0x000A or ForcedDownBy
Specifies that the source resource must be forced offline in the event that either the target resource goes offline unexpectedly or the target resource itself is forced offline.

-P relationship
Specifies the managed relationship value used to query all the defined relationships to find a match. The value can be a numeric value or the word (not case-sensitive):

0x0001 or Collocated
Specifies that the source and the target resources are to be located on the same node.

0x0002 or AntiCollocated
Specifies that the source and the target resources are to be located on different nodes.

0x0003 or Affinity
Specifies that the source resource and its specified affinity resource are to be located on the same node, if possible.

0x0004 or AntiAffinity
Specifies that the source resource and its specified affinity resource are to be located on different nodes, if possible.

0x0005 or IsStartable
Specifies that the source and its target resources are startable.

0x0006 or StartAfter
Specifies that the source is to be started after the target resources.

0x0007 or DependsOn
Specifies that the target resources must be online before the source resource is started.
• A DependsOn relationship also includes an implicit collocation between the source and target resources (see the description of Collocated relationship in [IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide]).
• If a target resource fails, the source resource will also be stopped.

0x0008 or DependsOnAny
Specifies that the target must be online before the source resource is started. It is identical to the DependsOn relationship except that it does not provide the collocated constraint for the start sequence. Therefore the source and target resources may not be started on the same node.

0x0009 or StopAfter
Specifies that the source resource may not be stopped until after the target resource has been brought offline.

0x000A or ForcedDownBy
Specifies that the source resource must be forced offline in the event that either the target resource goes offline unexpectedly or the target resource itself is forced offline.

-w New_Target_string
Specifies the target selection string for the resources to add, delete or
replace with the relationship. *New_Target_string* is applied to all resources of the resource class specified by the `-G` option to determine the targets of the relationship.

If the `-g` option is used to specify a target selection string, *Resource_name* and *Node* must not be specified for the `-G` option.

**-W** *New_Target_Class: Resource_name[: Node]*

New Target resources. These resources will be added, deleted or replaced as required to or from the current list of target resources for the matching relationships. A target resource is identified by the resource’s class ( *Resource_class*), the resource’s name ( *Resource_name*), and optionally the node ( *Node*) the resource is on. The *Resource_class*, *Resource_name* and *Node* must be separated by a colon. Multiple target resources can be specified and are separated by a comma. The colons are required but omitting the *Resource_class* or *Resource_name* causes the previously specified class or name to be used when specifying multiple target resources.

If the `-g` option is used to specify a target selection string, *Resource_name* and *Node* must not be specified for `-G`.

**-s** *Selection_string*

Specifies the source selection string of the relationship to change. *Selection_string* is applied to all resources of the resource class specified by the `-S` option to determine the source of the relationship. The result of the selection may contain one or more resources.

If the `-s` option is used to specify a source selection string, *Resource_name* and *Node* must not be specified for the `-S` option.

**-S** *Source_class[:Resource_name[:Node]]*

Specifies the source resource of the relationship to change. A source resource is identified by the resource class ( *Resource_class*) of the resource, the resource name ( *Resource_name*), and, optionally, the node ( *Node*) at which the resource resides. The result of the selection may contain one or more resources.

If the `-s` option is used to specify a source selection string, *Resource_name* and *Node* must not be specified for the `-S` option.

**-T**

Writes the command’s trace messages to standard error. For your software-service organization’s use only.

**-V**

Writes the command’s verbose messages to standard output.

**Parameters**

*Managed_Relation*

Name of the managed relationship to be changed. Using the `-c` option, even the name of the relationship can be modified.

**Exit Status**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Command has run successfully.</td>
</tr>
<tr>
<td>1</td>
<td>Error occurred with RMC.</td>
</tr>
<tr>
<td>2</td>
<td>Error occurred with CLI script.</td>
</tr>
<tr>
<td>3</td>
<td>Incorrect flag on command line.</td>
</tr>
<tr>
<td>4</td>
<td>Incorrect parameter on command line.</td>
</tr>
</tbody>
</table>
Error occurred with RMC that was based on faulty command line input.

Resource specified was not found.

Resource already exists.

Security

This command requires root authority, or a user ID with appropriate permissions. (For more information, see IBM Tivoli System Automation for Multiplatforms Administrator's and User's Guide section "Setting up non-root security").

Examples

1. To add a relationship for a resource tester that belongs to resource class IBM.Application with target resources from resource class IBM.Application, whose ResourceType is set to zero, enter:
   
   chrel -u a -S IBM.Application:tester -W IBM.Application
   -w "ResourceType==0" -G IBM.Application
   -g "ResourceType==1"

2. To modify a relationship for a source resource narten that belongs to resource class IBM.Application to add resources tr0 and en0 of resource class IBM.NetworkInterface, enter:
   
   chrel -u a -S IBM.Application:narten
   -W IBM.NetworkInterface:tr0,:en0

Files

/usr/sbin/rsct/bin/chrel Location of the chrel command.

See Also

The addrgmbr, chequ, chrg, chrgmbr, lsrg, mkequ, mkrel, mkrg, mrequ, rmrel, rmrg, rmrgmbr commands.

The rmccli General Information file.
**Name**

chrg - Changes persistent attribute values of one or more resource groups (including starting and stopping resource groups).

**Synopsis**

```bash
```

```bash
```

**Description**

The `chrg` command changes the persistent attribute values of one or more resource groups. The name of the resource group is specified by `Resource_group`. The resource groups to be changed can also be determined using the selection string with the `-s` option. The name of a resource group can also be changed with this command using the `-c` option. System Automation for Multiplatforms will then update all the associated member resources with this change. To allow System Automation for Multiplatforms to monitor and control these resource groups, the resource group must be in an Online Nominal State.

**Options**

- `-c new_name`
  - Specifies the new `Resource_group` name. Renames the `Resource_group` name with `new_name`.

- `-e equiv_name`
  - Specifies the equivalency name of the nodes on which the `Resource_group` can run. This option cannot be combined with the `-n` option. To set the resource group with the equivalency of all nodes in the cluster, specify `equiv_name` as the string ALL.

- `-h`
  - Writes the command’s usage statement to standard output.

- `-i`
  - Interactive. Prompt before changing resource groups.

- `-u a | d | r`
  - Specifies what should be done with the specified node list. Note that these options require the `-x` option.
    - `a` Adds the specified nodes to the list of excluded nodes.
    - `d` Deletes the specified nodes from the list.
    - `r` Replaces the exclude list with the specified nodes.

- `-x node1,...nodeN`
  - Specifies the excluded node list. Only to be used in conjunction with `-u a | d | r`. 
-l relationship
  Specifies the location relationship among the members of the resource group. The location relationship value can be entered as the numeric value or as the word (not case-sensitive):

  0x0000 or None
  None. Specifies that member resources of the resource group can be on any node

  0x0001 or Collocated
  Specifies that member resources of the resource group are to be located on the same node.

-n node_name
  Specifies the node on which the Resource_group can run. This option cannot be combined with the -e option.

-o nominal_state
  Specifies the Nominal state of the resource group, which can be online or offline. Nominal state values can be entered as the numeric value or as the word (not case-sensitive):

  0x0000 or Online
  Online. Specifies that the desired state of Resource_group is online.

  0x0001 or Offline
  Offline. Specifies that the desired state of Resource_group is offline.

-p priority
  Specifies the relative importance of this resource group compared to other resource groups. Priority can be any integer from 0 to 200: the higher the integer, the higher the priority. The default priority value is 0.

-N Owner
  A string with the name of the owner or contact for the group.

-D Description
  A string describing the purpose of the group.

-I InfoLink
  A string containing the URL of a HTML page which shows additional information about the resource group.

-s Selection_string
  Specifies the source selection string of the persistent attribute values to change. Selection_string is applied to all existing resource groups.

  The selection string must be enclosed within either double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:

  -s 'Name == "testing"'
  -s 'Name != "test"'
  -s 'Name like "%"' (For all resources)

  For information on how to specify selection strings, see "Using expressions" on page 100.

-T
  Writes the command’s trace messages to standard error. For your software-service organization’s use only.

-V
  Writes the command’s verbose messages to standard output.
**Parameters**

*Resource_group*

The unique name of the resource group to be changed. This resource group must already exist for this operation to succeed. Multiple resource groups can be specified but must be separated by spaces.

**Exit Status**

0  Command has run successfully.
1  Error occurred with RMC.
2  Error occurred with CLI script.
3  Incorrect flag on command line.
4  Incorrect parameter on command line.
5  Error occurred with RMC that was based on faulty command line input.
6  Resource specified was not found.
7  Resource already exists.

**Security**

This command requires root authority, or a user ID with appropriate permissions. (For more information, see IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide, section “Setting up non-root security”.)

**Examples**

1. To change the persistent-attribute location relationship to Collocated, Nominal state to Online, and the priority value to 34 of a resource group called foo, enter:
   
   \[ \text{chrg} -l \text{collocated} -o 0 -p 34 \text{ foo} \]

2. To change the name of resource group foo to clusterfoo with location relationship now changed to None, and allowed node name of cluster, enter:
   
   \[ \text{chrg} -c \text{clusterfoo} -l 0 -n \text{cluster foo} \]

3. To change the location relationship to None, and allowed node name cluster for all resource groups containing the name foo, enter:
   
   \[ \text{chrg} -l \text{none} -n \text{cluster} -s 'Name like "%foo"' \]

**Files**

\[ /usr/sbin/rsct/bin/chrg \]

Location of the chrg command.

**See Also**

The addrmgbr, samctrl, chrgmbr, lsrng, mkrg, rmrg, rmrgmbr commands.

The Resource_Data_Input file.

The rmccli General Information file.
chrgmbr

Name

chrgmbr - Changes the persistent attribute value(s) of a managed resource in a resource group

Synopsis

chrgmbr [-h | -i] [-c New_group] [-m T | F] [-p A | O] [-g Resource_group]

chrgmbr [-h] [-i] [-s [ -c New_group] [-m T | F] [-T] [-V]
        [-g Resource_group] [-p A | O] "selection_string"

chrgmbr [-h] [-i] [-c New_group] [-m T | F] [-T] [-V]
        [-g Resource_group] [-p A | O] "selection_string"
        [Resource_class: "selection_string" [...]]

chrgmbr [-h] [-i] [-c New_group] [-m T | F] [-T] [-V]
        [-g Resource_group] [-p A | O]
        Resource_class: Resource_name[;Node][;Resource_name[;Node][...]]
        [Resource_class: Resource_name[;Node][;Resource_name[;Node][...]] [...]]

Description

The chrgmbr command changes the attributes of the specified member resources. When the selection string is the only parameter, then it is applied directly to IBM.ManagedResource class. Otherwise, a resource name or selection string must be specified with the class to which it belongs. This command allows the user to specify changes to the Mandatory attribute of a managed resource by using the -m option and also allows the user to change the resource group to which the resource belongs by using the -c option. A fixed resource must include the resource class and the node name at which it resides. The resource class and resource name, the resource name and the node must be separated by a colon.

Options

- c New_group
  Specifies a new resource group name, which changes the MemberOf attribute of the managed resource. This option specifies the Resource_group, or changes the Resource_group of which this managed resource is a member, to the New_group.

- g Resource_group
  Specifies the name of the resource group of which the resources are members. This represents the MemberOf attribute of the Managed Resource.

- h
  Writes the command’s usage statement to standard output.

- i
  Interactive. Prompt before changing resource groups.

- m T | F
  Specifies whether this managed resource is required in the resource group.
  T TRUE. These managed resources are required by the resource group.
F  FALSE. These managed resources are not required by the resource
group.

-p A | O
   Specifies the method to be used when selecting a node for placing the
   resource on. The value can be:
   A  Any.
   O  Ordered. This is the default.

-s  Specifies that a selection string will be used.
-T  Writes the command’s trace messages to standard error. For your
   software-service organization’s use only.
-V  Writes the command’s verbose messages to standard output.

Parameters

Resource_class
   Specifies the name of the resource class to which the member resource
   belongs. The resource and the resource class must be separated by the
   colon (:) delimiter. Also the selection_string and its resource_class must be
   separated by the colon (:) delimiter.

Resource_class:selection_string
   The -s option determines this operand. Each selection string must be
   preceded by a resource class. Resource_class indicates the name of the
   resource class the selection_string will be applied to. The selection_string
   and it’s Resource Class must be separated by the colon (:) delimiter. The
   specified selection string will be applied to its corresponding
   Resource_class attributes to determine which member resources are to be
   changed. The selection string must be enclosed within double or single
   quotation marks. If the selection string contains double quotation marks,
   enclose the entire selection string in single quotation marks. For example:
   -s 'Name == "testing"'
   -s 'Name != "test"'
   -s 'Name like "%"' ( For all resources)

   For information on how to specify selection strings, see "Using
   expressions" on page 100.

Resource_class:Resource_name[:Node]
   This specifies one or more member resources that are to be changed.
   Resources belonging to different resource classes can also be specified
   using this syntax. However, member resources belonging to different
   classes must be separated by spaces. A member resource is identified by
   the resource’s class ( Resource_class), the resource’s name ( Resource_name), and optionally the node ( Node) the resource is on. The
   Resource_class, Resource_Name and Node must be separated by a colon.

   Resource_class is the name of the resource class the member resource
   belongs to. Resource_name is the name of the actual member resource in
   its class. Node is the name of the node the resource is located on. The
   Node is required when attempting to change a fixed member resource. The
   Node and its resource must be separated by the colon delimiter (:).
   Multiple resources belonging to the same resource class can also be
   specified and are separated by a comma. In this case the first resource or
   Resource_name[:Node] of a resource class must be preceded by the
   resource_class it belongs to and it must be separated by the colon delimiter
   (:), while the remaining resources are separated by a comma.
chrgmbr

_resource_class:resource_name[:Node][resource_name[:Node][,...]]_

The member resources must exist in the resource group for it to be changed.

**Selection_string**

Specifies the selection string. The `-s` option determines this parameter. When this is the only parameter, then the selection string is applied to the member resources. But when included with `Resource_class`, each selection string in this case will be applied to its corresponding `Resource_class` attributes to determine which resources are to be modified in the `Resource_group`. The selection_string and its `resource_class` must be separated by the colon `:` delimiter. The selection string must be enclosed within either double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:

- `-s 'Name == "testing"'`
- `-s 'Name != "test"'`
- `-s 'Name like "%"'` (For all resources)

**Exit Status**

- **0** Command has run successfully.
- **1** Error occurred with RMC.
- **2** Error occurred with CLI script.
- **3** Incorrect flag on command line.
- **4** Incorrect parameter on command line.
- **5** Error occurred with RMC that was based on faulty command line input.
- **6** Resource specified was not found.
- **7** Resource already exists.

**Security**

This command requires root authority, or a user ID with appropriate permissions. (For more information, see [IBM Tivoli System Automation for Multiplatforms][1] Administrator's and User's Guide section "Setting up non-root security".)

**Examples**

1. To change the Mandatory attribute to TRUE of a member resource `tester` that belongs to resource class IBM.Application, enter:
   
   ```
   chrgmbr -m T IBM.Application:tester
   ```

2. To change the resource group to which member resources `tester`, `Jfoo`, and `Dfoo` of resource class IBM.Application belong from the current resource group `foo` to resource group `footest`, enter:
   
   ```
   chrgmbr -c footest -g foo IBM.Application:tester,Jfoo,Dfoo
   ```

3. To change the Mandatory attribute to FALSE of selected member resources of resource group `foo` with `ResourceType` attribute set to one, belonging to resource class IBM.Application, enter:
   
   ```
   chrgmbr -m F -s -g foo IBM.Application:"ResourceType==1"
   ```

**Files**

`/usr/sbin/rsct/bin/chrgmbr` Location of the `chrgmbr` command.
See Also

The addrgmbr, samctrl, chrel, chrg, lsrg, mkrel, mkrg, rmrel, rmgmbr commands.

The rmccli General Information file.
installSAM

Name

installSAM - Checks that all installation or upgrade prerequisites are met and installs or upgrades System Automation for Multiplatforms, including the end-to-end automation adapter.

Synopsis


Description

The installSAM command first invokes the prereqSAM command, which checks that all prerequisites for the installation or upgrade of System Automation for Multiplatforms are met. If the system passes the check, installSAM verifies that the license file is available and installs or upgrades the component, including the end-to-end automation management adapter. Information about the actions that are performed during both the prerequisites check and the installation are recorded in a log file. The default log file is /tmp/installSAM.<#>.log, where <#> is a sequential number; the highest number identifies the most recent log file.

Typically, no options need to be specified. The available options allow you to install or upgrade the component although no license file is available (--nolicheck), to prevent an upgrade (--noupgrade), to install the component although the installSAM script is not in the package directory (-d), and to specify that a log file other than /tmp/installSAM.<#>.log is to be used (-l).

The installSAM command is not applicable to System Automation for Multiplatforms on Windows. For instructions on installing and upgrading System Automation for Multiplatforms on Windows, see IBM Tivoli System Automation for Multiplatforms Installation and Configuration Guide

Options

--nolicheck
Allows you to install or upgrade System Automation for Multiplatforms although no license file is available. This option is used by packages with which System Automation for Multiplatforms is bundled. If you specify the option, the fact is recorded in the log file.

--nonls
Installs packages without any languages. All messages are displayed in English. If this option is specified, option -n must not be specified.

--noupgrade
Prevents an upgrade of System Automation for Multiplatforms although an upgrade is required. You can use this option, for example, if only an initial installation is desired or to find out whether an upgrade would occur if the option were not specified.

-d inst_pkg_dir
Allows the installation of packages from the specified directory although the installSAM script is not available in the directory. This option is used by packages with which System Automation for Multiplatforms is bundled.
installSAM

-\l log_file
Logs information generated by the installSAM command to the specified log file.

-\n language
Installs all available packages to support the specified language in addition to English. As a prerequisite, language-independent packages with the same version and release must already have been installed. To install more than one language, the installation must be repeated for each language in turn. If this option is specified, option --nonls must not be specified. Valid values for language are as follows:

- BR Portuguese (Brazil)
- DE German
- ES Spanish
- FR French
- IT Italian
- JP Japanese
- KR Korean
- CN Simplified Chinese
- TW Traditional Chinese

--silent
Suppresses output to the command line, and prompts such as acceptance of license agreements.

Exit Status
These are the return codes returned by the installSAM command during the license check and installation. For information about the return codes returned during the prerequisites check, refer to "prereqSAM on page 67."

0 The installation or upgrade completed successfully.
1 <package installer> returned a return code other than 0; the return code and the corresponding message can be found in the log file. Package installer is:
   - AIX: installp
   - Linux: rpm

2 Package sam is already installed at the same version.
3 Package sam is already installed at a higher version.
4 Option --noupgrade was specified and package sam was found installed at a lower version than the package version. No upgrade was performed.
5 The node on which the installation task must be performed is online. The task was not performed.
6 The license file for System Automation for Multiplatforms was not found, or no installed license could be detected, or the installation of the license failed.
7 installSAM was unable to continue because directories or files could not be detected or other conditions are not met.
installSAM

8 The language specified is not supported. This error code may only be returned if option -n was used.

Security
This command requires root authority.
**Isequ**

**Name**
Isequ - Lists already-defined resource equivalencies and their attributes.

**Synopsis**
```
```

**Description**
The Isequ command lists the Equivalencies. If the equivalency name is omitted, all of the defined equivalencies will be listed. If an equivalency is specified, the persistent attributes of the specified equivalency will be listed. If the Attr operand is specified, the attributes specified for the equivalency will be listed.

If the attribute flag is specified, the persistent and/or dynamic attributes of the equivalencies will be listed. If specified, the Attr operand will override the -A option. The Attr operand must be a valid equivalency attribute, when listing equivalency information. When the Attr operands are specified, the exact value of these attributes will be listed. Otherwise, some of these attribute values are translated into English words.

**Options**
- **-A p | d | b**
  Attribute type. By default, only persistent attributes are displayed. To view all the attributes of the member resources, this option must be used with -A b attribute type. The value can be:
  - p  Display only persistent attributes. For best performance, specify this value.
  - d  Display only dynamic attributes.
  - b  Display both persistent and dynamic attributes.
- **-d**
  Specifies delimiter-formatted output. The default delimiter is a colon (:). Use the -D option if you want to change the default delimiter.
- **-D Delimiter**
  Specifies delimiter-formatted output that uses the specified delimiter. Use this option to specify something other than the default colon (:); for example, when the data to be displayed contains colons. Use this option to specify a delimeter of one or more characters.
- **-e Equivalency**
  The name of the defined Equivalency to be listed.
- **-h**
  Writes the command’s usage statement to standard output.
- **-l**
  Specifies long formatted output. Each attribute is displayed on a separate line. This is the default display format.
- **-s "Selection_string"**
  Specifies a selection string. Used without the -e option, this option is applied to all the defined equivalencies. If the -e option is specified with a selection string, then this selection is applied only to the specified
equivalency. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:

- `s 'Name == "testing"'
- `s 'Name != "test"`

Only persistent attributes may be included in a selection string.

For information on how to specify selection strings, see "Using expressions" on page 100.

- `-t` Specifies tabular formatted output. Each attribute is displayed in a separate column, one resource per line.
- `-T` Writes the command’s trace messages to standard error. For your software-service organization’s use only.
- `-V` Writes the command’s verbose messages to standard output.

**Parameters**

`Attr` Specifies the names of one or more attributes whose values are to be displayed. These attributes must be separated by spaces.

**Exit Status**

0  Command has run successfully.
1  Error occurred with RMC.
2  Error occurred with CLI script.
3  Incorrect option on command line.
4  Incorrect parameter on command line.
5  Error occurred with RMC that was based on faulty command line input.
6  Resource specified was not found.

**Security**

This command requires root authority, or a user ID with appropriate permissions. (For more information, see IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide section "Setting up non-root security").

**Examples**

1. To list all currently-defined equivalencies, enter:

   `lsequ`

   **Output:**
   
   Displaying Equivalency Information:
   
   `foo`
   `foo1`
   `equ1`
   `equ2`

2. To list the persistent attributes of the equivalency `foo`, enter:

   `lsequ -A p -e foo`

   **Output:**
   
   Displaying Equivalency Information:
   
   Persistent Attributes for Equivalency "foo".
3. To list all the attributes of the equivalency **equ1**, enter:

```
lsequ -A b -e equ1
```

**Output:**

Displaying Equivalency Information:
All Attributes
For Equivalency "equ1".

```
Equivalency 1:
Name = equ1
MemberClass = IBM.Application
Resource:Node[Membership] = {resource1-name:node-name,
resource2-name:node-name,...}
SelectString = ""
SelectFromPolicy = ORDERED
MinimumNecessary = 1
Subscription = {}
ActivePeerDomain = domain-name
```

4. To list all the attributes of the equivalency **equ1** in verbose mode, enter:

```
lsequ -V -A b -e equ1
```

**Output:**

Starting to list equivalency information.
lsequ: Executed on Thu May 8 14:42:32 2008 at "node-name", master node "node-name".

Displaying Equivalency information:
All Attributes
For Equivalency "equ1".

```
Equivalency 1:
Name = equ1
MemberClass = IBM.Application
Resource:Node[Membership] = {resource1-name:node-name,
resource2-name:node-name,...}
SelectString = ""
SelectFromPolicy = ORDERED
MinimumNecessary = 1
Subscription = {}
ActivePeerDomain = domain-name
Resource:Node[ValidSelectResources] = {resource1-name:node-name,
resource2-name:node-name,...}
Resource:Node[InvalidResources] = {}
ConfigValidity =
AutomationDetails[CompoundState] = Automation
AutomationDetails[DesiredState] = Undefined
AutomationDetails[ObservedState] = Unknown
AutomationDetails[BindingState] = Unbound
AutomationDetails[AutomationState] = Unknown
AutomationDetails[ControlState] = Undefined
AutomationDetails[HealthState] = Not Applicable
```

Completed listing equivalency information.
5. To list the dynamic attributes of equivalency foo, enter:
   lsequ -A d -e foo

**Files**

/usr/sbin/rsct/bin/lsequ Location of the lsequ command.

**See Also**

The chequ, samctrl, mkequ, rmequ commands.

The rmccli General Information file.
Isrel

Name
Isrel - Lists an already-defined managed relationship and its attributes.

Synopsis
Isrel [-h] [-s "selection_string"] [-A p | d | b] [-l | -t | -d | -D Delimiter] [-T] [-V] [Attr...]
Isrel [-h] [-S Source_Class[:Resource_name][:Node]] [-s "Source_string"]
   [-G Target_Class[:Resource_name][:Node][:Target_class[:Resource_name]]
   [:Node][:...]]] [-g "Target_string"] [-P Current_relationship]
   [-O Current_condition] [-A p | d | b] [-l | -t | -d | -D Delimiter]
   [-T] [-V] [Attr...]

Description
The Isrel command lists the managed relationships. If the relationship name is omitted, all managed relationships will be listed. If the resource relationship is specified, the persistent attributes of the specified relationship will be listed. If the Attr parameter is specified, the attributes specified for the relationship will be listed.

If the attribute option is specified, the persistent or dynamic attributes of the relationships will be listed. If specified, the Attr parameter will override the -A option. The Attr parameter must be a valid relationship attribute when listing relationship information. If the Attr parameters are specified, the exact value of these attributes will be listed. Otherwise, some of these attribute values are translated to English words.

Options
-A p | d | b
   Specifies an attribute type. By default, only persistent attributes are displayed. This option can be used only when no attribute names are specified on the command line. To view all the persistent attributes of the member resources, the option must be used with -p attribute type.
   p Displays only persistent attributes.
   d Displays only dynamic attributes.
   b Displays both persistent and dynamic attributes.

For best performance, specify the -A p option.

-d Specifies delimiter-formatted output. The default delimiter is a colon (:).
   Use the -D option if you want to change the default delimiter.

-D Delimiter
   Specifies delimiter-formatted output that uses the specified delimiter. Use this option to specify something other than the default colon (:); for example, when the data to be displayed contains colons. Use this option to specify a delimiter of one or more characters.
-g Target_string
   The Target_string is applied to all resources of the resource class specified
   by the -G option, to determine the targets of the relationship.

   If the -g option is used to specify a source selection string, Resource_name
   and Node must not be specified for the -G option.

-G Target_class[:Resource_name[:Node]]
   Specifies the target resources to display with the relationship. The target
   resource or resources will be used with the source and any other specified
   query to find a match from all of the defined relationships. A target
   resource is identified by the resource’s class (Target_class), the resource
   name (Resource_name), and, optionally, the node (Node) at which the
   resource resides. Target_class, Resource_name, and Node must be separated
   by colons. Multiple target resources can be specified and are separated by
   commas. The colons are required, but omitting Target_class causes the
   previously specified class to be used when multiple target resources are
   specified.

   If the -g option is used to specify a target selection string, Resource_name
   and Node must not be specified for the -G option.

-h
   Writes the command’s usage statement to standard output.

-l
   Specifies long formatted output. Each attribute is displayed on a separate
   line. This is the default display format.

-M relation_name
   Specifies the name of the managed relationship to be listed.

-P Current_relationship
   Specifies the managed relationship value used to query all the defined
   relationships to find a match. The value can be a numeric value or the
   word (not case-sensitive):

   0x0001 or Collocated
      Specifies that the source and the target resources are to be located
      on the same node.

   0x0002 or AntiCollocated
      Specifies that the source and the target resources are to be located
      on different nodes.

   0x0003 or Affinity
      Specifies that the source resource and its specified affinity resource
      are to be located on the same node, if possible.

   0x0004 or AntiAffinity
      Specifies that the source resource and its specified affinity resource
      are to be located on different nodes, if possible.

   0x0005 or IsStartable
      Specifies that the source and its target resources are startable.

   0x0006 or StartAfter
      Specifies that the source is to be started after the target resources.

   0x0007 or DependsOn
      Specifies that the target resources must be online before the source
      resource is started and includes an implicit collocation between the
      source and target resources.
0x0008 or **DependsOnAny**
Specifies that the target must be online before the source resource is started. It is identical to the DependsOn relationship except that it does not provide the collocated constraint for the start sequence. Therefore the source and target resources may not be started on the same node.

0x0009 or **StopAfter**
Specifies that the source resource may not be stopped until after the target resource has been brought offline.

0x000A or **ForcedDownBy**
Specifies that the source resource must be forced offline in the event that either the target resource goes offline unexpectedly or the target resource itself is forced offline.

**-O Current_condition**
If condition query. Specifies the condition value to query all the defined relationships to find a match. The value can be the numeric value or the word (not case-sensitive) as shown below:

0x0000 or **NoCondition**
Specifies unconditional location relationship.

0x0001 or **IfOnline**
Specifies that the target resource is online.

0x0002 or **IfOffline**
Specifies that the target resource is offline, failed offline, or unknown.

0x0003 or **IfNotOnline**
Specifies that the target resource is not online.

0x0004 or **IfNotOffline**
Specifies that the target resource is neither offline nor failed offline

0x0005 or **IfPossible**
Used in conjunction with the StartAfter relationship. Specifies that the target resource group may be bypassed if it cannot be bound, in which case it ends up in Sacrificed state and the StartAfter relationship is ignored.

**-s "selection_string"**
Specifies a selection string. This option without the -S option will be applied to all the defined relationships and its attribute fields. All selection strings must be enclosed within either double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:

-s 'Name == "testing"'
-s 'Name ?= "test"'

Only persistent attributes may be listed in a selection string.

For information on how to specify selection strings, see "Using expressions" on page 100.

**-s Source_string**
Specifies the source selection string of the relationship to list. The Source_string is applied to all resources of the resource class specified by
the -S option to determine the source of the relationship. The result of the selection may contain one or more resources.

If the -s option is used to specify a source selection string, Resource_name and Node must not be specified for the -S option.

-S Source_class[:Resource_name[:Node]]

Specifies the source resource of the relationship to list. A source resource is identified by the resource class (Resource_class) of the resource, the resource name (Resource_name), and, optionally, the node (Node) at which the resource resides. The result of the selection may contain one or more resources.

If the -s option is used to specify a source selection string, Resource_name and Node must not be specified for the -S option.

-t

Specifies tabular formatted output. Each attribute is displayed in a separate column, one resource per line.

-T

Writes the command’s trace messages to standard error. For your software-service organization’s use only.

-V

Writes the command’s verbose messages to standard output.

Parameters

- Attr         Specifies the names of one or more attributes whose values are to be displayed. These attributes must be separated by spaces. When the -m option is specified, these attributes must match the member resource attribute fields; when the -m option is not specified, the attributes must match the resource group attribute fields.

- Node         Specifies the node name. The node name may have to be included when an attempt has been made to list a fixed member resource. The node and its resource must be separated by the colon (:) .

- Resource_class

    Specifies the name of the resource class to which the member resource belongs. The resource and the resource class must be separated by spaces.

- Resource_name

    Specifies the resource name. One or more resources may be specified along with the resource class to which it belongs. Each resource or set of resources must be preceded by its resource class. The resource and the resource class must be separated by spaces.

Exit Status

0  Command has run successfully.
1  Error occurred with RMC.
2  Error occurred with CLI script.
3  Incorrect flag on command line.
4  Incorrect parameter on command line.
5  Error occurred with RMC that was based on faulty command line input.
6  Resource specified was not found.
Security

This command requires root authority, or a user ID with appropriate permissions. (For more information, see [IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide](#) section "Setting up non-root security").

Examples

1. To list all the currently-defined managed relationships enter:
   ```
   lsrel
   ```
   **Output:**
   Displaying Managed Relations:
<table>
<thead>
<tr>
<th>Name</th>
<th>Resource:Node[Source]</th>
<th>ResourceGroup[Source]</th>
</tr>
</thead>
<tbody>
<tr>
<td>foo</td>
<td>IBM.Application:ja</td>
<td>Foo</td>
</tr>
<tr>
<td>jaffinity</td>
<td>IBM.Application:ja</td>
<td>Foo</td>
</tr>
<tr>
<td></td>
<td>IBM.ResourceGroup:john</td>
<td>Ja</td>
</tr>
</tbody>
</table>

2. To list the persistent attributes of the managed relationship **foo**, enter:
   ```
   lsrel -A p -M foo
   ```
   **Output:**
   Displaying Managed Relationship Information:
   Persistent Attributes
   for Managed Relationship "foo".
   Managed Relationship 1:
   | Class:Resource:Node[Target] | = {IBM.Application:Node:Nodename} |
   | Relationship                  | = Collocated                  |
   | Conditional                   | = NoCondition                 |
   | Name                         | = foo                        |

3. To list the managed relationship that match the source **foo** from class IBM.Application, having a Collocated relationship value with target resource **narten** from class IBM.ResourceGroup, enter:
   ```
   lsrel -S IBM.Application:foo -P Collocated -G IBM.ResourceGroup:narten
   ```
   **Output:**
   Displaying Managed Relationship Information:
   Managed Relationship 1:
   | Name | = Foo |
   | Class:Resource:Node[Source] | IBM.Application:foo |
   | Relationship                  | = Collocated                  |
   | Conditional                   | = NoCondition                 |
   | ResourceGroup[Source]        | = charm                      |

4. To list the dynamic attributes of the managed relationship name **foo**, enter:
   ```
   lsrel -A d -M foo
   ```

5. To list the persistent attributes of the managed relationship name **foo** by using a selection string, enter:
   ```
   lsrel -A p -s 'Name == "foo"'
   ```

Files

```
/usr/sbin/rsct/bin/lsrel
```
Location of the **lsrel** command.

See Also

The addrgmbr, samctrl, chrg, chrgmbr, mkrg, rmrg, rmrgmbr commands.
The `rmccli` General Information file.
Name
lsrg - Lists already-defined resource groups and their members.

Synopsis

Resource_class:Resource[:Node][,Resource[:Node],...][Resource_class:Resource[:Node]
[,Resource [:Node],[...],...]]

Description
The lsrg command lists resource groups or the members of a resource group. If the resource group name is omitted, all of the resource groups are listed. If the resource group name is specified without the -m option the persistent attributes of the specified group will be listed. If the Attr parameter is specified, then the attributes specified for the resource group are listed. If the Attr parameter is specified here, the attributes specified for the resource group will be listed.

If the resource group name is specified with the -m option, the members of that resource group will be listed. If the attribute option (-A) is specified, the persistent or dynamic attributes of the resource group members will be listed. By default, the -m option lists the following attributes for the members of a resource group: Resource class name, Resource name, and the attributes MemberOf, OpState, WinSource, and Location. If the Attr operand is specified, then the attributes specified will be listed for the managed resources (member resources).

The Attr parameter if specified will override the -A option. The Attr parameter must be a valid resource group attribute when listing resource group information, and likewise be a valid member resource attribute when listing a managed resource. If the Attr parameters are specified, then the exact value of these attributes will be listed. Otherwise, some of these attribute values are translated into English words.

Options
-A p | d | b
Specifies an attribute type. By default, only persistent attributes are displayed. This option can be used only when no attribute names are specified on the command line. To view all the persistent attributes of the member resources, this option must be used with p attribute type.

p Displays only persistent attributes.
d Displays only dynamic attributes.
b Displays both persistent and dynamic attributes.

For best performance, specify the -A p option.
-c Specifies the resource and its class. This option indicates that parameters are resource classes, resource names, and, optionally, node names. The attributes of the member resources are listed or displayed. The attributes
and selection strings when this option is used are applied to member resources and not the resource groups; therefore, these attributes must exist for the member resources.

-d Specifies delimiter-formatted output. The default delimiter is a colon (:). Use the -D option if you want to change the default delimiter.

-D Delimiter

Specifies delimiter-formatted output that uses the specified delimiter. Use this option to specify something other than the default colon (:); for example, when the data to be displayed contains colons. Use this option to specify a delimiter of one or more characters.

-g Resource_group

Displays resource group information such as the name and the persistent and dynamic attributes of the defined resource group. When the -g option is used with the -m and -c options, the member resources must belong to the specified resource group.

-h Writes the command’s usage statement to standard output.

-l Specifies long formatted output. Each attribute is displayed on a separate line. This is the default display format.

-m Specifies member resources and lists or displays the attributes of the member resources. When this option is used, the attributes and selection strings are applied to member resources and not to resource groups; therefore, the attribute fields must exist for the member resources.

-s “Selection_string”

Specifies a selection string. This option without the -m option is applied to the resource-group attribute fields; with the -m option or -c option, the selection string is applied to the member-resource attribute fields. All selection strings must be enclosed within either double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:

-s 'Name == "testing"'
-s 'Name != "test"

For information on how to specify selection strings, see “Using expressions” on page 100.

-t Specifies tabular formatted output. Each attribute is displayed in a separate column, one resource per line.

-T Writes the command’s trace messages to standard error. For your software-service organization’s use only.

-V Writes the command’s verbose messages to standard output.

**Parameters**

*Attr* Specifies the names of one or more attributes whose values are to be displayed. These attributes must be separated by spaces. When the -m option is specified, these attributes must match the member resource attribute fields; when the -m option is not specified, the attributes must match the resource group attribute fields.

*Node* Specifies the node name. The node name may have to be included when an attempt has been made to list a fixed member resource. The node and its resource must be separated by the colon (:) delimiter.
**Resource_class**

Specifies the name of the resource class to which the member resource belongs. The resource and the resource class must be separated by the colon (:) delimiter.

**Resource_name**

Specifies the resource name. One or more resources may be specified along with the resource class to which it belongs. Each resource or set of resources must be preceded by its resource class. The resource and the resource class must be separated by the colon (:) delimiter.

**Exit Status**

0  Command has run successfully.
1  Error occurred with RMC.
2  Error occurred with CLI script.
3  Incorrect flag on command line.
4  Incorrect parameter on command line.
5  Error occurred with RMC that was based on faulty command line input.
6  Resource specified was not found.

**Security**

This command requires root authority, or a user ID with appropriate permissions. (For more information, see IBM Tivoli System Automation for Multiplatforms Administrator's and User's Guide section "Setting up non-root security").

**Examples**

1. To list all the currently-defined resource groups, enter:

   lsrng

   **Output:**
   
   Resource Group Names:
   
   foo
   clusterfoo

2. To list all the attributes of the resource group **foo**, enter:

   lsrng -A b -g foo

   **Output:**
   
   Displaying Resource Group Information:
   
   All Attributes
   
   For Resource Group "foo".
   
   Resource Group 1:
   
   Name = "foo"
   MemberLocation = Collocated
   Priority = 22
   AllowedNodes = "node1"
   NominalState = Online
   OpState = Offline
   TopGroup = foo
   AutomationDetails[CompoundState] = Automation

3. To list all the attributes of the resource group **foo** in verbose mode, enter:

   lsrng -A b -V -g foo

   **Output:**
Starting to list resource group information.
lsrg: Executed on Mon Apr 3 15:48:49 2006 at "node1",
master node "node1".
Displaying Resource Group information:
All Attributes
For Resource Group "foo".

Resource Group 1:
   Name         = "foo"
   MemberLocation = Collocated
   Priority      = 22
   AllowedNodes  = "node1"
   NominalState  = Online
   OpState       = Offline
   TopGroup      = foo
   AutomationDetails[CompoundState] = Automation
      [DesiredState] = Online
      [ObservedState] = Pending Online
      [BindingState] = Bound
      [AutomationState] = Internal
      [ControlState] = Startable
      [HealthState] = Not Applicable
Completed listing resource group information.

4. To list the attributes of the members of resource group foo, enter:
   \texttt{lsrg -m -V -Ab -g foo}

   \textbf{Output:}

   Starting to list member resource information.
   lsrg: Executed on Mon Apr 3 15:48:49 2006 at "node1",
         master node "node1".
   Displaying Member Resource information:
   for Resource Group "foo".
   Member Resource 1:
   Mandatory        = False
   MemberOf         = foo
   WinSource        = Nominal
   Location         = node1
   AutomationDetails = [10,1100,2,80,1,0]
   AutomationDetails[CompoundState] = Automation
      [DesiredState] = Online
      [ObservedState] = Pending Online
      [BindingState] = Bound
      [AutomationState] = Internal
      [ControlState] = Startable
      [HealthState] = Not Applicable
Completed listing member resource information.

5. To list the persistent attributes of the member resources of resource group foo,
   enter:
   \texttt{lsrg -m -A p -g foo}

   \textbf{Output:}

   Displaying Member Resource information:
   for Resource Group "foo".
   Member Resource 1:
   Mandatory   = False
   MemberOf    = foo

6. To list the persistent attributes of the member resources of a resource group foo
   using a selection string, enter:
   \texttt{lsrg -m -A p -s 'MemberOf == "foo"'}

   \textbf{Output:}
Displaying Member Resource information:
for Resource Group "foo".
Member Resource 1:
  Mandatory = False
  MemberOf = foo

7. To list the attributes of a managed resource, enter:

lsrg -m

Output:

Displaying Member Resource information:
IBM.Application:WebServer True DemoRG Online Nominal node1
IBM.ServiceIP:WebIP True DemoRG Online Nominal node1

Files

/usr/sbin/rsct/bin/lsrg Location of the lsrg command.

See Also

The addrgmbr, samctrl, chrel, chrg, chrgmbr, mkrel, mkrg, rmrel, rmrg, rmrgmbr commands.

The rmccli General Information file.
lsrgreq

Name
lsrgreq - lists the outstanding requests applied against the resource groups or managed resources.

lsrgreq belongs to a group of commands (rgreq, rgmbreq, and lsrgreq) which allow an operator to introduce persistent requests into System Automation for Multiplatforms. Using this set of commands the operator can start, stop, cancel, or move resource groups and managed resources.

Synopsis

Resource_class:Resource[Node][,Resource[Node][,...]]

Resource_class:"Selection_String" [Resource_class:"Selection_String" [...]]

Description
The lsrgreq command lists the outstanding requests applied against the resource groups or managed resources. By means of the lsrgreq command either the active or all the outstanding requests may be listed. The -m option will only list the action requests on the managed or member resources. Otherwise, the action requests on the resource groups will be listed.

-h Help. Writes the command’s usage statement to standard output.

-g Resource_group
The name of the resource group whose actions are to be listed.

-L Lists all the action requests on the specified resource group or managed resources. If this option is not specified then only the active requests will be displayed or listed.

-m Member Resources. Lists or displays the actions on the member resources.

-s Specifies that a selection string will be used.

-l Long formatted output. Each attribute will be displayed on a separate line. This is the default display format.

-t Tabular formatted output. Each attribute will be displayed on a separate column, one resource per line.

-d Specifies delimiter-formatted output. The default delimiter is a colon (:). Use the -D option if you want to change the default delimiter.

-D Delimiter
Specifies delimiter-formatted output that uses the specified delimiter. Use this option to specify something other than the default colon (:); for example, when the data to be displayed contains colons. Use this option to specify a delimiter of one or more characters.

-T Trace. Writes the command’s trace messages to standard error. For software-service organization’s use only.
Verbose. Writes the command’s verbose messages to standard output.

Parameters

Resource_class:"selection_string"

The -s option determines this operand. Each selection string must be preceded by a resource class. Resource_class indicates the name of the Resource class the selection_string will be applied to. The selection_string and its Resource_class must be separated by colon or ":" delimiter. The specified selection string will be applied to its corresponding Resource_class attributes to determine which member resources are to be removed from the Resource_group. The selection string must be enclosed within double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:

-s IBM.Application:`Name=="testing"`
-s IBM.Application:`Name ?="test"
-s IBM.Application:`Name like "%"` (For all resources)

For information on how to specify selection strings, see "Using expressions" on page 100.

Resource_class:Resource[:Node]

Member Resources. This specifies one or more member resources whose action requests are to be listed. Resources belonging to different resource classes can also be specified using this syntax. However, member resources belonging to different classes must be separated by spaces. A member resource is identified by the resource’s class (Resource_class), the resource’s name (Resource), and optionally the node (Node) the resource is on. The Resource_class, Resource and Node must be separated by a colon. Resource_class is the name of the resource class the member resource belongs to. Resource is the name of the actual member resource in its class. The node may have to be included when trying to act on a fixed member resource. The node and its resource must be separated by the colon or ":" delimiter. Multiple resources belonging to the same resource class can also be specified and are separated by a comma:

Resource_class:Resource[:Node][,Resource[:Node][,...]]

The member resources must exist in the resource group for the requested action to take place.

Exit Status

0 Command has run successfully.
1 Error occurred with RMC.
2 Error occurred with CLI script.
3 Incorrect flag on command line.
4 Incorrect parameter on command line.
5 Error occurred with RMC that was based on faulty command line input.
6 Resource specified was not found.
**Security**

This command requires root authority, or a user ID with appropriate permissions. (For more information, see [IBM Tivoli System Automation for Multiplatforms Administrator's and User's Guide](#) section "Setting up non-root security").

**Examples**

1. To list the active action requests on the resource group "RG1", enter:
   
   lsrgreq -g RG1

2. To list the requests for the resource group "top-rg", enter:
   
   lsrgreq -L -g top-rg

   Output is similar to the following:
   
   Resource Group 1:
   
   ResourceGroup = top-rg
   Priority = High
   Action = lock
   Source = Operator
   NodeList = {}
   ActiveStatus = Inactive
   Token = 8f5697eb5f84c0f04f04995b3d00040a5b
   UserID =
   MoveStatus = None

3. To list the requests on all the resources belonging to resource group "RG1" in tabular format, enter:
   
   lsrgreq -m -g RG1

   Output:
   
   Displaying Member Resource request information:
   Active Requests
   For Resource Group "RG1":
   
   Member Resource 1:
   Class:Resource:Node[ManagedResource] = IBM.Application:R1
   Priority = Force
   Action = start
   Source = Operator
   ActiveStatus = Active

   Member Resource 2:
   Priority = low
   Action = start
   Source = ExtSched
   ActiveStatus = Active

4. To list all the action requests applied to resource group RG1, enter:
   
   lsrgreq -L -t -g RG1

   Output:
   
   Displaying Resource Group request information:
   All request information
   For Resource Group "RG1".
   
<table>
<thead>
<tr>
<th>ResourceGroup</th>
<th>Priority</th>
<th>Action</th>
<th>Source</th>
<th>NodeList</th>
<th>ActiveStatus</th>
<th>MoveStatus</th>
</tr>
</thead>
<tbody>
<tr>
<td>RG1</td>
<td>low</td>
<td>stop</td>
<td>ExtSched</td>
<td>{}</td>
<td>InActive</td>
<td>None</td>
</tr>
<tr>
<td>RG1</td>
<td>High</td>
<td>start</td>
<td>Automation</td>
<td>{}</td>
<td>InActive</td>
<td>None</td>
</tr>
<tr>
<td>RG1</td>
<td>Force</td>
<td>stop</td>
<td>Operator</td>
<td>{}</td>
<td>Active</td>
<td>None</td>
</tr>
</tbody>
</table>

**Files**

/usr/sbin/rsct/bin/lsrgreq  
Location of the lsrgreq command.
lsrgreq

See Also

The addrgmbr, chrg, chrgmbr, lsrg, mkrg, rgres, rmrg, and rmrgmbr commands.
**Name**

`Issam` - lists the defined resource groups and their members in tree format.

**Synopsis**

`Issam [-h] [-top] [ -g Resource_group] [-s "selection_string"] [-nocolor ] [-T]`

**Description**

The `Issam` command lists all resource groups and all resource group members in tree format.

**Options**

-h    Help. Writes the command’s usage statement to standard output.

-g Resource_group

Displays only the specified top-level resource group and its members in tree format.

-nocolor

Displays output without color-highlighting.

-s "selection_string"

Specifies a selection string for the resource group. All selection strings must be enclosed within either double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:

-s 'Name == "testing"
-s 'Name ?= "test"

-top    Displays the output at the top of the screen and refreshes the output every 10 seconds.

-T    Writes the command’s trace messages to standard error. For your software-service organization’s use only.

**Output format:**

```
[ <OpState> "IBM.ResourceGroup:"<GroupName> ["Request="<RequestStateList>] 
  ["Automation="<AutomationMode>] 
  ["Control="<ControlState>] 
  ["Binding="<BindingState>] 
  "Nominal="<NominalState> 
  [ ".-" <OpState> "IBM.ResourceGroup:"<GroupName> ["Request="<RequestStateList>] 
    ["Automation="<AutomationMode>] 
    ["Control="<ControlState>] 
    ["Binding="<BindingState>] 
    "Nominal="<NominalState> 
  ]*

[ ".-" <OpState> <ResourceClass>:"<FixedResourceName>="<NodeName> 
  ["Request="<RequestStateList>] 
  ["Control="<ControlState>] 
  ["Binding="<BindingState>] 
  ["Node="<NodeState>] 
]
```

```
[ ".-" <OpState> <ResourceClass>:"<FloatingResourceName> ["Request="<RequestStateList>] 
  ["Control="<ControlState>] 
  ["Binding="<BindingState>] 
]
```

```
[ ".-" <OpState> <ResourceClass>:"<ConstituentResourceName>="<NodeName> 
```

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Interpreting the output:

OpState - OpState of group/resource
Color-coding scheme:
"Unknown" - Blue
"Offline" - Blue
"Online" - Green
"Failed offline" - Red
"Stuck online" - Red
"Pending online" - Yellow
"Pending offline" - Yellow

GroupName - Name of the resource group
ResourceClass - Name of the resource class
FixedResourceName - Name of a fixed resource
FloatingResourceName - Name of a floating resource
ConstituentResourceName - Name of a constituent resource
nodeName - Name of a node (short host name)

RequestStateList - If requests are present, one or more request states
with source indicator are shown
RequestState[:"<SourceIndicator>
[ "(<RequestState>:"<SourceIndicator>[,"<RequestState>:"<SourceIndicator> ]+")]"

RequestState - Request action
Color-coding scheme:
"Online" - Green if inactive, yellow if active
"Offline" - Blue if inactive, yellow if active
"Lock" - Red
"Move" - Not color-coded if inactive, yellow if active

SourceIndicator - First letter of the request source:
"O" - Operator (if operator request is first in list, this indicator is not shown)
"A" - Automation
"E" - ExtSchedule
"U" - Unknown

AutomationState - Automation attribute from lssamctrl (in red color)
"Manual" - Automation disabled for this domain

NodeState - Some states of a node (in red color)
"Offline" - Node is offline
"Excluded" - Node is excluded (if a node is offline, "Excluded" is not shown)

ControlState - Some states of the AutomationDetails ControlState (in yellow color)
"StartInhibited" - Start of dependent resource is not satisfactory
(only if winning request and nominal state are Online)
"StopInhibited" - Stop of dependent resource is not satisfactory
(only if winning request and nominal state are Offline)

BindingState - Some states of the AutomationDetails BindingState (in red color)
"Unbindable" - Configuration is incorrect
"Sacrificed" - No system available to comply with configuration
"Sacrificial" - No system available to comply with configuration

NominalState - Nominal State
Color-coding scheme:
Online - Green
Offline - Blue
**Exit Status**

0  Command has run successfully.

1  An error occurred.

**Security**

This command requires root authority, or a user ID with appropriate permissions. (For more information, see [IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide](#) section "Setting up non-root security".)

**Examples**

To list all resource groups and their members, type the following command:

```bash
lssam
```

**Output:**

```
Online IBM.ResourceGroup:grp1 Nominal=Online
  `- Offline IBM.Application:res1:node1
Offline IBM.ResourceGroup:grp2 Nominal=Offline
  `- Offline IBM.Application:res2:node2
Online IBM.ResourceGroup:grp3 Request=Online Nominal=Offline
  `- Online IBM.Application:res3
    `- Online IBM.Application:res3:node1
      `- Failed offline IBM.Application:res3:node2
```

Sample screen capture:

![Sample screen capture](image)

**Files**

```
/usr/sbin/rsct/bin/lssam
```

Location of the `lssam` command.
Issamctrl

Name
Issamctrl - lists already defined System Automation for Multiplatforms control parameters and their attributes.

Synopsis
Issamctrl [-h] [-A p | d | b] [-l | -t | -d | -D Delimiter] [-T] [-V] [Attr...]

Description
The Issamctrl command lists the control parameter values already set for System Automation for Multiplatforms. If the Attr operand is used, the value of each specified attribute is listed. If the attribute option -A is specified, the persistent and/or dynamic attributes of System Automation for Multiplatforms are listed. The Attr operand, if specified, overrides the -A option. The Attr operand must be a valid attribute of IBM Tivoli System Automation Control Class. When Attr operands are specified, the exact value of each attribute is listed. Otherwise, some of these attribute values are translated to English words.

Options

- h
  Help. Writes the command’s usage statement to standard output.

- A p | d | b
  Attribute type. By default only persistent attributes are displayed. To view all the persistent attributes of the member resources this option must be used with p attribute type.
  • p - Displays only persistent attributes.
  • d - Displays only dynamic attributes.
  • b - Displays both persistent and dynamic attributes.
  For best performance, specify the -A p option.

- l
  Long formatted output. Each attribute will be displayed on a separate line. This is the default display format.

- t
  Tabular formatted output. Each attribute will be displayed on a separate column, one resource per line.

- d
  Specifies delimiter-formatted output. The default delimiter is a colon (:). Use the -D option if you want to change the default delimiter.

- D Delimiter
  Specifies delimiter-formatted output that uses the specified delimiter. Use this option to specify something other than the default colon (:); for example, when the data to be displayed contains colons. Use this option to specify a delimiter of one or more characters.

- T
  Trace. Writes the command’s trace messages to standard error. For your software-service organization’s use only.

- V
  Writes the command’s verbose messages to standard output.

Parameters

Attr
The name of the attributes whose values are to be displayed. These attributes must be separated by spaces.
Exit Status

0  Command has run successfully.
1  Error occurred with RMC.
2  Error occurred with CLI script.
3  Incorrect flag on command line.
4  Incorrect parameter on command line.
5  Error occurred with RMC that was based on faulty command line input.
6  Resource specified was not found.

Security

This command requires root authority, or a user ID with appropriate permissions.
(For more information, see IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide section “Setting up non-root security”.)

Examples

To list all the currently defined System Automation for Multiplatforms parameters, type the following command:

```bash
lssamctrl
```

Output:

Displaying IBM Tivoli System Automation Control Information:

```
SAMControl:
  Timeout  = 60
  RetryCount  = 3
  Automation  = Auto
  ExcludedNodes  = {}
  ResourceRestartTimeOut  = 5
  ActiveVersion  = [3.1.0.0,Mon Jun 2 10:36:54 2008]
  EnablePublisher  = EEZ
  TraceLevel  = 63
  ActivePolicy  = []
```

Files

```
/usr/sbin/rsct/bin/lssamctrl  Location of the lssamctrl command.
```

See Also

The samctrl command.

The rmccli General Information file.
mkequ

Name
mkequ - Makes a resource equivalency.

Synopsis
mkequ [-h] [-f data_input_file] [-T] [-V]


Description
The mkequ command makes a resource equivalency among the specified resources. The resources must all be from the same resource class.

Equivalencies and their attribute flags can be specified on the command line as the syntax indicates or from a file when the -f option is specified. The value must be of the same data type that is defined for this resource attribute. Use the lsrsrcdef command to verify the data type and attribute field for each attribute.

Options
-D "dynamic_select_string"
Dynamic Selection String. The specified selection string will be saved as the SelectString attribute for the concerned equivalency. This selection_string is then applied to all resources of the specified resource class by the Recovery Manager, to dynamically determine what members are to be included in the specified equivalency. This option cannot be combined with the Resource_name [:Node] parameter. The selection string must be enclosed within double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:

-D 'Name == "testing"'
-D 'Name != "test"'

The -D option can neither be combined with the -S option nor with an ORDERED SelectFromPolicy (-p O).

For information on how to specify selection strings, see "Using expressions" on page 100.

-f data-input_file
Specifies the name of the file that contains equivalency attribute information.

On Windows, the file must conform to the UNIX convention for line endings. (See "Special considerations regarding Windows line endings" on page 2.)
**-h**
Wipes the command’s usage statement to standard output.

**-p A | O [Failback | NoFailure | NoControl]**
Specifies the equivalency select-from policy. The value can be:

A Any. This is the default value.

O Ordered. The value cannot be used together with the -D option.

Additional, optional (comma-separated) values:
- Failback (only in combination with Ordered)
- NoFailure
- NoControl

**-S "static_select_string"**
Static Selection String. The specified selection string will be applied to the specified resource class, to determine the resources that make up the equivalency. These resources will then be saved as the MemberShip attribute for the equivalency. This option cannot be combined with the Resource_name [:Node] parameter. The selection string must be enclosed within double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:

- `S 'Name == "testing"'`
- `S 'Name != "test"'

-S cannot be combined with -D.

For information on how to specify selection strings, see [Using expressions](#) on page 100.

**-m Minimum-Necessary**
Minimum Necessary Equivalency. Specifies the minimum necessary members to make an equivalency valid. The default value is 1.

**-T**
Wipes the trace messages of the command to standard error. For your software service organization’s use only.

**-V**
Wipes the verbose messages of the command to standard error.

### Parameters

**Equivalency**
Specifies the unique name of the new equivalency to be created. Equivalency names cannot contain the Dollar symbol ($).

**Resource_class:Resource_name[:Node]**
Specifies one or more resources that will be members of the equivalency. All of the resources must be from the same resource class. A equivalency resource is identified by the resource name (Resource_name), and, optionally, the node (Node) where the resource resides.

Resource names cannot contain the Dollar symbol ($). Resource_name and Node must be separated by colons. Multiple resources can be specified and are separated by a comma. Resource_class is the name of the resource class the equivalency resource belongs to. The first resource or Resource_name[:Node] must be preceded by the Resource_class it belongs to and it must be separated by the colon (:) delimiter. Multiple resources can be specified and are separated by a comma. Since all resources must be from the same class the Resource_class is to be specified only once as the syntax indicates.
Exit Status

0  Command has run successfully.
1  Error occurred with RMC.
2  Error occurred with CLI script.
3  Incorrect flag on command line.
4  Incorrect parameter on command line.
5  Error occurred with RMC that was based on faulty command line input.
6  Resource specified was not found.
7  Resource already exists.

Security

This command requires root authority, or a user ID with appropriate permissions.
(For more information, see [IBM Tivoli System Automation for Multiplatforms Administrator's and User's Guide](https://www.ibm.com/support/docview.ws/docview/80486), section "Setting up non-root security").

Examples

1. To create an equivalency using the data input file, do the following:
   a. To generate a template to aid in the defining of these resources in a file, enter:
      ```bash
      lsrsrcdef -i IBM.Equivalency >& /tmp/Equ.rdef
      ```
   b. Edit the file `/tmp/Equ.rdef` with your preferred text editor: (Enter values for all of the attributes, substituting an appropriate value for the type, or leave it blank if you want the default value.)
   c. Run the `mkequ` command with the file as follows:
      ```bash
      mkequ -f /tmp/Equ.rdef
      ```

Sample Data Input file for mkequ:
You can enter values for all of the attributes and thus change the value shown below, or remove the line with the attribute if you want the default value.

```
PersistentResourceAttributes::
resource 1:
  Name = "Equiv"
  MemberClass = "IBM.NetworkInterface"
  Membership = "{'eth0:node-name', 'eth0:node-name'}"
resource 2:
  Name = "Equiv2"
  MemberClass = "IBM.Application"
  Membership = "{'App1:node-name', 'App2:node-name', 'App3:node-name'}"
  SelectFromPolicy = "Any"
  MinimumNecessary = 2
resource 3:
  Name = "Equiv3"
  MemberClass = "IBM.Test"
  SelectString = "Name ?='Test'"
  SelectFromPolicy = "Any"
  MinimumNecessary = 1
```

2. To make an equivalency called `foo` with all the members of the resource class `IBM.Application`, enter:
   ```bash
   mkequ -S 'Name like "%"' foo IBM.Application
   ```

3. To make an equivalency called `foo` with selected members `tester`, `Jfoo`, and `Dfoo` of the resource class `IBM.Application`, and set its policy to ordered, enter:
   ```bash
   mkequ -p 0 foo IBM.Application:tester:node-name,Jfoo:node-name,Dfoo:node-name
   ```
mkequ

Node-name needs to be indicated because all resources for making the equivalency must be fixed.

4. To make an equivalency called Jfoo with selected members of the resource class IBM.Application by using a static select string, enter:
   mkequ -S "ResourceType==0" Jfoo IBM.Application

5. To make an equivalency called Jfoo with selected members of the resource class IBM.Application using a dynamic select string, enter:
   mkequ -D "ResourceType==0" Jfoo IBM.Application

6. To make an equivalency called netequ with selected members eth0 from nodes node1 and node2 of resource class IBM.NetworkInterface, and to set its policy to Ordered and Failback, enter:
   mkequ -p O,Failback netequ IBM.NetworkInterface:eth0:node1,eth0:node2

Files

/usr/sbin/rsct/bin/mkequ  Location of the mkequ command.

data_input_file        See the examples, and see the man page for Resource_Data_Input file.

See Also

The chequ, chrgmbr, lsequ, mkrel, rmequ commands.

The rmccli General Information file.

The Resource_Data_Input file.
Name

**mkrel** - Makes a managed relationship between resources.

Synopsis

```
mkrel [-h] [-f data_input_file] [-T] [-V]
```

```
mkrel [-h] [-p relationship] [-o condition] -S Source_class
       [-:Resource_name[:Node]] [-s "Source_selection_string"]
       -G Target_class[:Resource_name[:Node]][,Target_class[:Resource_name
       [[:Node]],...]][ -g "Target_selection_string"] [-T] [-V] [Managed_Relation]
```

Description

The **mkrel** command makes a relationship between resources. The relationship is between a source resource and one or more target resources. The source resource must be a member of a resource group. A target resource does not have to be in a resource group.

Managed relationships and their attribute flags can be specified on the command line as the syntax indicates or from a file when used with the `-f` option. The value must be the same data type that is defined for this resource attribute. Use the **lsrsrcdef** command to verify the data type and attribute field for each attribute.

Although optional, it is recommended to specify a name for the managed relationship.

Options

- **-o condition**

  Specifies an If condition to be used when a Location relationship (Collocated, AntiCollocated, Affinity, or AntiAffinity) or a StartAfter (for the IfPossible condition only) is defined. The value can be a numeric value or a word (not case-sensitive):

  - **0x0000 or NoCondition**
    Specifies unconditional location relationship.

  - **0x0001 or IfOnline**
    Specifies that the target resource is online.

  - **0x0002 or IfOffline**
    Specifies that the target resource is offline, failed offline, or unknown.

  - **0x0003 or IfNotOnline**
    Specifies that the target resource is not online.

  - **0x0004 or IfNotOffline**
    Specifies that the target resource is neither offline nor failed offline.

  - **0x0005 or IfPossible**
    Used in conjunction with the StartAfter relationship. Specifies that the target resource group may be bypassed if it cannot be bound, in which case it ends up in Sacrificed state and the StartAfter relationship is ignored.
Specifies the name of the file that contains managed-relationship attribute information.

On Windows, the file must conform to the UNIX convention for line endings. (See “Special considerations regarding Windows line endings” on page 2)

Specifies the target selection string, which is applied to all resources of the resource class specified by the -G option to determine the targets of the relationship.

If the -g option is used to specify a target selection string, Resource_name and Node must not be specified for the -G option.

Specifies the target resources of the relationship. A target resource is identified by the resource class (Target_class) of the resource, the resource name (Resource_name), and, optionally, the node (Node) at which the resource resides.

Resource names cannot contain the Dollar symbol ($). Target_class, Resource_name, and Node must be separated by colons. Multiple target resources can be specified and are separated by commas. The colons are required, but omitting Target_class or Resource_name causes the previously specified class or name to be used when multiple target resources are specified.

If the -g option is used to specify a target selection string, Resource_name and Node must not be specified for the -G option.

Writes the command’s usage statement to standard output.

Specifies the managed relationship to apply. The value can be a numeric value or a word (not case-sensitive):

0x0001 or Collocated
  Specifies that the source and the target resources are to be located on the same node.

0x0002 or AntiCollocated
  Specifies that the source and the target resources are to be located on different nodes.

0x0003 or Affinity
  Specifies that the source resource and its specified affinity resource are to be located on the same node if possible.

0x0004 or AntiAffinity
  Specifies that the source resource and its specified affinity resource are to be located on different nodes if possible.

0x0005 or IsStartable
  Specifies that the source and its target resources are startable.

0x0006 or StartAfter
  Specifies that the source is to be started after the target resources.
**0x0007 or DependsOn**
Specifies that the target resources must be online before the source resource is started and includes an implicit collocation between the source and target resources.

**0x0008 or DependsOnAny**
Specifies that the target must be online before the source resource is started. It is identical to the DependsOn relationship except that it does not provide the collocated constraint for the start sequence. Therefore the source and target resources may not be started on the same node.

**0x0009 or StopAfter**
Specifies that the source resource may not be stopped until after the target resource has been brought offline.

**0x000A or ForcedDownBy**
Specifies that the source resource must be forced offline in the event that either the target resource goes offline unexpectedly or the target resource itself is forced offline.

**-s Source_selection_string**
Specifies the source selection string, which is applied to all resources of the resource class specified by the -S option to determine the source of the relationship. The result of the selection must contain only one resource.

If the -s option is used to specify a source selection string, Resource_name and Node must not be specified for the -S option.

**-S Source_class[Resource_name][Node]**
Specifies the source resource of the relationship. A source resource is identified by the resource class (Source_class) of the resource, the resource name (Resource_name), and, optionally, the node (Node) at which the resource resides.

Resource names cannot contain the Dollar symbol ($). Source_class, Resource_name, and Node must be separated by colons.

If the -s option is used to specify a source selection string, Resource_name and Node must not be specified for the -S option.

**-T**
Writes the command’s trace messages to standard error. For your software-service organization’s use only.

**-V**
Writes the command’s verbose messages to standard output.

### Parameters

*Managed_Relation*
Optional name of the managed relationship. The name of a managed relationship cannot contain the Dollar symbol ($).

If there are several managed relationships with the same source resource, it is recommended that you specify a name for the managed relationship. Otherwise the relationships will be consolidated into a single managed relationship after a policy save and activate action with the **sampolicy** command.

### Exit Status

0 Command has run successfully.
1. Error occurred with RMC.
2. Error occurred with CLI script.
3. Incorrect flag on command line.
4. Incorrect parameter on command line.
5. Error occurred with RMC that was based on faulty command line input.
6. Resource specified was not found.
7. Resource already exists.

**Security**

This command requires root authority, or a user ID with appropriate permissions. (For more information, see [IBM Tivoli System Automation for Multiplatforms Administrator's and User's Guide](#) section "Setting up non-root security").

**Examples**

1. To create a new relationship using the data input file, do the following:
   a. To generate a template to aid in the defining of these relationships in a file, enter:
      ```
      lsrsrcdef -i IBM.ManagedRelationship > /tmp/Rel.rdef
      ```
   b. Edit the file /tmp/Rel.rdef with your preferred text editor: (Enter values for all of the attributes, substituting an appropriate value for the type or leaving it blank if you want the default value.)
   c. Run the `mkrel` command with the file as follows:
      ```
      mkrel -f /tmp/Rel.rdef
      ```

**Sample Data Input file for mkrel:**

You can enter values for all of the attributes and thus change the value shown below, or remove the line with the attribute if you want the default value.

```plaintext
PersistentResourceAttributes::
resource 1:
  Name = "Rel1"
  Source = "IBM.ResourceGroup:G2"
  Target = "IBM.ResourceGroup:G1"
  Relationship = StartAfter

resource 2:
  Name = "Rel2"
  Source = "IBM.Application:A2"
  Target = "{IBM.NetworkInterface:eth0:saopt02}"
  Conditional = IfNotOffline
  Relationship = collocated
```

2. To make a relationship named myrel for a resource **tester** that belongs to resource class IBM.Application with target resources from resource class IBM.Application, whose ResourceType is set to one, enter:

```
mkrel -p collocated -S IBM.Application:tester -G IBM.Application -g "ResourceType==1" myrel
```

3. To make an Affinity relationship called **test** for a resource **tester** belonging to resource class IBM.Application with target resource **tester1** belonging to resource class IBM.Application and target resources **Jfoo** belonging to resource class IBM.Application, enter:

```
mkrel -p affinity -S IBM.Application:tester -G IBM.Application:tester1,Jfoo test
```

4. To define a Collocated relationship named myrel for a source resource **narten** of class IBM.Application to target resources **tr0** and **en0** of class IBM.ServiceIP, enter:

```
mkrel -p 1 -S IBM.Application:narten -G IBM.ServiceIP:tr0,:en0 myrel
```
5. To define a Collocated relationship named myrel for a source resource from a selection string applied to the class IBM.Application with target resources tr0 and en0 of class IBM.ServiceIP, enter:

```
mkrel -p collocated -S IBM.Application -s 'Name="narten"' -G IBM.ServiceIP:tr0,:en0 myrel
```

**Files**

```
/usr/sbin/rsct/bin/mkrel
```

Location of the `mkrel` command.

```
data_input_file
```

See the examples, and see the man page for `Resource_Data_Input` file.

**See Also**

The `addrmgbr, chequ, chrel, chrg, chrgmbr, lsrg, mkequ, mkrg, rmequ, rmrel, rmrg, rmrgmbr` commands.

The `rmccli` General Information file.

The `Resource_Data_Input` file.
### Name

**mkrg** - Makes one or more new resource groups.

### Synopsis

```
    mkrg [-h] [-f data_input_file] [-T] [-V]

    [-D Description] [-I InfoLink] [-T] [-V] [-x node1, node2] Resource_group [...]
```

### Description

The **mkrg** command defines (makes) one or more new resource groups that can be monitored and controlled by System Automation for Multiplatforms. A resource group can only be defined on an online node in a cluster. A resource group definition defines the following to System Automation for Multiplatforms:

- Where the resource group is allowed to run
- Relative importance of resource group to other resource groups
- Location relationship among the member resources of the resource group

New resource groups default to an Offline state. This is to allow a user or administrator to fully configure the resource group and its resources before allowing System Automation for Multiplatforms to take control of the resource group.

To allow System Automation for Multiplatforms to monitor and control the resource groups, the resource group must be in an Online state or condition. See the **chrg** command to set this or any other option on an existing resource group.

The resource group and its attribute option can be specified on the command line as the syntax indicates, or from a file when the `-f` option is used. The value must be the same data type that is defined for this resource attribute. Use the **lsrsrcref** command to verify the data type and attribute field for each attribute.

### Options

- **-e equiv_name**
  Specifies the equivalency name of the nodes on which the Resource_group can run. This option cannot be combined with the `-n` option. The default value is ALL, which implies an equivalency of all nodes in the cluster.

- **-f data_input_file**
  Name of the file which contains resource group attribute information.

  On Windows, the file must conform to the UNIX convention for line endings. (See "Special considerations regarding Windows line endings" on page 2)

- **-h**
  Writes the command’s usage statement to standard output.

- **-l relationship**
  Specifies the location relationship among the members of the resource group. The location relationship value can be:
0x0000 or None
Specifies that member resources of the resource group can be on
any node

0x0001 or Collocated
Specifies that member resources of the resource group are to be
located on the same node.

The default value is Collocated.

-n node_name
Specifies the node on which the Resource_group can run. This option cannot
be combined with the -e option. The default value is ALL, which implies
all nodes in the cluster.

-p priority
Specifies the relative importance of this resource group compared to other
resource groups. Priority can be any integer from 0 to 200: the higher the
integer, the higher the priority. The default priority value is 0.

-N Owner
A string with the name of the owner or contact for the group.

-D Description
A string describing the purpose of the group.

-I InfoLink
A string containing the URL of a HTML page which shows additional
information about the resource group.

-T Writes the command’s trace messages to standard error. For your
software-service organization’s use only.

-V Writes the command’s verbose messages to standard output.

-x node1, ...noden
Specifies the excluded node list.

Parameters

Resource_group
The unique name of the new resource group(s) to be created. Note that
resource group names cannot contain the Dollar symbol ($).

Exit Status

0  Command has run successfully.
1  Error occurred with RMC.
2  Error occurred with CLI script.
3  Incorrect flag on command line.
4  Incorrect parameter on command line.
5  Error occurred with RMC that was based on faulty command line input.
6  Resource specified was not found.
7  Resource already exists.
Security

This command requires root authority, or a user ID with appropriate permissions. (For more information, see IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide section “Setting up non-root security”.)

Examples

1. To create resource groups using the data input file, do the following:
   a. To generate a template to aid in the defining of these resources in a file, enter:
      
      ```bash
      lsrsrdef -i IBM.ResourceGroup >& /tmp/RG.rdef
      ```
   b. Edit the file /tmp/RG.rdef with your preferred text editor: (Enter values for all of the attributes, substituting the appropriate value for the type, or remove the line with the attribute if you want the default value.)
   c. Run the `mkrg` command with the file as follows:
      
      ```bash
      mkrg -f /tmp/RG.rdef
      ```

Sample Data Input file for `mkrg`:

You can enter values for all of the attributes and thus change the value shown below, or remove the line with the attribute if you want the default value.

```plaintext
PersistentResourceAttributes::
resource 1:
  Name = "GR1"
  MemberLocation = "collocated"
  Priority = "32"
resource 2:
  Name = "GR2"
  MemberLocation = "none"
  NominalState = "offline"
  AllowedNode = "node-name1"
resource 3:
  Name = "GR3"
  MemberLocation = "none"
  Priority = "2"
  NominalState = "offline"
  Description = "Resource group for managing of apache server"
```

2. To define a new resource group called `foo` with all default values, enter:

   ```bash
   mkrg foo
   ```

3. To define new resource groups called `foo` and `foo1` with location relationship "none", and allowed node name "cluster1", enter:

   ```bash
   mkrg -l none -n cluster1 foo foo1
   ```

4. To define a new resource group called `foo` with location relationship "Collocated", priority value of 22, and allowed equivalency name "cluster1", enter:

   ```bash
   mkrg -l collocated -e cluster1 -p 22 foo
   ```

Files

`/usr/sbin/rsct/bin/mkrg` Location of the `mkrg` command.

`data_input_file`

See Also

The `addrgrmbr`, `samctrl`, `chrg`, `chrgmbr`, `lsrg`, `rmrg`, `rmrgmbr` commands.

The `Resource_Data_INPUT` file.
The `rmccli` General Information file.
Name

**pidmon** - Searches the process list for a command string or takes the OpState from a file.

Synopsis

```
pidmon [-h] [-d debugmode] [-u uid] [-c] command_string

pidmon [-h] [-d debugmode] -f opstate_file
```

Description

The **pidmon** command searches the process list for a given command string. If the command string was found, the RMC OpState Online is returned. The **pidmon** command can be used as a generic monitor for the IBM.Application resource class. Optionally the RMC OpState can be taken from a specified file.

Options

- **-h**
  Writes the command’s usage statement to standard output.

- **-d debugmode**
  Specifies the debug mode.

- **-u uid**
  Specifies a user ID for the command string search.

- **-c**
  Command string search (this is the default) - the string can contain wildcards such as "; the matching rules follow the POSIX function fnmatch().

- **-f**
  OpState is taken from file.

Parameters

- **debugmode**
  Can be one of the following options:
  1. Write debug messages to syslog.
  2. Write debug messages to standard output/error.
  3. Write detailed debug messages to standard output/error and syslog.

- **uid**
  Searches process list for command string which belongs to the specified user id. RMC_OPSTATE_ONLINE is only reported if there is a process with the specified command string and owner of this process is uid.

- **opstate_file**
  This is a plain text file containing just one of the RMC OpStates shown below. The **pidmon** command reads this text file and returns OpState from the file.

Exit Status

Against usual command convention **pidmon** does not return 0 on success or another value on error. It returns the RMC OpState. An exit status of 0 means RMC OpState unknown which indicates an error in the **pidmon** command. Valid RMC OpStates are:

```
0  RMC_OPSTATE_UNKNOWN
```
Security

This command does not require special permissions.

Examples

1. Searches for the process with the command string '/bin/bash' and returns OpState online (exit status 1).
   ```bash
   pidmon '/bin/bash'
   echo $? 
   1
   ```

2. Searches for the process with the command string containing "java"; there is at least one process with a command string containing "java", so `pidmon` returns the OpState online (exit status 1).
   ```bash
   pidmon '*java*'
   echo $? 
   1
   ```

3. `pidmon` reads myopstate file, which only contains the number '3', and returns OpState failed offline (exit status 3).
   ```bash
   pidmon -f myopstate
   echo $? 
   1
   ```

4. Use the `pidmon` command as a generic monitor command for an IBM.Application resource definition:
   ```bash
   lsrsrc -s "Name=syslogd" IBM.Application
   resource 1:
   Name = "syslogd"
   ResourceType = 0
   AggregateResource = "0x3fff 0xffff 0x00000000 0x00000000 0x00000000 0x00000000"
   StartCommand = "/etc/init.d/syslog start"
   StopCommand = "/etc/init.d/syslog stop"
   MonitorCommand = "/usr/sbin/rsct/bin/pidmon '/sbin/syslogd'"
   ....
   ```

Files

`/usr/sbin/rsct/bin/pidmon` Location of the `pidmon` command.

See Also

The `MonitorCommand` attribute of IBM.Application as described under Attributes used by IBM.Application in IBM Tivoli System Automation for Multiplatforms Administrator's and User's Guide
**Name**

prereqSAM - Checks that all prerequisites for the installation or upgrade of System Automation for Multiplatforms, including the end-to-end automation adapter, are met.

**Synopsis**

prereqSAM [-d inst_pkg_dir] [-l log_file]

**Description**

The prereqSAM command checks whether all prerequisites for the installation or upgrade of System Automation for Multiplatforms are met. The command is invoked by the installSAM command but can also be run separately. If invoked separately, you can specify options that allow you run the check although the prereqSAM script is not in the package directory (-d), and to specify that a log file other than the default is to be used (-l).

The name of the default log file is /tmp/prereqSAM.<#>.log, where <#> is a sequential number; the highest number identifies the most recent log file.

The prereqSAM command is not applicable to System Automation for Multiplatforms on Windows.

**Options**

- **-d inst_pkg_dir**
  Allows you to perform the prerequisites check based on NLS files in the specified directory although the prereqSAM script is not available in the directory. prereqSAM is not dependent on the packages to be installed but needs the directory for its message files.

- **-l log_file**
  Logs information generated by the prereqSAM command to the specified log file.

**Exit Status**

These are the return codes returned by the prereqSAM regardless of whether the command is invoked by the installSAM script or separately.

- **0** The system passed the prerequisite check. The version of the operating system is supported and all prerequisite packages were found installed at the correct version. The log file contains the names and versions of the installed packages.

- **20** An installed package does not have the correct version. The log file contains the names and versions of the missing packages.

- **21** A package was not found installed.

- **22** The operating system version is not supported.

- **23** The prerequisites check could not be performed. A file may be missing. Refer to the log file for a detailed description of the problem.

**Security**

This command does not require root authority.
Name

rgmbrreq - Requests for a managed resource to be started, stopped, or canceled.

rgmbrreq belongs to a group of commands (rgreq, rgmbrreq, and lsrgreq) which allow an operator to introduce persistent requests into System Automation for Multiplatforms. Using this set of commands the operator can start, stop, cancel, or move resource groups and managed resources.

Synopsis

Resource_class:Resource:[Node][Resource:[Node][...]]
[Resource_class:Resource:[Node][Resource:[Node][...][...]]]

Resource_class:“Selection_String” [Resource_class:“Selection_String” [...]]

Description

By means of the rgmbrreq command the operator or any originator (source) asks for the managed resource to be started, stopped, or canceled. Start and Stop requests will last until explicitly removed or canceled by the operator. A request coming from the same source replaces a former request from that source - that is, it cancels the previous request automatically. A move request is not allowed for a managed resource. A stop or a start request can be canceled by the same source that enabled it.

Options

-h Help. Writes the command’s usage statement to standard output.

-p priority
Determines how important the request is with regard to other requests within the resource structure. The priority allows System Automation for Multiplatforms to solve conflicting requests for the same resource. Can be one of the following:

low Low priority. This is the default.

high High priority.

force Takes precedence over requests posted with high priority.

-o action
The actual action request. It can be one of the following:

start Sets the nominal state of the resource to online.

stop Sets the nominal state of the resource to offline.

cancel Cancels a previously entered request. The request is identified by the source of the request (-S parameter) and the resource name.

lock Locks a resource. When the resource is locked, it is frozen in its current state and no longer automated.

unlock Unlocks a resource.
rgmbrrreq

-s Specifies that a selection string will be used.

-S source
   Identifies the originator of the request. This can be one of the following strings:
   - Operator
   - ExtSched
   - Automation

Any others will be allowed, but will get the lowest priority. If the source is not specified, "Operator" is used as default source. When canceling the request, the same source string must be specified. Note that each source can only have one active request of each type against each resource. If the source makes a second request directly against the resource, it will replace their first request. The source option allows the installation to identify the different organizational units and the roles they are playing. Another usage is to distinguish between who made or where the request came from, for example from the operator versus an automation shell script.

-u userID
   The user or operator ID of the originator of the request. This can be any string. If the string contains blanks, it must be enclosed in quotes.

-c comments
   A string representing a remark that might be related to the request. If the string contains blanks, it must be enclosed in quotes. The character semicolon ";" is not allowed in comments.

-T Trace. Writes the command’s trace messages to standard error. For your software-service organization’s use only.

-V Verbose. Writes the command’s verbose messages to standard output.

Parameters

Resource_class:"selection_string"
   The -s option determines this operand. Each selection string must be preceded by a resource class. Resource_class indicates the name of the Resource class the selection_string will be applied to. The selection_string and its Resource_class must be separated by colon or "." delimiter. The specified selection string will be applied to its corresponding Resource_class attributes to determine which member resources are to be removed from the Resource_group. The selection string must be enclosed within double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:
      -s IBM.Application: Name="testing"
      -s IBM.Application: Name?="test"
      -s IBM.Application: Name like "%" (For all resources)

For information on how to specify selection strings, see "Using expressions" on page 100.

Resource_class:Resource[.Node]
   Member Resources. This specifies one or more member resources that are to be acted on. Resources belonging to different resource classes can also be specified using this syntax. However, member resources belonging to different classes must be separated by
A member resource is identified by the resource’s class (Resource_class), the resource’s name (Resource_name), and optionally the node (Node) the resource is on. The Resource_class, Resource and Node must be separated by a colon. Resource_class is the name of the resource class the member resource belongs to. Resource is the name of the actual member resource in its class. The node may have to be included when trying to act on a fixed member resource. The node and its resource must be separated by the colon or “:” delimiter. Multiple resources belonging to the same resource class can also be specified and are separated by a comma: Resource_class:Resource[:Node][,Resource[:Node][,...]]

The member resources must exist in the resource group for the requested action to take place.

### Exit Status

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Command has run successfully.</td>
</tr>
<tr>
<td>1</td>
<td>Error occurred with RMC.</td>
</tr>
<tr>
<td>2</td>
<td>Error occurred with CLI script.</td>
</tr>
<tr>
<td>3</td>
<td>Incorrect flag on command line.</td>
</tr>
<tr>
<td>4</td>
<td>Incorrect parameter on command line.</td>
</tr>
<tr>
<td>5</td>
<td>Error occurred with RMC that was based on faulty command line input.</td>
</tr>
<tr>
<td>6</td>
<td>Resource specified was not found.</td>
</tr>
</tbody>
</table>

### Security

This command requires root authority, or a user ID with appropriate permissions. (For more information, see [IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide](https://www.ibm.com/support/knowledgecenter/ST4QWE_6.1.0/com.ibm.rsc.tsam.doc_6.1.0/tsam_admin_and_user_guide.html) section "Setting up non-root security".)

### Examples

1. To request a start action on application App1 of IBM.Application, enter:

   ```
   rgmbrreq -o start IBM.Application:App1
   ```

### Files

```
/usr/sbin/rsct/bin/rgmbrreq
```

Location of the `rgmbrreq` command.

### See Also

The `addrmbr`, `chrg`, `chrgmbr`, `lsrg`, `lsrgreq`, `mkrg`, `rgreq`, `rmrg`, and `rmrgmbr` commands.
rgreq

Name

rgreq - Requests for a resource group to be started, stopped, canceled, locked, unlocked, or moved.

rgreq belongs to a group of commands (rgreq, rgbrreq, and lsrqreq) which allow an operator to introduce persistent requests into System Automation for Multiplatforms. Using this set of commands the operator can start, stop, cancel, lock, unlock, or move resource groups and managed resources.

Synopsis


Description

The rgreq command is used to issue requests against resource groups that are automated by System Automation for Multiplatforms. By issuing a request, the originator or “source” of the request, for example, an operator or the decision engine of System Automation for Multiplatforms, asks that a resource group be started, stopped, canceled, locked, unlocked, or moved.

Start and Stop requests are retained until they are explicitly removed or canceled; lock requests are retained until the resource is explicitly unlocked again.

Typically, two requests that are issued by the same originator replace each other, the new request automatically cancels the older one. Requests are considered to have the same originator if their Source attributes have the same value. Start and Stop requests cancel each other, but Move requests do not.

Since Move and Start/Stop request are of different types, both a Move request and a Start or a Stop request from the same source against the same resource may be allowed. For example, request a resource group to start, then request it to move. When the resource group has been moved, the Start request should still be in place. A Move request is automatically removed when the move action is carried out or canceled by the Recovery RM (IBM.RecoveryRM), or when the move request is canceled using a movecancel request. Stop and Start requests may be canceled at any time. However, the cancel requests must come from the same source as the original Start and Stop requests.

Lock requests freeze resource groups in their current state and prevent them from being automated. Lock requests are persistent, to unlock a resource group and to remove the lock request an unlock request is required.

Options

-h Help. Writes the command’s usage statement to standard output.
-p priority level
   Determines how important the request is with regard to other requests within the resource structure. The priority allows System Automation for Multiplatforms to solve conflicting requests for the same resource. priority level can be one of the following:
   low Low priority. This is the default.
rgreq

**high**  High priority. Takes precedence over request posted with low priority.

**force** Takes precedence over request posted with high or low priority.

**-o action**
Specifies the actual action request. It can be one of the following:

- **start** Sets the nominal state of the resource group to online.
- **stop** Sets the nominal state of the resource group to offline.
- **move** Moves the resource group and its members to a different node in the cluster. The process involves stopping an active set of resources and starting them on different node(s) in a coordinated fashion.
- **cancel** Cancels a previously entered request. The request is identified by the source of the request (-S parameter) and the resource name. Only start and stop requests can be canceled using cancel requests. Move requests are canceled using movecancel requests. Lock requests are canceled using unlock requests.
- **movescancel** Cancels a previously entered move request. The request is identified by the name of the resource group.
- **lock** Locks a resource group. When the group is locked, it is frozen in its current state and no longer automated.
- **unlock** Unlocks a resource group.

**-S source**
Identifies the originator of the request. This can be one of the following strings:
- Operator
- ExtSched
- Automation

Other originators are allowed, but will get the lowest priority. If the source attribute is not specified then, it will default to "Operator". When canceling the request, the same source string must be specified. There are two types of request. Start and Stop requests are of one type, and the Move request is of another type. Note that each source can only have one active request of each type against each resource. If the source makes a second request directly against the resource, it will replace their first request. The source option allows the installation to distinguish where the request came from, for example from the operator versus an automation shell script.

**-n node1...noden**
The originating nodes. This option can only be applied for a move action. It identifies the nodes to move the resource group or its underlying resources from. This option is required for an anticolloccated resource group.

**-u userID**
The user or operator Id of the originator of the request. This can be any string. If the string contains blanks, it must be enclosed in quotes.

**-c comments**
A string representing a remark that might be related to the request. If the
rgreq

string contains blanks, it must be enclosed in quotes. The character
semicolon ";" is not allowed in comments.

-T Trace. Writes the command’s trace messages to standard error. For your
software-service organization’s use only.

-V Verbose. Writes the command’s verbose messages to standard output.

Parameters

Resource_group

the name of the resource group. This is the entry point at which the
request is introduced into the resource structure and from which it
propagates outwards.

Exit Status

0 Command has run successfully.
1 Error occurred with RMC.
2 Error occurred with CLI script.
3 Incorrect flag on command line.
4 Incorrect parameter on command line.
5 Error occurred with RMC that was based on faulty command line input.
6 Resource specified was not found.

Security

This command requires root authority, or a user ID with appropriate permissions.
(For more information, see IBM Tivoli System Automation for Multiplatforms
Administrator’s and User’s Guide section “Setting up non-root security”.)

Examples

1. To move all the resources from node1 in resource group RG1, enter:
   \texttt{rgreq -n node1 -o move RG1}
2. To stop all the resources in resource group RG2, enter:
   \texttt{rgreq -o stop RG2}
3. To lock all resources in resource group RG2, enter:
   \texttt{rgreq -o lock RG2}

Files

/\texttt{usr/sbin/rsct/bin/rgreq} Location of the \texttt{rgreq} command.

See Also

The \texttt{lsrc}, \texttt{mkr}, \texttt{chrg}, \texttt{rmrg}, \texttt{lsrg} commands.
Name

rmequ - Removes one or more already-defined resource equivalencies.

Synopsis

rmequ [-h] [-i] -s "selection_string" [-T] [-V] [Equivalency [...]]

rmequ [-h] [-i] [-T] [-V] Equivalency [...]

Description

The rmequ command removes one or more resource equivalencies specified by Equivalency parameters or equivalencies derived from selection strings.

Options

-h  Writes the command’s usage statement to standard output.
-i  Interactive. Prompt before removing equivalencies.
-s "selection_string"
   Specifies the equivalency selection string. This selection_string is applied to all the existing equivalencies when an equivalency parameter is not specified. When equivalency parameters are specified, then the specified selection string is only applied to the specified equivalency parameters. The selection string must be enclosed within double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:
   -s 'Name == "testing"'
   -s 'Name ?= "test"'
   For information on how to specify selection strings, see "Using expressions" on page 100.
-T  Writes the command’s trace messages to standard error. For your software-service organization’s use only.
-V  Writes the command’s verbose messages to standard output.

Parameters

Equivalency

Specifies the name of the defined resource equivalency to be removed. Multiple equivalencies may be specified, but must be separated by spaces.

Exit Status

0  Command has run successfully.
1  Error occurred with RMC.
2  Error occurred with CLI script.
3  Incorrect flag on command line.
4  Incorrect parameter on command line.
5  Error occurred with RMC that was based on faulty command line input.
Resource specified was not found.

Security
This command requires root authority, or a user ID with appropriate permissions. (For more information, see [IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide](#) section "Setting up non-root security").

Examples
1. To remove an equivalency called foo, enter:
   ```
   rmequ foo
   ```
2. To remove equivalencies called foo, foo1, and foo2, enter:
   ```
   rmequ foo foo1 foo2
   ```

Files
```
/usr/sbin/rsct/bin/rmequ
```
Location of the rmequ command.

See Also
The chequ, samctrl, lsequ, mkequ commands.

The rmccli General Information file.
rmrel

Name

**rmrel** - Removes a managed relationship between resources.

Synopsis

```
mrel [-h] [-i] -s "selection_string" [-T] [-V]
```

```
mrel [-h] [-i] -S Source_Class[:Resource_name[:Node]] [-s "Source_string"]
   [-G Target_Class[:Resource_name[:Node]],Target_class[:Resource_name
   [:Node][:...]]][-g "Target_string"] [-P Current_relationship]
   [-O Current_condition] [-T] [-V]
```

```
```

Description

The **rmrel** command removes a relationship between resources. The relationship to be removed is determined by the source parameter (**Source_class**: **Resource_name** [:**Node**]) or by the selection string when it is applied to the relationship itself or the name(s) of the managed relationship(s).

Options

- **-O Current_condition**
  Specifies the condition value to query all defined relationships, in order to find a match. The value can be the numeric value or the word (not case-sensitive):
  - 0x0000 or NoCondition
  - 0x0001 or IfOnline
  - 0x0002 or IfOffline
  - 0x0003 or IfNotOnline
  - 0x0004 or IfNotOffline
  - 0x0005 or IfPossible

- **-g Target_string**
  The **Target_string** is applied to all resources of the resource class specified by the **-G** option, to determine the targets of the relationship.

  If the **-g** option is used to specify a target selection string, **Resource_name** and **Node** must not be specified for the **-G** option.

- **-G Target_class[:Resource_name[:Node]]**

  Specifies the target resource to be used with the target query, and any other specified query, to find a match from all defined relationships. A target resource is identified by the class of the resource (**Target_class**), the name of the resource (**Resource_name**), and optionally the node (**Node**) on which the resource is located. The **Resource_class**, **Resource_name** and **Node** must be separated by a colon. Multiple target resources can be specified and are separated by a comma. The colons are required, but if the **Target_class** is omitted, the previously-specified class will be used when specifying multiple target resources.

  If the **-g** option is used to specify a target selection string, **Resource_name** and **Node** must not be specified for the **-G** option.
-h  Writes the command’s usage statement to standard output.
-i  Interactive. Prompt before removing relationships.
-P  Current_relationship
    Specifies the managed relationship value used to query all the defined relationships to find a match. The value can be a numeric value or the word (not case-sensitive):

0x0001 or Collocated
    Specifies that the source and the target resources are to be located on the same node.

0x0002 or AntiCollocated
    Specifies that the source and the target resources are to be located on different nodes.

0x0003 or Affinity
    Specifies that the source resource and its specified affinity resource are to be located on the same node, if possible.

0x0004 or AntiAffinity
    Specifies that the source resource and its specified affinity resource are to be located on different nodes, if possible.

0x0005 or IsStartable
    Specifies that the source and its target resources are startable.

0x0006 or StartAfter
    Specifies that the source is to be started after the target resources.

0x0007 or DependsOn
    Specifies that the target resources must be online before the source resource is started and includes an implicit collocation between the source and target resources.

0x0008 or DependsOnAny
    Specifies that the target must be online before the source resource is started. It is identical to the DependsOn relationship except that it does not provide the collocated constraint for the start sequence. Therefore the source and target resources may not be started on the same node.

0x0009 or StopAfter
    Specifies that the source resource may not be stopped until after the target resource has been brought offline.

0x000A or ForcedDownBy
    Specifies that the source resource must be forced offline in the event that either the target resource goes offline unexpectedly or the target resource itself is forced offline.

-s "selection_string"
    Specifies the selection string. If the -s option is specified without the -S option, the selection string associated with it will be applied to all managed relationships of resources. The selection string must be enclosed within either double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:

  -s 'Name == "testing"'
  -s 'Name != "test"'
For information on how to specify selection strings, see "Using expressions" on page 100.

-s Source_string

Specifies the source selection string. The Source_string is applied to all resources of the resource class specified by the -S option to determine the source of the relationship. The result of the selection may contain one or more resources.

If the -s option is used to specify a source selection string, Resource_name and Node must not be specified for the -S option.

-S Source_class[;Resource_name[;Node]]

Specifies the source resource of the query. This source resource, with any other query that may be specified, will be queried against all defined relationship to find a match. A source resource is identified by the class of the resource (Source_class), the name of the resource (Resource_name), and optionally the node (Node) on which the resource is located. The Resource_class, Resource_Name and Node must be separated by a colon.

If the -s option is used to specify a source selection string, Resource_name and Node must not be specified for the -S option.

-T  Writes the command’s trace messages to standard error. For your software-service organization’s use only.

-V  Writes the command’s verbose messages to standard output.

Parameters

Managed_Relation

Name of the managed relationship to be removed. Multiple relationships can be specified on the command line, but have to be separated by spaces.

Exit Status

0  Command has run successfully.
1  Error occurred with RMC.
2  Error occurred with CLI script.
3  Incorrect flag on command line.
4  Incorrect parameter on command line.
5  Error occurred with RMC that was based on faulty command line input.
6  Resource specified was not found.
7  Resource already exists.

Security

This command requires root authority, or a user ID with appropriate permissions. (For more information, see [IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide](#) section "Setting up non-root security").

Examples

1. To remove a relationship for a resource tester that belongs to resource class IBM.Application, enter:

   rmrel -S IBM.Application:tester
2. To remove the relationship of a resource by using a selection string, enter:
   `rmrel -s 'Name == "tester"'

3. To remove a relationship for a source resource `foo` from a selection string applied to the class `IBM.Application`, enter:
   `rmrel -s 'Name=="foo"' -S IBM.Application`

4. To remove all relationship for source resources from class `IBM.Application`:
   `rmrel -s 'Name like "%"' -S IBM.Application`

5. To remove relationship for resources with targets from class `IBM.Application` with a collocated relationship and a specific condition, enter:
   `rmrel -S IBM.Application:narten -G IBM.Application:ha,:test -P collocated -O 1`

6. To remove relationships named `narten` and `foo`, enter:
   `rmrel narten foo`

Files

`/usr/sbin/rsct/bin/rmrel` Location of the `rmrel` command.

See Also

The `addrgmbr`, `chequ`, `chrel`, `chrg`, `chrgmbr`, `lsrg`, `mkequ`, `mkrel`, `mkrg`, `rnequ`, `rmrg`, `rmrgmbr` commands.

The `rmccli` General Information file.
Name

rmrg - Removes one or more already-defined resource groups.

Synopsis

rmrg [-h] [-i] -s "selection_string" [-T] [-V] [Resource_group ...]

rmrg [-h] [-i] [-T] [-V] Resource_group [...] 

Description

The rmrg command removes one or more resource groups specified by the Resource_group parameter, or that match the specified selection string. The member resources associated with the removed resource groups, are also removed by System Automation for Multiplatforms. If any member of the resource groups to be deleted are part of a managed relationship between resources, the managed relationships are also removed by System Automation for Multiplatforms. The resource group must already exist for it to be removed. If the resource group to be removed is still online, the resource group is not removed.

This implies that all resource groups that are nested within the resource group to be removed are also removed recursively. If you want to prevent contained resource groups from being deleted recursively, proceed as follows:

1. Remove these resource groups as members from the resource group to be removed using the rmrgmbr command.
2. Remove the containing resource group.

When the -h option is specified, this command’s usage statement is written to standard output. All verbose messages are also written to standard output.

All trace messages are written to standard error.

Parameters

Resource_group

The name of the defined resource group to be removed. Multiple resource groups can be specified but must be separated by spaces.

Options

-h Writes the command’s usage statement to standard output.

-i Interactive. Prompt before removing relationships.

-s "selection_string"

Specifies the selection string. If the Resource_group parameters are not specified, the selection string will be applied to all existing resource groups. The selection string must be enclosed within either double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:

-s 'Name == "testing"'
-s 'Name ?= "test"'
-s 'Name like "%"' (For all resources)
-T  Writes the command’s trace messages to standard error. For your software-service organization’s use only.

-V  Writes the command’s verbose messages to standard output.

Exit Status

0  Command has run successfully.
1  Error occurred with RMC.
2  Error occurred with CLI script.
3  Incorrect flag on command line.
4  Incorrect parameter on command line.
5  Error occurred with RMC that was based on faulty command line input.
6  Resource specified was not found.

Security

This command requires root authority, or a user ID with appropriate permissions. (For more information, see IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide section “Setting up non-root security”.)

Examples

1. To remove a resource group called foo, enter:
   rmrg foo
2. To remove resource groups called foo, foo1, and foo2, enter:
   rmrg foo foo1 foo2
3. To prompt before removing resource groups called foo and foo2, enter:
   rmrg -i foo foo2
4. To remove a resource group called foo using a select string, enter:
   rmrg -s 'Name=="foo"'
5. To remove all resource groups containing the word foo as part of its name, enter:
   rmrg -s 'Name ?="foo"'

Files

/usr/sbin/rsct/bin/rmrg  Location of the rmrg command.

See Also

The addrgmb, samctrl, chrg, chrgmbr, lsrg, mkrg, rmrgmbr commands.

The rmccli General Information file.
**rmrgmbr**

**Name**

*rmrgmbr* - Removes one or more resources from their resource group.

**Synopsis**

```
rmrgmbr [-h] [-i] [-T] [-V] -g Resource_group
rmrgmbr [-h] [-i] -s [-T] [-V] [-g Resource_group] "selection string"
rmrgmbr [-h] [-i] -s [-T] [-V] [-g Resource_group]
    Resource_class:"selection_string" [Resource_class:"selection_string" [...]]
rmrgmbr [-h] [-i] [-T] [-V] [-g Resource_group]
    Resource_class:Resource_name [:Node][,Resource_name[:Node][...]]
    [Resource_class:Resource_name [:Node][,Resource_name[:Node][...]] [...]]
```

**Description**

The *rmrgmbr* command removes all the member resources of the specified resource group, only the specified member resources of the specified resource group, or the member resources that match the selection string. System Automation for Multiplatforms ensures that the associated relationship and equivalency are also updated, if possible. When the selection string is the only parameter, then it is applied directly to the IBM.ManagedResource class.

A resource name or selection string must be specified with the resource class to which it belongs. The user must input the resource class, resource name, and the node number or name if it is a fixed resource. The resource class and the resource name, the resource name and the node must be separated by a colon.

**Options**

- **-h**  
  Writes the command’s usage statement to standard output.

- **-i**  
  Interactive. Prompt before removing relationships.

- **-g Resource_group**  
  Specifies the unique name of the resource group from which the member resources are to be removed.

- **-s**  
  Specifies that a selection string will be used instead of the resource name.

- **-T**  
  Writes the command’s trace messages to standard error. For your software-service organization’s use only.

- **-V**  
  Writes the command’s verbose messages to standard output.

**Parameters**

- **Resource_class**  
  Specifies the name of the resource class to which the member resource belongs. The resource and the resource class must be separated by the colon (:) delimiter.

- **Resource_class:Resource_name[:Node]**  
  This specifies one or more member resources that are to be removed from the specified resource group. Resources belonging to different resource
classes can also be specified using this syntax. However, member resources belonging to different classes must be separated by spaces. A member resource is identified by the resource’s class (Resource_class), the resource’s name (Resource_name), and optionally the node (Node) the resource is on. The Resource_class, Resource_Name and Node must be separated by a colon. Resource_class is the name of the resource class the member resource belongs to. Resource_name is the name of the actual member resource in its class. The Node may have to be included when trying to remove a fixed resource from the resource group. The Node and its resource must be separated by the colon (:) delimiter.

Multiple resources belonging to the same resource class can also be specified and are separated by a comma. In this case the first resource or Resource_name[Node] of a resource class must be preceded by the Resource_class it belongs to and it must be separated by the colon (:) delimiter while the remaining resources are separated by a comma.

Resource_class:Resource_name[Node]

The member resources must exist in the resource group for it to be removed.

Resource_class:“selection_string”

Selection string. The -s option determines this operand. Each selection string must be preceded by a resource class. Resource_class indicates the name of the resource class the selection_string will be applied to. The selection_string and it’s Resource Class must be separated by the colon (:) delimiter. The specified selection string will be applied to its corresponding resource_class attributes to determine which member resources are to be removed from the resource_group. The selection string must be enclosed within double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:

- s 'Name == "testing"'
- s 'Name ~= "test"'
- s 'Name like "q*"' (for all resources)

For information on how to specify selection strings, see “Using expressions” on page 100.

Selection_string

Specifies the selection string. The -s option determines this parameter. When this is the only parameter, then the selection string is applied to the member resources. But, when the selection string is included with Resource_group, the selection string will be applied to the member resources that belong to the specified resource group. When each of the selection strings are preceded by a resource class, the specified selection string in this case will be applied to its corresponding Resource_class attributes, to determine which resources are to be removed from the Resource_group. The selection string must be enclosed within either double or single quotation marks. If the selection string contains double quotation marks, enclose the entire selection string in single quotation marks. For example:

- s 'Name == "testing"'
- s 'Name ~= "test"'
- s 'Name like "q*"' (For all resources)

For information on how to specify selection strings, see “Using expressions” on page 100.
## Exit Status

0  Command has run successfully.
1  Error occurred with RMC.
2  Error occurred with CLI script.
3  Incorrect flag on command line.
4  Incorrect parameter on command line.
5  Error occurred with RMC that was based on faulty command line input.
6  Resource specified was not found.

## Security

This command requires root authority, or a user ID with appropriate permissions. 
(For more information, see IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide section "Setting up non-root security").

## Examples

1. To remove a member resource **tester** that belongs to resource class IBM.Application from a resource group **foo**, enter:
   ```bash
   rmrgmbr -g foo IBM.Application:tester
   ```

2. To remove member resources **tester**, **Jfoo**, and **Dfoo** that belong to resource class IBM.Application, from resource group **foo**, enter:
   ```bash
   rmrgmbr -g foo IBM.Application:tester,Jfoo,Dfoo
   ```

3. To remove member resources **tester** and **Jfoo** that belong to resource class IBM.Application and fixed resource **en0** that belongs to class IBM.ServiceIP, enter:
   ```bash
   rmrgmbr IBM.Application:tester,Jfoo IBM.ServiceIP:en0
   ```

4. To remove selected member resources of the resource class IBM.Application from a resource group **foo** whose ResourceType is set, enter:
   ```bash
   rmrgmbr -s -g foo IBM.Application:*ResourceType*=1
   ```

5. To remove all member resources of resource group **foo** by using a selection string, enter:
   ```bash
   rmrgmbr -s 'MemberOf == "foo"'
   ```

## Files

/usr/sbin/rsct/bin/rmrgmbr  Location of the **rmrgmbr** command.

## See Also

The addrgmbr, chrel, chrg, chrgmbr, lsrel, lsrg, mkrel, mkrg, rmrel, rmrg commands.

The rmccli General Information file.
samctrl

Name

**samctrl** - Sets the System Automation for Multiplatforms control parameters.

Synopsis

```
samctrl [-h] [-m [-f] [-T] [-V] [new_activeversion]
samctrl [-h] [-e PublisherName] [-d PublisherName] [-M T | F] [-u a | d | r] [-t Timeout] [-l Trace_level] [-r Retry_count]
[-o ResourceRestartTimeOut] [-T] [-V] [Node [Node [...]]]
```

Description

The **samctrl** command sets the default control parameter values for System Automation for Multiplatforms. This command, when used, must change at least one control parameter for System Automation for Multiplatforms.

Options

- **-e PublisherName**
  Enables the named publisher. To enable all publishers, use `-e P`.

- **-d PublisherName**
  Disables the named publisher. To disable all publishers, use `-d P`. All publishers disabled is the default.

- **-f**
  Force Migration. It requires the `-m` option. A force option (`-mf`) can be specified if user insists to upgrade the code version when the joined System Automation for Multiplatforms daemon count is less than the total defined node count and the installed version number information of the down daemon is lower than the rest of the up daemons.

- **-h**
  Writes the command’s usage statement to standard output.

- **-m**
  Migration. This is used to trigger a IBM Tivoli System Automation code version migration complete action.

- **-M T | F**
  `T` (True) Manual mode. Deactivates System Automation for Multiplatforms on the cluster. After deactivation, resources are no longer automated and must be started and stopped manually. State changes of resource groups are not reflected in the operations console, which is why RMC commands must be used to retrieve the current states of the cluster resources.

  The option should only be used in test environments. It is useful in situations when the execution of a start or stop command must be avoided at all costs.

  `F` (False) Automation mode (default). Reactivates System Automation for Multiplatforms on the cluster.

- **-u a | d | r**
  Specifies that one or more nodes are to be added, removed, or replaced with the excluded list of nodes.
samctrl

  a  Adds one or more specified nodes to the excluded list of nodes for control operations.
  d  Deletes one or more specified nodes from the excluded list of nodes for control operations.
  r  Replaces one or more specified nodes with the excluded list of nodes for control operations.

-r Retry_count
   Specifies the default number of retries a control operation can perform before the operation is declared as failed.

-o ResourceRestartTimeout
   Resource Restart Timeout value. Specifies the default timeout value (in seconds) before a failed resource is restarted. System Automation for Multiplatforms waits for the specified period of time before it restarts the resource on another node.

-t Timeout
   Specifies the default timeout value (in seconds) of a control operation. A control operation is declared stalled or failed if the operation is not successfully completed within the specified time interval.

-l Trace_level
   Sets the trace level to control the degree and amount of tracing. The maximum value of 255 results in very detailed tracing, while the value 0 suppresses writing various classes of trace entries. The default level is 31. This option should only be changed if advised by IBM support.

-T  Writes the command’s trace messages to standard error. For your software-service organization’s use only.

-V  Writes the command’s verbose messages to standard output.

Parameters

  Node  Specifies the name of one or more nodes that will be added, removed or replaced with the excluded node list for control operations. The -u option and its parameter determines the action required to update the excluded node list.

  new_activeversion
       This specifies the desired new active version value for System Automation for Multiplatforms. It requires the -m option

Exit Status

  0  Command has run successfully.
  1  Error occurred with RMC.
  2  Error occurred with CLI script.
  3  Incorrect flag on command line.
  4  Incorrect parameter on command line.
  5  Error occurred with RMC that was based on faulty command line input.
  6  Resource specified was not found.
  7  Resource already exists.
Security

This command requires root authority, or a user ID with appropriate permissions.

(For more information, see IBM Tivoli System Automation for Multiplatforms
Administrator’s and User’s Guide section “Setting up non-root security”.)

Examples

1. Set System Automation for Multiplatforms to be in automated mode, with
   retries at 4, resource restart timeout as 5 seconds.
   
   \texttt{samctrl -M F -r 4 -o 5}

2. Exclude some nodes from System Automation for Multiplatforms control:
   
   \texttt{samctrl -u a narten jarden varten}

3. Migrate to the latest version possible, enter the following:
   
   \texttt{samctrl -m}

4. To force a migration to the latest version possible, enter the following:
   
   \texttt{samctrl -m -f}

5. To enable the Tivoli Enterprise Console publisher function, enter the following:

   \texttt{samctrl -e TEC}

Files

\texttt{/usr/sbin/rsct/bin/samctrl} Location of the \texttt{samctrl} command.

See Also

The \texttt{lssamctrl} command.

The \texttt{rmccli} General Information file.
**samdiag**

**Name**

*samdiag* allows to request detailed information on a resource.

**Synopsis**

```
samdiag [-h] [-T] [-V] [-x extra_info] -r Resource_handle
samdiag [-h] [-T] [-V] [-x extra_info] -g Resource_group
samdiag [-h] [-T] [-V] [-x extra_info] -e Engine_name
```

**Description**

You can request detailed resource information using this command. You can invoke it on any node where a System Automation for Multiplatforms daemon is active.

*samdiag* provides the following information about a specified resource:

- Status
- Dependencies
- Binding constraints
- Outstanding actions
- Flags and exceptions
- Requests and votes
- History
- Variables

**Options**

- `-h` Writes the command’s usage statement to standard output.
- `-T` Writes the command’s trace messages to standard error. For your software-service organization’s use only.
- `-V` Writes the command’s verbose messages to standard output.
- `-x extra_info`
  Extra Information. This option requests for extra information on the specified resource. The operand "extra_info" can have the following valid strings:
  - `reqs` requests information.
  - `votes` votes information.
  - `hist` history information.
  - `vars` variable information.
  - `all` all information.

- `-g Resource_group`
  The name of the resource group. This implies that a resource group is specified.
-r Resource_handle
  Resource handle. This option implies that a resource handle of a resource is specified.

-e Engine_name
  Engine resource name. This option implies that an engine name of a resource is specified. These are the engine name formats currently in use:
  • Cluster
  • Resource_name/<type>/Resource_class[/Node]

Cluster
  This implies that diagnostic information is requested on the cluster or shared domains known to System Automation for Multiplatforms.

Resource_name/<type>/Resource_class[/Node]
  This is the most commonly used engine name format. Here the engine resource is identified by the resource’s name (Resource_name), the <type> of resource, the resource’s class (Resource_class), and optionally the node (Node) the resource is on. The Resource_class, Resource_Name and Node must be separated by a forward slash ("/"). Resource_class is the name of the Resource class the resource belongs to. Resource_name is the name of the actual resource in its class. The Node may have to be included when trying to act on a fixed resource. The Node and its resource must be separated by the forward slash or "/" delimiter. The <type> of the resource can be any of the following:

  ResGroup
    For resource groups.

  Equivalency
    For equivalencies.

  Fixed
    For fixed resources.

  Float
    For floating resources.

Parameters

Resource_class: Resource_name[:Node]
  Member Resources. This specifies one resource that is to be acted on. A resource is identified by the resource’s class (Resource_class), the resource’s name (Resource_name), and optionally the node (Node) the resource is on. Resource_class, Resource_Name, and Node must be separated by a colon.

  Resource_class is the name of the Resource class the resource belongs to.

  Resource_name is the name of the actual resource in its class. The Node may have to be included when trying to act on a fixed resource. The Node and its resource must be separated by the colon or ":" delimiter.

Exit Status

  0  Command has run successfully.
  1  Error occurred with RMC.
  2  Error occurred due to an underlying error in the command script.
  3  Incorrect flag on command line.
  4  Incorrect parameter on command line.
  5  Error occurred due to an user error.
Resource specified was not found.

Security

This command requires root authority, or a user ID with appropriate permissions. (For more information, see [IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide](#) section “Setting up non-root security”.)

Files

/usr/sbin/rsct/bin/samdiag Location of the samdiag command.

See Also

The Issamctrl command.

The rmccli General Information file.
samlicm

Name
samlicm - allows to install, list, and upgrade the product license or a feature license.

Synopsis
samlicm [-h]
samlicm [-p]
samlicm [-s]
samlicm [-t]
samlicm [-i license_file]

Description
The samlicm command installs, lists, and upgrades the product license for System Automation for Multiplatforms or a feature license. A feature license can only be installed on systems on which the product license is already installed. Since every node in the cluster checks for a license, the license has to be installed on every single node in the cluster. Depending on the installation medium, a try-and-buy or full license has already been installed during product installation. Use the samlicm command to check your license status or upgrade a try-and-buy license to a full license.

Options
-h Writes the command’s usage statement to standard output.
-p Checks for permanent licenses. The result is given as an exit status only.
-s Prints the license status to standard output. Use this option to see when your license expires.
-t Tests the license. Use this option to check the installed license
-i license_file
Installs or upgrades the product license or feature license with the specified license file. Use the -i option for both the initial license installation and license upgrade.

Exit Status
  0 Command has run successfully. Returned for option -p if a permanent license is installed.
  1 Error occurred during command processing.
  2 Returned for option -p if a try-and-buy license is installed.

Security
This command requires root authority.
Examples

1. Install a license or upgrade a license:
   
   ```
   samlicm -i try_buy.lic
   ```
   
   If everything works fine you will not get any output from the command. In case of an error the error message will be written to standard error, and the corresponding exit status is returned.

2. Print the license status:
   
   ```
   samlicm -s
   ```

   **Sample Output:**

   The following output indicates that the System Automation for Multiplatforms product license is installed. Note that product licenses may have no qualifier on the associated 'Product Annotation' line.

   Product ID: 101
   Product Annotation:
   Creation date: Thu Oct 25 02:00:00 2007
   Expiration date: Fri Jan 1 00:59:59 2038

   The following output indicates that two licenses are installed: the System Automation for Multiplatforms product license, and an Extended Disaster Recovery for Linux on System z License.

   Product ID: 101
   Product Annotation: SA for MP xDR for Linux on System z
   Creation date: Thu Oct 25 02:00:00 2007
   Expiration date: Fri Jan 1 00:59:59 2038

Files

   `/usr/sbin/rsct/bin/samlicm` Location of the `samlicm` command.

See Also

The IBM License Use Management (LUM) documentation.
**sampolicy**

**Name**

**sampolicy** - Checks if the policy in an input file is valid, activates the policy from this file, updates the current policy from the input file, and deactivates the current policy. Also saves the current policy to a file in XML format and can retrieve the policy information from this file. Chapter 2, “Policy XML reference,” on page 109 describes how to create an XML file.

See “Messages generated by the sampolicy command” on page 194 for messages generated by the sampolicy command.

**Synopsis**

```
sampolicy -h
sampolicy [-T] [-V] [-q] -a Filename
sampolicy [-T] [-V] [-q] -u Filename
sampolicy [-T] [-V] [-q] -r Filename
sampolicy [-T] [-V] [-q] -d
sampolicy [-T] [-V] -s [Filename]
sampolicy [-T] [-V] [-u] -c Filename
sampolicy [-T] [-V] [-i] -s [Filename]
sampolicy [-T] [-V] [-q] -a -t Templatefilename
sampolicy [-T] [-V] [-q] -u -t Templatefilename
sampolicy [-T] [-V] [-q] -r -t Templatefilename
sampolicy [-T] [-V] [-u] -c -t Templatefilename
sampolicy [-T] [-V] -i -t Templatefilename
```

**Description**

The **sampolicy** command is a Java utility program that will read the System Automation for Multiplatforms XML policy from an XML document file, parse, validate, and send the configuration requests to the RecoveryRM daemon and other referenced RSCT resource managers (for example GlobalResRM) within the RSCT Peer Domain. The **sampolicy** command can also be used to save a snapshot of the current System Automation for Multiplatforms configuration to an XML document file.

**Options**

```
-h    Help. Writes the command’s usage statement to standard output.
-T    Trace. Writes the command’s trace messages to standard error. For your software-service organization’s use only.
```
sampolicy

-V Writes the command's verbose messages to standard output.

-q Quiet mode, no interaction.

-a Activates the policy from a file.

Note: When a new policy gets activated, all existing resources are deleted. This includes the System Automation for Multiplatforms end-to-end automation adapter policy. If needed it must be reactivated by using the Define function of the System Automation for Multiplatforms adapter configuration dialog. This is described in the 'Configuring the end-to-end automation adapter' section in [IBM Tivoli System Automation for Multiplatforms Installation and Configuration Guide]. You can omit this step if you save the current policy first, then edit the output XML file without changing the resource definitions for the System Automation for Multiplatforms end-to-end automation adapter policy, and finally activate this policy.

-d Deactivates the active policy.

Note: Deactivation deletes all existing resources. This includes the System Automation for Multiplatforms end-to-end automation adapter policy. If needed it must be reactivated by using the Define function of the System Automation for Multiplatforms adapter configuration dialog. This is described in the section 'Configuring the end-to-end automation adapter' in [IBM Tivoli System Automation for Multiplatforms Installation and Configuration Guide].

-u Updates the active policy from a file without stopping any resource.

Note: When an active policy gets updated from a file, all existing resources are either modified or kept unchanged, but not deleted nor stopped. All resources which do not yet exist, but are specified in the file, are created.

-r Updates the active policy from a file and removes all resources not in the file. All resources that are not deleted are not stopped either. This option is like the option -u followed by the deletion of all resources not part of the file.

Note: When a new policy gets updated from a file with this option, all existing resources are deleted, if they are not part of the file. This includes the System Automation for Multiplatforms end-to-end automation adapter policy. If needed it must be reactivated by using the Define function of the System Automation for Multiplatforms adapter configuration dialog. This is described in the section "Configuring the end-to-end automation adapter" in [IBM Tivoli System Automation for Multiplatforms Installation and Configuration Guide]. You can omit this step if you save the current policy first, then edit the output XML file without changing the resource definitions for the System Automation for Multiplatforms end-to-end automation adapter policy, and finally update the active policy from this file by using the `-r` option.

-s Saves the current configuration in XML format to a file. The file name must contain ASCII characters only.

-c Checks if the policy in the input file is valid.

-i Retrieves the policy information from a file.
**sampolicy**

- **t** Performs template processing before any other task is performed. When using this option, the input file must be a template in XML format. Template processing is described in [IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide](#).

### Parameters

**Filename**

Name of the file or absolute path of the file name containing the policy XML. *Filename* is required for the options `-a`, `-c`, `-i`, `-u`, and `-r`. If no filename is provided for the `-s` option, the default path is `/var/ct/{domain-name}/cfg`. The default file name is `sampolicy<month><day><year><time>.xml`

**Templatefilename**

Name of the file or absolute path of the file name containing the policy XML template. *Templatefilename* is required for the option `-t`.

### Security

This command requires root authority, or a user ID with appropriate permissions.

### Examples

1. To activate a policy, enter:
   ```
sample -a /usr/xml/myPolicy.xml
   ```
2. To deactivate a policy, enter:
   ```
sample -d
   ```
3. To save the policy to a file, enter:
   ```
sample -s /usr/xml/currentpolicy.xml
   ```
4. To update a policy from a template, enter:
   ```
sample -u -t /usr/xml/myTemplate.xml
   ```

### Files

```
/usr/sbin/rsct/bin/sampolicy
```

Location of the *sampolicy* command.

### Exit Status

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Command completed successfully.</td>
</tr>
<tr>
<td>1</td>
<td>Command parsing failed.</td>
</tr>
<tr>
<td>2</td>
<td>Command processing failed.</td>
</tr>
<tr>
<td>3</td>
<td>Java runtime not found.</td>
</tr>
</tbody>
</table>
Name
samsimul - Simulates a series of requests or state changes and displays the expected results.

Synopsis
samsimul [-h][-T][-V] [Input_file_name]

Description
The samsimul command simulates a series of requests against the automation engine or operational state changes of individual resources. If an input file name is given, samsimul reads a description of the requests or state changes to be simulated from the specified file. If the input file name is omitted, samsimul reads that description from standard input.

Upon completion of the simulation, samsimul writes the expected results of the simulated requests or state changes to standard output.

Options
- **h**    Writes the command’s usage statement to standard output.
- **-T**   Writes the command’s trace messages to standard error. For your software-service organization’s use only.
- **-V**   Writes the command’s verbose messages to standard output.

Parameters

*Input_file_name*

Specifies the name of a file that contains a description of the requests or state changes to be simulated. Each line of the file describes a single request by means of six space-separated values:

1. The name of the resource or resource group to be started, stopped, canceled, moved, or considered failed, online, or offline.
2. A sequence number denoting the relative point in time when the request would be submitted. Multiple requests with identical sequence numbers would be submitted simultaneously.
3. A priority code stating the relative importance of the request with regard to other requests within the resource structure. Possible values are “low”, “high”, and “force”.
4. An action code denoting the type of request or state change to be simulated by the automation engine. Possible values are “start”, “stop”, “move”, “cancel”, “failed”, “online”, and “offline”.
5. An originator code denoting the source of the request. Possible values are “Operator”, “ExtSched”, and “Automation”.
6. A comma-separated list of nodes to which the request or state change applies.

Lines beginning with the “#” character (hash mark) are considered comments instead of request or state change descriptions. These can be used as annotations and are disregarded by samsimul. Empty lines,
including those containing only space or tab characters, may be used to visually structure the input file and are disregarded by `samsimul`.

On Windows, the file must conform to the UNIX convention for line endings. (See "Special considerations regarding Windows line endings" on page 2)

Security

This command requires root authority, or a user ID with appropriate permissions. (For more information, see IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide section "Setting up non-root security").

Exit Status

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Command has run successfully.</td>
</tr>
<tr>
<td>1</td>
<td>Error occurred with RMC.</td>
</tr>
<tr>
<td>2</td>
<td>Error occurred with CLI script.</td>
</tr>
<tr>
<td>3</td>
<td>Incorrect flag on command line.</td>
</tr>
<tr>
<td>4</td>
<td>Incorrect parameter on command line.</td>
</tr>
<tr>
<td>5</td>
<td>Error occurred with RMC that was based on faulty command line input.</td>
</tr>
</tbody>
</table>

Examples

1. To simulate a resource start and subsequent failure, enter:

```bash
samsimul input_file
```

With `input_file` containing the following lines:

```plaintext
IBM.ResourceGroup:samba 0 high start Operator node1
IBM.Application:samba:samba1 1 high failed Operator node1
```

These two lines simulate an online request against the samba resources group, followed by a failure of its first resources. The response should be:

```plaintext
samba/ResGroup/IBM.ResourceGroup 1 offline
samba/ResGroup/IBM.ResourceGroup 2 online
samba/ResGroup/IBM.Application/node2 1 online
```

The first column refers to the resource, the second to the step number, and the last to the current state. In the first step, the resource group goes from offline to online. Due to the simulated failure of samba1 on the first node it goes back to offline, but the failover takes place and samba on the second node is started.

Files

```plaintext
/usr/sbin/rsct/bin/samsimul
```

Location of the `samsimul` command.

See Also

The `adrgmbr`, `samctrl`, `chrel`, `chrg`, `chrgmbr`, `mkrg`, `mkrel`, `rmrel`, `rmrg`, `rmrgmbr` commands.

The `rmccli` General Information file.

The Resource_Data_Input file
uninstallSAM

Name
uninstallSAM - Uninstalls all components of System Automation for Multiplatforms.

Synopsis
uninstallSAM [-d inst_pkg_dir] [-l log_file]

Description
The uninstallSAM command checks that the domain is offline and cancels the uninstallation if it is online, uninstalls all components of System Automation for Multiplatforms in the proper order, and records information about the performed actions in a log file. The name of the default log file is /tmp/uninstallSAM.<#>.log, where <#> is a sequential number; the highest number identifies the most recent log file.

Typically, no options need to be specified. The available options allow you to uninstall the component although the uninstallSAM script is not in the package directory (-d) and to specify that a log file other than the default is to be used (-l).

The uninstallSAM command is not applicable to System Automation for Multiplatforms on Windows. For instructions on uninstalling System Automation for Multiplatforms on Windows, see IBM Tivoli System Automation for Multiplatforms Installation and Configuration Guide.

Options
-d inst_pkg_dir
Allows you to perform the uninstallation based on NLS files in the specified directory although the uninstallSAM script is not available in the directory. uninstallSAM is not dependent upon the packages to be installed, but needs the directory for its message files.

-l log_file
Logs information generated by the uninstallSAM command to the specified log file.

Exit Status
0 The uninstallation completed successfully.
1 <package uninstaller> returned a return code other than 0; the return code and the corresponding message can be found in the log file. <package uninstaller> is:
  • AIX: installp
  • Linux: rpm
2 The peer domain is online. No uninstallation was performed.
3 uninstallSAM was unable to continue because directories or files could not be detected. This return code also applies if the -d option specifies a directory that does not exist, or if the subdirectory with files does not exist.
Security

This command requires root authority.
Using Expressions

Using expressions

The information in this section is for advanced users who want to:

- Modify predefined expressions.
- Select resources.
- Filter audit log records by compiling and running a complex mathematical expression against a set of values.

Permissible data types, operators, and operator order of precedence are described below. RMC uses these functions to match a selection string against the persistent attributes of a resource and to implement the evaluation of an event expression or a rearm expression.

An expression is similar to a C language statement or the WHERE clause of an SQL query. It is composed of variables, operators, and constants. The C and SQL syntax styles may be intermixed within a single expression. The following table relates the RMC terminology to SQL terminology:

<table>
<thead>
<tr>
<th>RMC</th>
<th>SQL</th>
</tr>
</thead>
<tbody>
<tr>
<td>attribute name</td>
<td>column name</td>
</tr>
<tr>
<td>select string</td>
<td>WHERE clause</td>
</tr>
<tr>
<td>operators</td>
<td>predicates, logical connectives</td>
</tr>
<tr>
<td>resource class</td>
<td>table</td>
</tr>
</tbody>
</table>

SQL Restrictions

SQL syntax is supported for selection strings, with the following restrictions:

- Only a single table may be referenced in an expression.
- Queries may not be nested.
- The IS NULL predicate is not supported because there is no concept of a NULL value.
- The period (.) operator is not a table separator (for example, table.column). Rather, in this context, the period (.) operator is used to separate a field name from its containing structure name.
- The pound sign (#) is hard-coded as the escape character within SQL pattern strings.
- All column names are case-sensitive.
- All literal strings must be enclosed in either single or double quotation marks. Bare literal strings are not supported because they cannot be distinguished from column and attribute names.

Supported Base Data Types

The term variable is used in this context to mean the column name or attribute name in an expression. Variables and constants in an expression may be one of the following data types that are supported by the RMC subsystem:

<table>
<thead>
<tr>
<th>Symbolic Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT_INT32</td>
<td>Signed 32-bit integer</td>
</tr>
<tr>
<td>CT_UINT32</td>
<td>Unsigned 32-bit integer</td>
</tr>
<tr>
<td>CT_INT64</td>
<td>Signed 64-bit integer</td>
</tr>
</tbody>
</table>
### Structured Data Types

In addition to the base data types, aggregates of the base data types may be used as well. The first aggregate data type is similar to a structure in C in that it can contain multiple fields of different data types. This aggregate data type is referred to as **structured data** (SD). The individual fields in the structured data are referred to as **structured data elements**, or simply **elements**. Each element of a structured data type may have a different data type which can be one of the base types in the preceding table or any of the array types discussed in the next section, except for the structured data array.

The second aggregate data type is an array. An array contains zero or more values of the same data type, such as an array of CT_UINT32 values. Each of the array types has an associated enumeration value (CT_INT32_ARRAY, CT_UINT32_ARRAY). Structured data may also be defined as an array but is restricted to have the same elements in every entry of the array.

### Data Types That Can Be Used for Literal Values

Literal values can be specified for each of the base data types as follows:

**Array**

An array or list of values may be specified by enclosing variables or literal values, or both, within braces {} or parentheses () and separating each element of the list with a comma. For example: \{1, 2, 3, 4, 5\} or \"abc", \"def", \"ghi\"\).

Entries of an array can be accessed by specifying a subscript as in the C programming language. The index corresponding to the first element of the array is always zero; for example, List[2] references the third element of the array named List. Only one subscript is allowed. It may be a variable, a constant, or an expression that produces an integer result. For example, if List is an integer array, then List[2]+4 produces the sum of 4 and the current value of the third entry of the array.

**Binary Data**

A binary constant is defined by a sequence of hexadecimal values, separated by white space. All hexadecimal values comprising the binary data constant are enclosed in double quotation marks. Each hexadecimal value includes an even number of hexadecimal digits, and each pair of hexadecimal digits represents a byte within the binary value. For example: 

"0xabcd 0x0000000000000000"

**Character Strings**

A string is specified by a sequence of characters surrounded by single or double quotation marks (you can have any number of characters, including none). Any character may be used within the string except the null \"\0\" character. Double quotation marks and backslashes may be included in strings by preceding them with the backslash character.

### Using Expressions

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT_UINT64</td>
<td>Unsigned 64-bit integer</td>
</tr>
<tr>
<td>CT_FLOAT32</td>
<td>32-bit floating point</td>
</tr>
<tr>
<td>CT_FLOAT64</td>
<td>64-bit floating point</td>
</tr>
<tr>
<td>CT_CHAR_PTR</td>
<td>Null-terminated string</td>
</tr>
<tr>
<td>CT_BINARY_PTR</td>
<td>Binary data - arbitrary-length block of data</td>
</tr>
<tr>
<td>CT_RSRC_HANDLE_PTR</td>
<td>Resource handle - an identifier for a resource that is unique over space and time (20 bytes)</td>
</tr>
</tbody>
</table>
Using Expressions

Floating Types
These types can be specified by the following syntax:
- A leading plus (+) or minus (-) sign
- One or more decimal digits
- A radix character, which at this time is the period (.) character
- An optional exponent specified by the following:
  - A plus (+) or minus (-) sign
  - The letter ‘E’ or ‘e’
  - A sequence of decimal digits (0-9)

Integer Types
These types can be specified in decimal, octal, or hexadecimal format. Any value that begins with the digits 1-9 and is followed by zero or more decimal digits (0-9) is interpreted as a decimal value. A decimal value is negated by preceding it with the character ‘-’. Octal constants are specified by the digit 0 followed by 1 or more digits in the range 0-7. Hexadecimal constants are specified by a leading 0 followed by the letter x (uppercase or lowercase) and then followed by a sequence of one or more digits in the range 0-9 or characters in the range a-f (uppercase or lowercase).

Resource Handle
A fixed-size entity that consists of two 16-bit and four 32-bit words of data. A literal resource handle is specified by a group of six hexadecimal integers. The first two values represent 16-bit integers and the remaining four each represent a 32-bit word. Each of the six integers is separated by white space. The group is surrounded by double quotation marks. The following is an example of a resource handle:
"0x4018 0x0001 0x00000000 0x0069684c 0x00519686 0xaf7060fc"

Structured Data
Structured data values can be referenced only through variables. Nevertheless, the RMC command line interface displays structured data (SD) values and accepts them as input when a resource is defined or changed. A literal SD is a sequence of literal values, as defined in "Data Types That Can Be Used for Literal Values” on page 101, that are separated by commas and enclosed in square brackets. For example, ['abc',1, [3,4,5]] specifies an SD that consists of three elements: (a) the string ‘abc’, (b) the integer value 1, and (c) the three-element array [3,4,5].

Variable names refer to values that are not part of the expression but are accessed while running the expression. For example, when RMC processes an expression, the variable names are replaced by the corresponding persistent or dynamic attributes of each resource.

The elements of a structured data value can be accessed by using the following syntax:
<variable name>.<element name>

For example, a.b

The variable name is the name of the table column or resource attribute, and the element name is the name of the element within the structured data value. Either or both names may be followed by a subscript if the name is an array. For example, a[10].b refers to the element named b of the 11th entry of the structured data array called a. Similarly, a[10].b[3] refers to the fourth element of the array that is an element called b within the same structured data array entry a[10].
Using Expressions

How Variable Names Are Handled

Variable names refer to values that are not part of an expression but are accessed while running the expression. When used to select a resource, the variable name is a persistent attribute. When used to generate an event, the variable name is a dynamic attribute. When used to select audit records, the variable name is the name of a field within the audit record.

A variable name is restricted to include only 7-bit ASCII characters that are alphanumeric (a-z, A-Z, 0-9) or the underscore character (_). The name must begin with an alphabetic character. When the expression is used by the RMC subsystem for an event or a rearm event, the name can have a suffix that is the ‘@’ character followed by ‘P’, which refers to the previous observation.

Operators That Can Be Used in Expressions

Constants and variables may be combined by an operator to produce a result that in turn may be used with another operator. The resulting data type or the expression must be a scalar integer or floating-point value. If the result is zero, the expression is considered to be FALSE; otherwise, it is TRUE.

Note: Blanks are optional around operators and operands unless their omission causes an ambiguity. An ambiguity typically occurs only with the word form of operator (that is, AND, OR, IN, LIKE, etc.). With these operators, a blank or separator, such as a parenthesis or bracket, is required to distinguish the word operator from an operand. For example, aANDb is ambiguous. It is unclear if this is intended to be the variable name aANDb or the variable names a, b combined with the operator AND. It is actually interpreted by the application as a single variable name aANDb. With non-word operators (for example, +, -, =, &&, etc.) this ambiguity does not exist, and therefore blanks are optional.

The set of operators that can be used in strings is summarized in the following table:

<table>
<thead>
<tr>
<th>Operator</th>
<th>Description</th>
<th>Left Data Types</th>
<th>Right Data Types</th>
<th>Example</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>Addition</td>
<td>Integer, float</td>
<td>Integer, float</td>
<td>&quot;1+2&quot; results in 3</td>
<td>None</td>
</tr>
<tr>
<td>-</td>
<td>Subtraction</td>
<td>Integer, float</td>
<td>Integer, float</td>
<td>&quot;1.0-2.0&quot; results in -1.0</td>
<td>None</td>
</tr>
<tr>
<td>*</td>
<td>Multiplication</td>
<td>Integer, float</td>
<td>Integer, float</td>
<td>&quot;2*3&quot; results in 6</td>
<td>None</td>
</tr>
<tr>
<td>/</td>
<td>Division</td>
<td>Integer, float</td>
<td>Integer, float</td>
<td>&quot;2/3&quot; results in 1</td>
<td>None</td>
</tr>
<tr>
<td>-</td>
<td>Unary minus</td>
<td>None</td>
<td>Integer, float</td>
<td>&quot;-abc&quot;</td>
<td>None</td>
</tr>
<tr>
<td>+</td>
<td>Unary plus</td>
<td>None</td>
<td>Integer, float</td>
<td>&quot;+abc&quot;</td>
<td>None</td>
</tr>
<tr>
<td>-</td>
<td>Range</td>
<td>Integers</td>
<td>Integers</td>
<td>&quot;1..3&quot; results in 1,2,3</td>
<td>Shorthand for all integers between and including the two values</td>
</tr>
<tr>
<td>%</td>
<td>Modulo</td>
<td>Integers</td>
<td>Integers</td>
<td>&quot;10%2&quot; results in 0</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bitwise OR</td>
<td>Integers</td>
<td>Integers</td>
<td>&quot;2</td>
</tr>
<tr>
<td>&amp;</td>
<td>Bitwise AND</td>
<td>Integers</td>
<td>Integers</td>
<td>&quot;3&amp;2&quot; results in 2</td>
<td>None</td>
</tr>
<tr>
<td>-</td>
<td>Bitwise complement</td>
<td>None</td>
<td>Integers</td>
<td>_0x0000ffff results in 0xffff0000</td>
<td>None</td>
</tr>
</tbody>
</table>
### Using Expressions

<table>
<thead>
<tr>
<th>Operator</th>
<th>Description</th>
<th>Left Data Types</th>
<th>Right Data Types</th>
<th>Example</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>^</td>
<td>Exclusive OR</td>
<td>Integers</td>
<td>Integers</td>
<td>0x0000aaaa^0x0000ffff results in 0x00005555</td>
<td>None</td>
</tr>
<tr>
<td>&gt;&gt;</td>
<td>Right shift</td>
<td>Integers</td>
<td>Integers</td>
<td>0x0fff&gt;&gt;4 results in 0x00ff</td>
<td>None</td>
</tr>
<tr>
<td>&lt;&lt;=</td>
<td>Left shift</td>
<td>Integers</td>
<td>Integers</td>
<td>&quot;0xffff&lt;&lt;4&quot; results in 0xffff0</td>
<td>None</td>
</tr>
<tr>
<td>==</td>
<td>Equality</td>
<td>All but SDs</td>
<td>All but SDs</td>
<td>&quot;2==2&quot; results in 1 &quot;2=2&quot; results in 1</td>
<td>Result is true (1) or false (0)</td>
</tr>
<tr>
<td>=</td>
<td>Equality</td>
<td>All but SDs</td>
<td>All but SDs</td>
<td>&quot;2=!=2&quot; results in 0 &quot;2&lt;&gt;2&quot; results in 0</td>
<td>Result is true (1) or false (0)</td>
</tr>
<tr>
<td>!=</td>
<td>Inequality</td>
<td>All but SDs</td>
<td>All but SDs</td>
<td>&quot;2!=2&quot; results in 0</td>
<td>Result is true (1) or false (0)</td>
</tr>
<tr>
<td>&lt;&gt;</td>
<td>Greater than</td>
<td>Integer, float</td>
<td>Integer, float</td>
<td>&quot;2&gt;3&quot; results in 0</td>
<td>Result is true (1) or false (0)</td>
</tr>
<tr>
<td>&gt;</td>
<td>Greater than</td>
<td>Integer, float</td>
<td>Integer, float</td>
<td>&quot;4&gt;=3&quot; results in 1</td>
<td>Result is true (1) or false (0)</td>
</tr>
<tr>
<td>&gt;=</td>
<td>Greater than or equal</td>
<td>Integer, float</td>
<td>Integer, float</td>
<td>&quot;4&lt;3&quot; results in 0</td>
<td>Result is true (1) or false (0)</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less than or equal</td>
<td>Integer, float</td>
<td>Integer, float</td>
<td>&quot;2&lt;=3&quot; results in 1</td>
<td>Result is true (1) or false (0)</td>
</tr>
<tr>
<td>=_</td>
<td>Pattern match</td>
<td>Strings</td>
<td>Strings</td>
<td>&quot;abc&quot;=_&quot;a.&quot; results in 1</td>
<td>Right operand is interpreted as an extended regular expression</td>
</tr>
<tr>
<td>!=_</td>
<td>Not pattern match</td>
<td>Strings</td>
<td>Strings</td>
<td>&quot;abc&quot;!=_&quot;a.&quot; results in 0</td>
<td>Right operand is interpreted as an extended regular expression</td>
</tr>
<tr>
<td>=_?</td>
<td>SQL pattern match</td>
<td>Strings</td>
<td>Strings</td>
<td>&quot;abc&quot;=? &quot;a%&quot; results in 1</td>
<td>Right operand is interpreted as a SQL pattern</td>
</tr>
<tr>
<td>!=_?</td>
<td>Not SQL pattern match</td>
<td>Strings</td>
<td>Strings</td>
<td>&quot;abc&quot;!=? &quot;a%&quot; results in 0</td>
<td>Right operand is interpreted as a SQL pattern</td>
</tr>
<tr>
<td></td>
<td>&lt;</td>
<td>Contains any</td>
<td>All but SDs</td>
<td>All but SDs</td>
<td>&quot;[1..5]</td>
</tr>
<tr>
<td></td>
<td>&lt;</td>
<td>NOT IN</td>
<td>All but SDs</td>
<td>All but SDs</td>
<td>&quot;[1..5]</td>
</tr>
</tbody>
</table>
Using Expressions

<table>
<thead>
<tr>
<th>Operator</th>
<th>Description</th>
<th>Left Data Types</th>
<th>Right Data Types</th>
<th>Example</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>&amp;&lt;</td>
<td>Contains all</td>
<td>All but SDs</td>
<td>All but SDs</td>
<td>&quot;{1..5}&amp;&lt;{2,10}&quot; results in 0</td>
<td>Result is true (1) if left operand contains all values from right operand</td>
</tr>
<tr>
<td>OR</td>
<td>Logical OR</td>
<td>Integers</td>
<td>Integers</td>
<td>&quot;(1&lt;2) OR (2&gt;4)&quot; results in 1</td>
<td>Result is true (1) or false (0)</td>
</tr>
<tr>
<td>&amp;&amp;</td>
<td>Logical AND</td>
<td>Integers</td>
<td>Integers</td>
<td>&quot;(1&lt;2) &amp;&amp; (2&gt;4)&quot; results in 0</td>
<td>Result is true (1) or false (0)</td>
</tr>
<tr>
<td>!</td>
<td>Logical NOT</td>
<td>None</td>
<td>Integers</td>
<td>&quot;!(2==4)&quot; results in 1</td>
<td>Result is true (1) or false (0)</td>
</tr>
</tbody>
</table>

Default Precedence of Operators

When integers of different signs or size are operands of an operator, standard C style casting is implicitly performed. When an expression with multiple operators is evaluated, the operations are performed in the order defined by the precedence of the operator. The default precedence can be overridden by enclosing the portion or portions of the expression to be evaluated first in parentheses ()

For example, in the expression "1+2*3", multiplication is normally performed before addition to produce a result of 7. To evaluate the addition operator first, use parentheses as follows: "(1+2)*3". This produces a result of 9. The default precedence rules are shown in the following table. All operators in the same table cell have the same or equal precedence.

<table>
<thead>
<tr>
<th>Operators</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>.</td>
<td>Structured data element separator</td>
</tr>
<tr>
<td>-</td>
<td>Bitwise complement</td>
</tr>
<tr>
<td>!</td>
<td>Logical not</td>
</tr>
<tr>
<td>NOT</td>
<td>None</td>
</tr>
<tr>
<td>not</td>
<td>Unary minus</td>
</tr>
<tr>
<td>-</td>
<td>Unary plus</td>
</tr>
<tr>
<td>*</td>
<td>Multiplication</td>
</tr>
<tr>
<td>/</td>
<td>Division</td>
</tr>
<tr>
<td>%</td>
<td>Modulo</td>
</tr>
</tbody>
</table>
## Using Expressions

<table>
<thead>
<tr>
<th>Operators</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>Addition</td>
</tr>
<tr>
<td>-</td>
<td>Subtraction</td>
</tr>
<tr>
<td>&lt;&lt;</td>
<td>Left shift</td>
</tr>
<tr>
<td>&gt;&gt;</td>
<td>Right shift</td>
</tr>
<tr>
<td>&lt;</td>
<td>Less than</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less than or equal</td>
</tr>
<tr>
<td>&gt;</td>
<td>Greater than</td>
</tr>
<tr>
<td>&gt;=</td>
<td>Greater than or equal</td>
</tr>
<tr>
<td>==</td>
<td>Equality</td>
</tr>
<tr>
<td>!=</td>
<td>Inequality</td>
</tr>
<tr>
<td>=?</td>
<td>SQL match</td>
</tr>
<tr>
<td>LIKE</td>
<td></td>
</tr>
<tr>
<td>like</td>
<td></td>
</tr>
<tr>
<td>!?</td>
<td>SQL not match</td>
</tr>
<tr>
<td>_.</td>
<td>Reg expr match</td>
</tr>
<tr>
<td>!.</td>
<td>Reg expr not match</td>
</tr>
<tr>
<td>?=</td>
<td>Reg expr match (compat)</td>
</tr>
<tr>
<td>!&lt;</td>
<td>Contains any</td>
</tr>
<tr>
<td>IN</td>
<td></td>
</tr>
<tr>
<td>in</td>
<td></td>
</tr>
<tr>
<td>&gt;&gt;&lt;</td>
<td>Contains none</td>
</tr>
<tr>
<td>NOT IN</td>
<td></td>
</tr>
<tr>
<td>not in</td>
<td></td>
</tr>
<tr>
<td>&amp;&lt;</td>
<td>Contains all</td>
</tr>
<tr>
<td>&amp;</td>
<td>Bitwise AND</td>
</tr>
<tr>
<td>^</td>
<td>Bitwise exclusive OR</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>&amp;&amp;</td>
<td>Logical AND</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>,</td>
<td>List separator</td>
</tr>
</tbody>
</table>
Using Expressions

Pattern Matching
Two types of pattern matching are supported; extended regular expressions and that which is compatible with the standard SQL LIKE predicate. This type of pattern may include the following special characters:
- The percentage sign (%) matches zero or more characters.
- The underscore (_) matches exactly one character.
- All other characters are directly matched.
- The special meaning for the percentage sign and the underscore character in the pattern may be overridden by preceding these characters with an escape character, which is the pound sign (#) in this implementation.

Examples of Expressions
Some examples of the types of expressions that can be constructed follow:
1. The following expressions match all rows or resources that have a name which begins with 'tr' and ends with '0', where 'Name' indicates the column or attribute that is to be used in the evaluation:
   
   ```plaintext
   Name = 'tr.*0'
   Name LIKE 'tr%0'
   ```

2. The following expressions evaluate to TRUE for all rows or resources that contain 1, 3, 5, 6, or 7 in the column or attribute that is called IntList, which is an array:
   
   ```plaintext
   IntList|<{1,3,5..7}
   IntList in (1,3,5..7)
   ```

3. The following expression combines the previous two so that all rows and resources that have a name beginning with 'tr' and ending with '0' and have 1, 3, 5, 6, or 7 in the IntList column or attribute will match:
   
   ```plaintext
   (Name LIKE "tr%0")&& (IntList|<{1,3,5..7})
   (Name="tr.*0") AND (IntList IN {1,3,5..7})
   ```

Coding for XML policy
When specifying expressions in an XML file which may be used as input for the sampolicy command, some characters shown in the following table must be specified in such a way that they are treated as operators instead as XML control characters.

<table>
<thead>
<tr>
<th>Character</th>
<th>specified in XML like</th>
</tr>
</thead>
<tbody>
<tr>
<td>&amp;</td>
<td>&amp;</td>
</tr>
<tr>
<td>&lt;</td>
<td>&lt;</td>
</tr>
<tr>
<td>&gt;</td>
<td>&gt;</td>
</tr>
</tbody>
</table>
Using Expressions
Chapter 2. Policy XML reference

This chapter describes the XML elements, sub-elements, and attributes that are supported for System Automation for Multiplatforms automation policies.

The following table shows in which version of IBM Tivoli System Automation for Multiplatforms particular XML elements became available.

<table>
<thead>
<tr>
<th>XML element</th>
<th>First supported in IBM Tivoli System Automation for Multiplatforms version</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;NetPrefix&gt; as sub-element of &lt;IBM.ServiceIPAttributes&gt;</td>
<td>3.1.0.1</td>
</tr>
<tr>
<td>&lt;AutomationPolicyTemplate&gt;, &lt;var&gt;, and &lt;include&gt;</td>
<td>2.3</td>
</tr>
<tr>
<td>&lt;IBM.AgFileSystemAttributes&gt;</td>
<td>2.2.0.1</td>
</tr>
<tr>
<td>IBM.AgFileSystem as class value</td>
<td>2.2.0.1</td>
</tr>
<tr>
<td>&lt;ClassAttributesReference&gt; as sub-element of &lt;ConstituentResource&gt;</td>
<td>2.2.0.1</td>
</tr>
<tr>
<td>All other tags</td>
<td>2.1</td>
</tr>
</tbody>
</table>

In this chapter, the following information is provided for each XML element that is currently supported:

Name The name and a short description of the element.

Examples One or more examples showing how the element is used.

Attributes Descriptions of the element’s attributes.

Sub-element The name and a short description of the sub-element.

Occurrence The possible number occurrences of the element.

Note that when specifying expressions in an XML file which may be used as input for the sampolicy command, some characters must be specified in such a way that they are treated as operators and not as XML control characters. These characters are shown in Table 1 on page 107.

When you create an XML file, it is recommended to use the official XML policy file template SAMTemplate.xml located in the /usr/sbin/rsct/samples/policy directory. To use the template, copy the file to your working directory and rename it according to your file naming conventions.

When you create an XML template file, used for template processing, it is recommended to use the official XML policy file template SAMTopLevelTemplate.xml located in the /usr/sbin/rsct/samples/policy directory. To use the template, copy the file to your working directory and rename it according to your file naming conventions.

To create an XML policy file, you can use any commercial, shareware, or free-ware XML or ASCII editor that allows you to save the file in UTF-8 format. XML files in any other format will be rejected by the policy checker.
If you use an XML editor to create the XML policy file, the editor will create the basic XML policy template for you. Additionally, most XML editors have a validation function that ensures that your XML code conforms to the relevant schema. When you want to use these functions, you must ensure that the XML editor knows where to find the relevant schema. The schema for the System Automation for Multiplatforms policy is defined in the files SAMPolicy.xsd and SAMSimpleTypes.xsd. They are located in the directory /usr/sbin/rsct/samples/policy. The schema for the System Automation for Multiplatforms policy template is defined in the files SAMPolicyTemplate.xsd and SAMSimpleTypes.xsd. They are located in the directory /usr/sbin/rsct/samples/policy.
The AutomationPolicyTemplate element is the starting element of the XML policy template definition and encompasses all other elements.

Example

```xml
<AutomationPolicyTemplate productID="SAM" version="3.1"
 xmlns="http://www.ibm.com/TSA/Policy.xsd"
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xsi:schemaLocation="http://www.ibm.com/TSA/Policy.xsd SAMPolicyTemplate.xsd ">
 <PolicyInformation>
   <PolicyName>template</PolicyName>
   <AutomationDomainName>%%domain_name%%</AutomationDomainName>
   <PolicyToken>1.0</PolicyToken>
   <PolicyDescription>this is a top-level template policy
   <PolicyAuthor>admin</PolicyAuthor>
 </PolicyInformation>

 <var name="domain_name" value="myDomain"/>
 <var name="hostname1" value="node1"/>
 <var name="hostname2" value="node2"/>
 <var name="network_tiebreaker_IP_address" value="1.23.45.100"/>
 <var name="name_prefix" value="tsa"/>
 <var name="ip_address" value="1.23.45.110"/>
 <var name="ip_mask" value="255.255.255.0"/>
 <var name="receive_port" value="199"/>
 <var name="network_interface1" value="eth0"/>
 <var name="network_interface2" value="eth1"/>
 <var name="control_script1" value="/usr/bin/policies/ctrl1"/>
 <var name="control_script2" value="/usr/bin/policies/ctrl2"/>

 <include>application1-policy.xml</include>
 <include>application2-policy.xml</include>
 <!-- <include>application3-policy.xml</include> -->

 </AutomationPolicyTemplate>
```

Attributes

- **version**: Mandatory. It identifies the minimum version of System Automation for Multiplatforms which is required to apply this policy XML. The maximum number of characters supported is 32.

- **xmlns**: Mandatory, fixed value, "http://www.ibm.com/TSA/Policy.xsd". It identifies the default name space for the XML schema.

- **xmlns:xsi**: Mandatory, fixed value, "http://www.w3.org/2001/XMLSchema-instance". It identifies the XML schema format for this policy XML.


- **product ID**: Mandatory, fixed value, "SAM". It identifies the kind of policy contained in the AutomationPolicy element.
Policy XML reference

Sub-elements
The sub-elements listed here are described later in this chapter.

```
var
include
PolicyInformation
ControlInformation
```
var

Optional element. The var element provides the possibility to define a variable name and an accompanying value. When template processing is performed, all occurrences of the value of a variable's name attribute (surrounded by %% characters) within an XML file are replaced with the value of the variable's value attribute.

Example

```xml
<AutomationDomainName>%%domain_name%%</AutomationDomainName>
<var name="domain_name" value="myDomain"/>

Result:
<AutomationDomainName>myDomain</AutomationDomainName>
```

Attributes

- **name**: Mandatory. String value that may appear within an XML file and is replaced with the corresponding value of the value attribute during template processing.
- **value**: Mandatory. String value that contains the replacement string for the value of the name attribute.

Sub-elements

None

Occurrence

0 to multiple times.
Policy XML reference

include

Optional element. The include element provides the possibility to include XML files that contain one AutomationPolicy element. Those files are then included during template processing. It may contain the full path to a file to be included. It has a maximum of 1024 characters.

Note that the included AutomationPolicy element may not contain a PolicyInformation sub-element.

Example

```
<include>/usr/admin/application1-policy.xml</include>
```

Attributes

None.

Sub-elements

None.

Occurrence

0 to multiple times.
AutomationPolicy

The AutomationPolicy element is the starting element of the XML policy definition and encompasses all other elements.

Example

```xml
<AutomationPolicy productID="SAM" version="2.2"
 xmlns="http://www.ibm.com/TSA/Policy.xsd"
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xsi:schemaLocation="http://www.ibm.com/TSA/Policy.xsd SAMPolicy.xsd">
 <PolicyInformation>
   <PolicyName>First SAFMP policy</PolicyName>
   <AutomationDomainName>lnxcluster</AutomationDomainName>
   <PolicyToken>1.1.1</PolicyToken>
   <PolicyDescription>this is the description of the policy
   -------- 2006 02/23 andersen initial version --------
   </PolicyDescription>
   <PolicyAuthor>Peter Andersen</PolicyAuthor>
 </PolicyInformation>
 ...
 ...
</AutomationPolicy>
```

Attributes

- **version** Manditory. It identifies the minimum version of System Automation for Multiplatforms which is required to apply this policy XML. The maximum number of characters supported is 32.
- **xmlns** Mandatory, fixed value, "http://www.ibm.com/TSA/Policy.xsd". It identifies the default name space for the XML schema.
- **xmlns:xsi** Mandatory, fixed value, "http://www.w3.org/2001/XMLSchema-instance". It identifies the XML schema format for this policy XML.
- **product ID** Mandatory, fixed value, "SAM". It identifies the kind of policy contained in the AutomationPolicy element.

Sub-elements

The sub-elements listed here are described later in this chapter.

- PolicyInformation
- ControlInformation
- Resource
- MoveGroup
- ConstituentResource
- ResourceGroup
- Relationship
- Equivalency
- ResourceReference
- IBM.AgFileSystemAttributes
- IBM.ApplicationAttributes
- IBM.ServiceIPAttributes
- IBM.TestAttributes
- IBM.TieBreaker
Policy XML reference

**PolicyInformation**

Mandatory element. The PolicyInformation element uses the sub-elements listed in the following to provide an identification of the policy.

Note that if you use an AutomationPolicyTemplate, the element PolicyInformation must appear as sub-element of the AutomationPolicyTemplate; it may not appear as sub-element of any included AutomationPolicy.

**Example**

```
<PolicyInformation>
  <PolicyName> First SAfMP Policy </PolicyName>
  <AutomationDomainName> Friendly </AutomationDomainName>
  <PolicyToken> 1.0.1 </PolicyToken>
  <PolicyAuthor> Michael Atkins </PolicyAuthor>
  <PolicyDescription>
    This document contains the policy for Friendly Domain.
    Change History:
    Date   Name       Description
    ------------------------------
    01/12/05 Michael Atkins Initial Policy
    ----------------------------------------
  </PolicyDescription>
</PolicyInformation>
```

**Attributes**

None.

**Sub-elements**

- **PolicyName**
  Mandatory. Assigns a name to the policy.

- **AutomationDomainName**
  Mandatory. Specifies the IBM Tivoli System Automation for Multiplatforms cluster name to which this policy applies.

- **PolicyToken**
  Mandatory. Versioning tag defined by the user.

- **PolicyAuthor**
  Optional. Shows the name of the policy's author.

- **PolicyDescription**
  Optional. It may, for example, contain comments like the purpose of the policy XML.

**Occurrence**

Once.
**ControlInformation**

Optional element. For System Automation for Multiplatforms, it sets the control parameters shown under *Sub-Elements*. It sets the same parameters as in the `samctrl` command (see “samctrl” on page 85).

**Example**

```xml
<ControlInformation>
    <Timeout>20</Timeout>
    <RetryCount>5</RetryCount>
    <ExcludedNode>lnxxdr33</ExcludedNode>
    <ExcludedNode>lnxxdr34</ExcludedNode>
    <ResourceRestartTimeout>30</ResourceRestartTimeout>
    <EnablePublisher>TEC</EnablePublisher>
    <EnablePublisher>XDR</EnablePublisher>
</ControlInformation>
```

**Attributes**

None.

**Sub-elements**

- **Timeout**
  
  Optional. It specifies the default timeout interval for System Automation for Multiplatforms control operations in seconds. Valid values are numbers from 1 to 360. The default value for this element is 60.

- **RetryCount**
  
  Optional. It specifies the default number of retries an System Automation for Multiplatforms control operation can perform before it is treated as failed. Valid values are numbers between 1 and 10. The default is 3.

- **ExcludedNode**
  
  Optional. It specifies one entry of the list of excluded nodes. This element may occur multiple times. Its maximum number of characters is 256.

- **ResourceRestartTimeout**
  
  Optional. It specifies the timeout in seconds before a failed resource is restarted. Its default is 5 and the allowed values are 2 to 360.

- **EnablePublisher**
  
  Deprecated. Tolerated for compatibility reasons, but ignored since release 3.1.

**Occurrence**

0 to 1.
Policy XML reference

Resource

Optional element. It describes fixed resources. It is referenced from the elements ResourceGroup, Equivalency, or Relationship.

Example

```xml
<Resource name="xdrerpdlnxdr31" class="IBM.Application" node="lnxxdr31">
  <ClassAttributesReference>
    <IBM.ApplicationAttributes name="Application1"/>
  </ClassAttributesReference>
</Resource>
```

Attributes

- **name**: Mandatory, user defined. It has a maximum of 64 characters.
- **node**: Mandatory. Name of the node on which the resource runs. It has a maximum of 256 characters.
- **class**: Mandatory. It can be one of the values IBM.AgFileSystem, IBM.Application, IBM.ServiceIP, or IBM.Test.

These attributes make up an unique key. The ResourceGroup element must use this key to refer to the resource.

Sub-elements

- **ClassAttributesReference**: Mandatory. It contains the name of the IBM.AgFileSystemAttributes, IBM.ApplicationAttributes, IBM.ServiceIPAttributes, or IBM.TestAttributes element whose attribute values are to be used for the resource.

Occurrence

Multiple times.
**MoveGroup**

Optional element. It describes floating resources within the System Automation for Multiplatforms environment.

**Example**

```xml
<MoveGroup name="DB2" class="IBM.Application">
  <ClassAttributesReference>
    <IBM.ApplicationAttributes name="Application2"/>
  </ClassAttributesReference>
  <Members>
    <ConstituentResource name="DB2" class="IBM.Application" node="lnxxdr10"/>
    <ConstituentResource name="DB2" class="IBM.Application" node="lnxxdr11"/>
  </Members>
</MoveGroup>
```

**Attributes**

- **name**
  Mandatory, user defined. It identifies the floating resource and has a maximum of 64 characters. It must be equal to the names of the ConstituentResource elements.

- **class**
  Mandatory. It can be one of the values IBM.AgFileSystem, IBM.Application, IBM.Test, or IBM.ServiceIP.

These attributes make up the unique key of a move group. A Relationship element must use this key to refer to this move group.

**Sub-elements**

- **ClassAttributesReference**
  Optional. It contains the name of the IBM.AgFileSystemAttributes, IBM.ApplicationAttributes, IBM.ServiceIPAttributes, or IBM.TestAttributes element whose attribute values are to be used for those constituents of the move group that do not have their own ClassAttributesReference.
  The element has a maximum of 64 characters.

- **Members**
  Optional. Members elements can only be constituent resources (see the "ConstituentResource" on page 120 element).

**Occurrence**

0 to multiple times.
ConstituentResource

Optional element. It must be used to describe members of a MoveGroup (floating resources).

Examples

Example 1:
<ConstituentResource name="DB2" class="IBM.Application" node="lnxxdr10"/>

Example 2:
<ConstituentResource name="xdrerpdlnxxdr31" class="IBM.Application" node="lnxxdr31">
  <ClassAttributesReference>
    <IBM.ApplicationAttributes name="Application1"/>
  </ClassAttributesReference>
</ConstituentResource>

Attributes

name  Mandatory, user defined. It must be equal to the name of the MoveGroup element as shown in the example section of the MoveGroup element description. It has a maximum number of 64 characters.

node  Mandatory. Name of the node on which the resource runs. It has maximum number of 256 characters.

class  Mandatory. It can be one of the values IBM.AgFileSystem, IBM.Application, IBM.Test, or IBM.ServiceIP.

These attributes make up the unique key of a constituent resource. A MoveGroup element must use this key to refer to the resource.

Sub-elements

ClassAttributesReference  Optional. It contains the name of the IBM.AgFileSystemAttributes, IBM.ApplicationAttributes, IBM.ServiceIPAttributes, or IBM.TestAttributes element whose attribute values are to be used for the constituent resource.

The element must be specified when no ClassAttributesReference element is referenced in the constituent’s MoveGroup, or to override the attribute settings in the move group’s ClassAttributesReference element for the constituent resource.

The element has a maximum of 64 characters.

Occurrence

0 to multiple times.
ResourceGroup

Optional element. It describes groups of resources within the System Automation for Multiplatforms environment.

Example

```xml
<ResourceGroup class="IBM.ResourceGroup" name="erpdgroup">
  <DesiredState>Online</DesiredState>
  <InfoLink>www.ibm.com/TSA/xDR</InfoLink>
  <Priority>100</Priority>
  <Members>
    <Resource name="xdrerpd" class="IBM.Application" node="lnxxdr31" mandatory="true"/>
  </Members>
</ResourceGroup>
```

Attributes

- **name**: Mandatory, user defined. It identifies the groups of resources and has a maximum of 64 characters.
- **class**: Mandatory. It has the fixed value IBM.ResourceGroup.

These attributes make up the unique key of a resource group. A Relationship element must use this key to refer to this resource group.

Sub-elements

- **DesiredState**: Optional. Defines the operation state the resource should obtain in the end. System Automation for Multiplatforms tries to bring up and keep all resources in a resource group to this state. Valid states are:
  - Offline: the resource should be stopped (This is the default value).
  - Online: the resource should be started.

- **Description**: Optional. Provides more information about the resource. See "Description" on page 135 for details about the Description element.

- **Owner**: Optional. Provides the name of the resource owner. See "Owner" on page 135 for details about the Owner element.

- **InfoLink**: Optional. Provides a link where more information can be found. See "InfoLink" on page 136 for details about the InfoLink element.

- **Members**: Optional. Members can be resources, resource references (only if the referenced resources are of class IBM.AgFileSystem), resource groups, or move groups. See "Members" on page 134 for details about the Members element.

- **MemberLocation**: Optional. It specifies the default location of resources in the resource group. Allowed values are None and Collocated. Collocated is the default.

- **Priority**: Optional. It specifies the priority of this resource group in relation to other resource groups. This sub-element is used to resolve conflicts. Its default is 0 and the allowed values are 0 to 200.

- **AllowedNode**: Optional. It specifies the set of nodes the resources of a resource
group are allowed to run on. Allowed values are All, a name of
one node or the name of an equivalency of nodes. All is the
default.

**ExcludedNode**
Optional. It specifies one entry of the list of excluded nodes. This
element may occur up to n times. Its maximum number of
characters is 256.

**Occurrence**
0 to multiple times.
Relationship

Optional element. It describes the relationships between resources in a cluster.

Examples

<Relationship name="MoveGroupStartAfterResource1">
  <Source>
    <MoveGroup name="movegroupname" class="IBM.Application"/>
  </Source>
  <Target>
    <Resource name="resource1" class="IBM.Application" node="node1"/>
  </Target>
  <Type>StartAfter</Type>
</Relationship>

<Relationship name="Resource2CollocatedResource1">
  <Source>
    <ResourceGroup name="resourcegroup2" class="IBM.ResourceGroup"/>
  </Source>
  <TargetClass>IBM.Application</TargetClass>
  <TargetSelectString>ResourceType==1</TargetSelectString>
  <Type>Collocated</Type>
</Relationship>

Attributes

- **name**: Optional but recommended. Not required as the Relationship element may not be referenced by any other XML element. However, if there are several managed relationships with the same source resource, then it is recommended to specify a name for the managed relationship. Otherwise the relationships will be consolidated into one managed relationship after a policy save and restore action.
  It has a maximum of 64 characters.

Sub-elements

- **Type**: Mandatory. Describes the relationships used for defining the start/stop behaviors and the location relationships. For details, refer to the description of the `mkrel` command on page 56.

- **Condition**: Optional. Can be specified for all location relationships except `IsStartable`. The `IfPossible` condition is only valid for relationships of type `StartAfter`. For a detailed description of the conditions, refer to the description of the `mkrel` command on page 56.

- **Source**: Optional. A Relationship element must contain a source which can be specified either by naming a specific source resource or by specifying a selection. The source resource can be specified by this Source element.
  The source of a relationship may be a fixed resource, resource group, or move group. The Source resource must be a member of a resource group.
  The selection can be specified by using the sub-elements `SourceClass` and `SourceSelectString` described further down in this list.
Policy XML reference

**SourceClass**  Optional. It is mutually exclusive with Source and it is required with SourceSelectString. It has a maximum number of 64 characters.

**SourceSelectString**  Optional. It is mutually exclusive with Source and it is required with SourceClass. It has a maximum number of 1024 characters.

**Target**  Optional. A Relationship element must contain a Target which can either be specified by naming one target resource or by specifying a selection. The target resource can be specified by this Target sub-element. Target may be a fixed resource, a resource group, a resource reference, a move group, or an equivalency. The selection can be specified by using the sub-elements TargetClass and TargetSelectString described further down in this list.

**TargetClass**  Optional. It is mutually exclusive with Target and it is required with TargetSelectString. It has a maximum number of 64 characters.

**TargetSelectString**  Optional. It is mutually exclusive with Target and it is required with TargetClass. It has a maximum number of 1024 characters.

**Occurrence**
0 to multiple times.
Policy XML reference

**Equivalency**

Optional element. It describes a collection of resources providing the same functionality. An equivalency consists of a set of fixed resources from the same resource class.

**Example**

```xml
<Equivalency name="NetworkInterfaces" class="IBM.Equivalency">
  <Members>
    <ResourceReference name="Ref-eth0-lnxxdr01"/>
    <ResourceReference name="Ref-eth0-lnxxdr02"/>
    <ResourceReference name="Ref-eth0-lnxxdr03"/>
  </Members>
  <MinimumNecessary>2</MinimumNecessary>
</Equivalency>

<Equivalency name="DynamicNI" class="IBM.Equivalency">
  <DynamicSelectString>Name like "eth%"</DynamicSelectString>
  <MemberClass>IBM.NetworkInterface</MemberClass>
  <MinimumNecessary>3</MinimumNecessary>
</Equivalency>
```

**Attributes**

- **name**
  Mandatory, user defined. The string in this attribute identifies the Equivalency element. It has maximum number of 64 characters.

- **class**
  Mandatory. It has the fixed value IBM.Equivalency.

These attributes make up the unique key of an equivalency. A Relationship element must use this key to refer to this equivalency.

**Sub-elements**

- **MemberClass**
  Optional. The MemberClass element determines the class of all members of the equivalency. It is mutually exclusive with the Members element. It is required with the elements DynamicSelectString and StaticSelectString. MemberClass has a maximum number of 64 characters.

- **DynamicSelectString**
  Optional. It is mutually exclusive with the element Members and StaticSelectString, and it is required with the element MemberClass if no StaticSelectString is specified. It dynamically determines which resources are contained within the Equivalency. If matching resources are created after the Equivalency has been created, they are dynamically added to the Equivalency. Maximum number of characters supported is 1024.

- **StaticSelectString**
  Optional. It is mutually exclusive with the elements Members and DynamicSelectString and is required with the element MemberClass if no DynamicSelectString is specified. It determines which resources are contained within the Equivalency. Maximum number of characters supported is 1024. For more information on how to specify select strings, see the IBM Tivoli System Automation for Multiplatforms Administrator's and User's Guide.

- **Members**
  Optional. Specifies a fixed resource or a resource reference multiple...
Policy XML reference

times. It is mutually exclusive with the elements MemberClass, StaticSelectString and DynamicSelectString. See “Members” on page 134.

MinimumNecessary
Optional. It specifies the minimum necessary number of members to make an equivalency valid. The default is 1. Valid numbers are from 0 to 100.

SelectFromPolicy
Optional. Specifies the policy to be used when making a selection from the Equivalency element. Allowed values are Ordered and Any:

- The default value is Any. "Any" means no specific order.
-Ordered means that the selection starts at the beginning.
- Ordered may not be used together with DynamicSelectString.

Additional, optional values are Failback, NoFailure and NoControl:

- They can only be used in conjunction with the value Any or Ordered.
- Failback means that the resources are always started on the first member, if it is available. The value Failback can only be used in conjunction with the value Ordered.
- When the value NoFailure is specified, the OpState of resources that have a dependency against the equivalency will not be forced to Failed Offline, if they could not be started within the specified timeout interval.
- NoControl means that System Automation will neither start nor stop the members of the equivalency but only react to changes of the OpState of these resources.

The optional additional values are specified like this:

<SelectFromPolicy>Any,NoControl</SelectFromPolicy>
<SelectFromPolicy>Ordered,Failback,NoControl</SelectFromPolicy>

Occurrence
0 to multiple times.
**ResourceReference**

Optional element. It is used for resources that are outside the management scope of System Automation for Multiplatforms: for example, RSCT resources like IBM.NetworkInterface, or automatically harvested resources of the class IBM.AgFileSystem.

**Example**

```
<ResourceReference name="eth0">
  <ReferencedResource>
    <Name>eth0</Name>
    <Class>IBM.NetworkInterface</Class>
    <Node>lnxxdr01</Node>
  </ReferencedResource>
</ResourceReference>
```

**Attributes**

- **name**
  Mandatory. The string in this attribute identifies the ResourceReference element. It must be unique and has a maximum of 64 characters. A Relationship or Equivalency element must use this name to refer to the resource.

**Sub-elements**

- **ReferencedResource**
  Mandatory. Describes a resource outside this XML. It consists of these elements:
    - **Name**
      Mandatory. It specifies the actual name of the resource. It has a maximum number of 64 characters.
    - **Node**
      Mandatory. It specifies the location of the resource. It has a maximum number of 256 characters.
      For floating resources, the Node element is empty.
    - **Class**
      Mandatory. It describes the type of the resource. It has a maximum number of 64 characters

**Occurrence**

0 to multiple times.
IBM.AgFileSystemAttributes

Optional element. The element is used to specify the attribute values for user-defined storage resources of class IBM.AgFileSystem. An IBM.AgFileSystemAttributes element can be referenced in multiple Resource, ConstituentResource, or MoveGroup elements to assign the attributes values to the resources.

Note that automatically harvested file system resources can only be specified as referenced resources in ResourceReference elements and that their attributes cannot be set in a policy.

Example

```xml
<IBM.AgFileSystemAttributes name="FileSystem1">
  <DeviceName>/dev/sda3</DeviceName>
  <Vfs>ext2</Vfs>
  <MountPoint>/nfs-mount</MountPoint>
  <PreOnlineMethod>0</PreOnlineMethod>
</IBM.AgFileSystemAttributes>
```

Attributes

name  Mandatory. Must be unique and can have a maximum of 64 characters.

The name can be used in one or multiple Resource, ConstituentResource, or MoveGroup elements to assign the values defined in the particular IBM.AgFileSystemAttributes element to these resources. The name is only used in XML policy handling, not as an actual name within the cluster.

Sub-elements

The sub-elements listed below can be used to set the attribute values for user-defined IBM.AgFileSystem resources. For a detailed description of the attributes, see RSCT Administration Guide, SA22-7889.

DeviceName  Mandatory. String value. It has a maximum of 1024 characters.

Vfs  Mandatory. String value. It has a maximum of 1024 characters.

MountPoint  Optional. String value. It has a maximum of 1024 characters.

PreOnlineMethod  Optional. Integer value between 0 and 3. Default is 0.

ProtectionMode  Optional. Allowed values are 0 and 1. Default is 1.

Occurrence

0 to multiple times.
IBM.ApplicationAttributes

Optional element. It is used to specify the attributes of a resource of the class IBM.Application.

Example

```xml
<IBM.ApplicationAttributes name="Application1">
  <StartCommand>/usr/sbin/rsct/bin/xdrstarterpd</StartCommand>
  <StopCommand>/usr/sbin/rsct/bin/xdrstoperd</StopCommand>
  <MonitorCommand>/usr/sbin/rsct/bin/xdrrmonerpd</MonitorCommand>
  <StartCommandTimeout>10</StartCommandTimeout>
  <StopCommandTimeout>10</StopCommandTimeout>
  <RunCommandsSync>0</RunCommandsSync>
  <UserName>root</UserName>
</IBM.ApplicationAttributes>
```

Attributes

- **name**: Mandatory. Must be unique and has a maximum of 64 characters. A Resource, ConstituentResource, or MoveGroup element can refer to this name.

Sub-elements

See the [IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide](https://www.ibm.com/support/knowledgecenter/SS5PQ9_6.3.0/com.ibm.racf.doc/rbxmlsgui.html) for a detailed description of the following elements.

- **StartCommand**
  Mandatory. String value. It has a maximum of 1024 characters.

- **StopCommand**
  Mandatory. String value. It has a maximum of 1024 characters.

- **MonitorCommand**
  Mandatory. String value. It has a maximum of 1024 characters.

- **UserName**
  Mandatory. String value. It has a maximum of 1024 characters.

- **StartCommandTimeout**
  Optional. Positive Integer value with a default of 5.

- **StopCommandTimeout**
  Optional. Positive Integer value with a default of 5.

- **MonitorCommandTimeout**
  Optional. Positive Integer value with a default of 5.

- **MonitorCommandPeriod**
  Optional. Positive Integer value with a default of 5.

- **RunCommandsSync**
  Optional. RunCommandsSync is an integer between 0 and 3. Default is 1.

- **ProtectionMode**
  Optional. Allowed values are 0 and 1. Default is 0.

Occurrence

0 to multiple times.
IBM.ServiceIPAttributes

Optional. This element is used to specify the attributes of a resource of the class IBM.ServiceIP.

Example 1: IPv4 IP address

```xml
<IBM.ServiceIPAttributes name="ServiceIPOne">
  <IPAddress>9.164.178.1</IPAddress>
  <NetMask>255.255.255.0</NetMask>
  <ProtectionMode>0</ProtectionMode>
</IBM.ServiceIPAttributes>
```

Example 2: IPv6 IP address

```xml
<IBM.ServiceIPAttributes name="IBM.ServiceIP.S2">
  <NetPrefix>70</NetPrefix>
  <ProtectionMode>1</ProtectionMode>
</IBM.ServiceIPAttributes>
```

Attributes

- **name**
  Mandatory. Must be unique and has a maximum of 64 characters. A Resource, ConstituentResource, or MoveGroup element can refer to this name.

Sub-elements

See the [IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide](#) for a detailed description of the following elements.

- **IPAddress**
  Mandatory. String value. For IPv4, the IP address must be specified in dotted decimal notation; for example, 9.152.80.251. For IPv6, you can use the standard formats for IPv6 addresses; for example, 2001:db8:1428:57ab. Note that for IPv6, link-local addresses are not allowed for this attribute.

- **NetMask**
  Optional. String value. Must be a Netmask specified in dotted decimal notation. NetMask is only valid for IPv4 addresses. For IPv6 addresses, use the NetPrefix attribute.

- **NetPrefix**
  Optional. Integer value between 0 and 128. This attribute specifies the netprefix value of the IPv6 address given in the IPAddress attribute and thus is only valid for IPv6 addresses. It replaces the NetMask attribute for IPv6. This attribute takes integer values only; for example, 80. Do not specify a forward slash or other characters in front of the number value.

- **ProtectionMode**
  Optional. Allowed values are 0 and 1. Default is 1.

Occurrence

0 to multiple times.
IBM.TestAttributes

Optional. It is used to specify the attributes of a resource of the class IBM.Test.

Example

```xml
<IBM.TestAttributes name="TestOne">
  <ForceOpState>2</ForceOpState>
  <TimeToStart>15</TimeToStart>
  <WriteToSyslog>0</WriteToSyslog>
</IBM.TestAttributes>
```

Attributes

- **name**: Mandatory. Must be unique and has a maximum of 64 characters. A Resource, ConstituentResource, or MoveGroup element can refer to this name.

Sub-elements

See the [IBM Tivoli System Automation for Multiplatforms Administrator’s and User’s Guide](#) for a detailed description of the following elements.

- **ForceOpState**: Deprecated. Tolerated for compatibility reasons, but ignored since release 3.1.
- **TimeToStart**: Optional. Positive integer value. The default is 0.
- **TimeToStop**: Optional. Positive integer value. The default is 0.
- **WriteToSyslog**: Optional. The default is 0, and the allowed values are either 0 or 1.

Occurrence

0 to multiple times.
IBM.TieBreaker

Optional. It is used to specify the attributes of a resource of the class IBM.TieBreaker.

Example

```xml
<IBM.TieBreaker name="BreakIt" class="IBM.TieBreaker">
    <Type>SCSI</Type>
    <DeviceInfo>ID=4 LUN=0</DeviceInfo>
    <HeartbeatPeriod>7</HeartbeatPeriod>
    <NodeInfoList>
        <NodeInfo node="lnxxdr10" info="HOST=0 CHAN=0"/>
        <NodeInfo node="lnxxdr10" info="HOST=2 CHAN=2"/>
    </NodeInfoList>
</IBM.TieBreaker>
```

Attributes

- **name**: Mandatory. The string in this attribute identifies the IBM.TieBreaker element. It has a maximum number of 64 characters.
- **class**: Mandatory. It has the fixed value IBM.TieBreaker.

These attributes make up the unique key of an IBM.TieBreaker. This element cannot be referenced.

Sub-elements

- **Type**: Mandatory. Allowed values are Operator, Fail, SCSI, ECKD, EXEC, and DISK.
- **PreReserveWaitTime**: Optional. Non-negative integer value, the default is 0.
- **PostReserveWaitTime**: Optional. Non-negative integer value, the default is 0.
- **ReleaseRetryPeriod**: Optional. Non-negative integer value, the default is 0.
- **HeartbeatPeriod**: Optional. Non-negative integer value, the default is 0.
- **DeviceInfo**: Optional. String value. It has a maximum of 1024 characters.
- **ReprobeData**: Optional. String value. It has a maximum of 1024 characters.
- **NodeInfoList**: Optional. Occurs 0 or once, and consists of 0 to n NodeInfo elements.
  - **NodeInfo**: Contains the node attribute and an info attribute. The maximum number of characters supported is 1024 for both attributes.
- **Active**: Optional, type Boolean, valid values are true and false, default is false. Only one instance of an IBM.TieBreaker element may have the value true for this element. This one is the IBM.TieBreaker that is activated in the cluster via the command `chrsrc -c IBM.PeerNode OpQuorumTieBreaker="name"`
Occurrence

0 to multiple times.
Members

The Members element must be used within a resource group and within a move group. It may also be used within an equivalency.

Note that if used within a resource group, this element can have the attributes shown under ‘Attributes’.

Example

```xml
<ResourceGroup class="IBM.ResourceGroup" name="db2-group">
    <DesiredState>Online</DesiredState>
    <InfoLink>www.ibm.com/TSA/xDR</InfoLink>
    <Members>
        <MoveGroup name="db2floating" class="IBM.Application" selectFromPolicy="Any">
        </MoveGroup>
    </Members>
    <AllowedNode>ALL</AllowedNode>
</ResourceGroup>
```

Attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>mandatory</td>
<td>Optional. Allowed values for this attribute are true and false, true is the default. Every resource that is mandatory must be online in order to get the whole group online.</td>
</tr>
<tr>
<td>selectFromPolicy</td>
<td>Optional. The selectFromPolicy attribute can only be set for members that are move groups. It specifies the policy to be used for selecting a member from the move group’s member list. Possible values are Any and Ordered, with Ordered being the default. Ordered means that the selection starts at the beginning. Any means that no specific order needs to be observed.</td>
</tr>
</tbody>
</table>

Sub-elements

None.
Description
Optional element. It may contain comments like ASCII text describing the purpose of the element where it is embedded. It has a maximum number of 1024 characters.

This element can be used only as sub-element within the ResourceGroup element. It can occur 0 times or once under one parent element

Example
<Description>
  FixedResource - This is the error reporting daemon of xDR
</Description>

Attributes
None.

Sub-elements
None.

Owner
Optional element. It may contain contact information about the owner of the element where it is embedded. This element can be used only as sub-element within the ResourceGroup element. This element may occur 0 times or once under one parent element. It has a maximum number of 1024 characters.

Example
<Owner>Paul Meyer</Owner>

Attributes
None.

Sub-elements
None.
InfoLink

Optional element. It specifies the URL of a HTML page which shows additional information about the element where it is embedded. This element can be used only as sub-element within the ResourceGroup element. This element may occur 0 times or once under one parent element. It has a maximum number of 1024 characters.

Example

```xml
<ResourceGroup class="IBM.ResourceGroup" name="db2-group">
  <DesiredState>Online</DesiredState>
  <InfoLink>www.ibm.com/TSA/xDR</InfoLink>
  <AllowedNode>ALL</AllowedNode>
</ResourceGroup>
```

Attributes

None.

Sub-elements

None.
This section shows an example XML policy for the resource group "WebServerGroup" that is depicted in [Figure 1]. The resource group comprises the three move groups "apache1", "local_mount", and "ha-ip-adress", and the harvested file system resource "harvestedFS".

```xml
<?xml version="1.0" encoding="UTF-8"?>
<AutomationPolicy productID="SAM" version="2.2.0.1"
 xmlns="http://www.ibm.com/TSA/Policy.xsd"
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xsi:schemaLocation="http://www.ibm.com/TSA/Policy.xsd SAMPolicy.xsd">
 <PolicyInformation>
  <PolicyName>WebServer-Policy</PolicyName>
  <AutomationDomainName>clustername</AutomationDomainName>
  <PolicyToken>1.0.0</PolicyToken>
  <PolicyDescription>this is the policy for the WebServer</PolicyDescription>
  <PolicyAuthor>authorname</PolicyAuthor>
 </PolicyInformation>

 <ConstituentResource name="apache1" class="IBM.Application" node="node1"/>
 <ConstituentResource name="apache1" class="IBM.Application" node="node2"/>

 <ConstituentResource name="local_mount" class="IBM.AgFileSystem" node="node1" >
  <ClassAttributesReference>
   <IBM.AgFileSystemAttributes name="FileSystem1"/>
  </ClassAttributesReference>
 </ConstituentResource>
 <ConstituentResource name="local_mount" class="IBM.AgFileSystem" node="node2" />

 <ConstituentResource name="ha-ip-address" class="IBM.ServiceIP" node="node1" />
 <ConstituentResource name="ha-ip-address" class="IBM.ServiceIP" node="node2" />

 <IBM.ApplicationAttributes name="Application1">
  <StartCommand>/PATH-TO-SCRIPT/apache start</StartCommand>
  <StopCommand>/PATH-TO-SCRIPT/apache stop</StopCommand>
  <MonitorCommand>/PATH-TO-SCRIPT/apache status</MonitorCommand>
  <UserName>root</UserName>
  <MonitorCommandPeriod>5</MonitorCommandPeriod>
  <MonitorCommandTimeout>4</MonitorCommandTimeout>
  <StartCommandTimeout>10</StartCommandTimeout>
</IBM.ApplicationAttributes>
</AutomationPolicy>
```

[Figure 1. WebServerGroup resource group]
Policy XML reference

```xml
<StopCommandTimeout>10</StopCommandTimeout>
<RunCommandsSync>1</RunCommandsSync>
</IBM.ApplicationAttributes>

<IBM.AgFileSystemAttributes name="FileSystem1">
<DeviceName>/dev/DEVICE1</DeviceName>
<MountPoint>/MOUNTPOINT1</MountPoint>
<Vfs>ext3</Vfs>
<ProtectionMode>1</ProtectionMode>
</IBM.AgFileSystemAttributes>

<IBM.AgFileSystemAttributes name="FileSystem2">
<DeviceName>/dev/DEVICE2</DeviceName>
<MountPoint>/MOUNTPOINT2</MountPoint>
<Vfs>ext3</Vfs>
<ProtectionMode>1</ProtectionMode>
</IBM.AgFileSystemAttributes>

<IBM.ServiceIPAttributes name="ServiceIP1">
<IPAddress>10.10.10.15</IPAddress>
<NetMask>255.255.255.0</NetMask>
<ProtectionMode>1</ProtectionMode>
</IBM.ServiceIPAttributes>

<MoveGroup name="apache1" class="IBM.Application">
<ClassAttributesReference>
<IBM.ApplicationAttributes name="Application1"/>
</ClassAttributesReference>
<Members>
<ConstituentResource name="apache1" class="IBM.Application" node="node1"/>
<ConstituentResource name="apache1" class="IBM.Application" node="node2"/>
</Members>
</MoveGroup>

<MoveGroup name="local_mount" class="IBM.AgFileSystem">
<ClassAttributesReference>
<IBM.AgFileSystemAttributes name="FileSystem2"/>
</ClassAttributesReference>
<Members>
<ConstituentResource name="local_mount" class="IBM.AgFileSystem" node="node1"/>
<ConstituentResource name="local_mount" class="IBM.AgFileSystem" node="node2"/>
</Members>
</MoveGroup>

<MoveGroup name="ha-ip-address" class="IBM.ServiceIP">
<ClassAttributesReference>
<IBM.ServiceIPAttributes name="ServiceIP1"/>
</ClassAttributesReference>
<Members>
<ConstituentResource name="ha-ip-address" class="IBM.ServiceIP" node="node1"/>
<ConstituentResource name="ha-ip-address" class="IBM.ServiceIP" node="node2"/>
</Members>
</MoveGroup>

<ResourceGroup class="IBM.ResourceGroup" name="WebServerGroup">
<DesiredState>Online</DesiredState>
<InfoLink>www.apache.com</InfoLink>
<Members>
<MoveGroup name="apache1" class="IBM.Application"/>
<MoveGroup name="local_mount" class="IBM.AgFileSystem"/>
<MoveGroup name="ha-ip-address" class="IBM.ServiceIP"/>
<ResourceReference name="harvestedFS"/>
</Members>
</ResourceGroup>

<Relationship name="apache1DependsOnLocal_mount">
<Source>
Policy XML reference

```xml
<MoveGroup name="apache1" class="IBM.Application"/>
</Source>
<Target>
  <MoveGroup name="local_mount" class="IBM.AgFileSystem"/>
</Target>
<Type>DependsOn</Type>
<Condition>None</Condition>
</Relationship>

<Relationship name="apache1DependsOnHa-ip-address">
  <Source>
    <MoveGroup name="apache1" class="IBM.Application"/>
  </Source>
  <Target>
    <MoveGroup name="ha-ip-address" class="IBM.ServiceIP"/>
  </Target>
  <Type>DependsOn</Type>
  <Condition>None</Condition>
</Relationship>

<ResourceReference name="harvestedFS">
  <ReferencedResource>
    <Class>IBM.AgFileSystem</Class>
    <Name>23f45d546</Name>
    <Node></Node>
  </ReferencedResource>
</ResourceReference>
</AutomationPolicy>
```
Policy XML reference
Chapter 3. Messages generated by System Automation for Multiplatforms

This chapter is for any user who is responsible for diagnosing problems related to System Automation for Multiplatforms. The chapter is divided into the following sections:

- "System Automation for Multiplatforms messages" lists the messages that are generated by System Automation for Multiplatforms and describes solutions for each of these messages.
- "Messages generated by the sampolicy command" on page 194 lists the messages that are generated by the sampolicy command and have the prefix SAMP. The sampolicy command may also generate messages with the prefix EEZ. These messages are listed in the IBM Tivoli System Automation Application Manager Reference.
- "Messages generated by the end-to-end automation adapter" on page 205 lists the messages that are generated by the end-to-end automation adapter and the HACMP adapter and have the prefix SAMA. The adapters may also generate messages with the prefix EEZ. These messages are listed in the IBM Tivoli System Automation Application Manager Reference.

System Automation for Multiplatforms messages

This section lists the messages that are generated by System Automation for Multiplatforms.

2621-001  Attribute "attribute_name" cannot be specified when defining a new resource.
Explanation: An error occurred when an attribute that can not be used in defining a resource has been specified.
User response: Specify only the attributes which can be specified in defining the resource.

2621-002  Attribute "attribute_name" appears in request more than once.
Explanation: An error occurred as the same attribute is used multiple times.
User response: Use the attribute only once.

2621-003  Class name "class_name" is not recognized by this resource manager.
Explanation: An internal error occurred when attempting to create an RCCP for a class which does not exists.
User response: Contact your software service organization.

2621-004  Could not initialize control point for class "class_name".
Explanation: An internal error occurred when attempting to create an RCCP for the class.
User response: Contact your software service organization.

2621-005  Attribute "attribute_name" must be specified when defining a new resource.
Explanation: This error was detected when a mandatory attribute is excluded in defining a resource.
User response: Use "lsrsrcdef <class name>" to check the attribute properties, include all mandatory (ReqdForDefine) attributes.
2621-006  Unrecognized resource class id: resource_class_id.
Explanation: An error occurred while extracting the class info for this class id.
User response: If a resource handle is used, check if it is correct. Otherwise, contact your software service organization.

2621-007  Time out waiting for resource enumeration responses for the IBM.PeerNode class.
Explanation: A time out error occurred while waiting for peer nodes enumeration registration response.
User response: Check if the RMC and ConfigRM are running (use "lsrc -a" command). If either of the subsystem is inoperative, consult the RMC/ConfigRM user guides to check how to restart the non-operational subsystem.

2621-008  Failed to update resource because of configuration data replication errors.
Explanation: An error occurred while replicating data.
User response: Retry the operation. If the problem continues, report to your software service organization.

2621-009  Command not allowed - IBM.RecoveryRM not initialized.
Explanation: The resource manager is not yet initialized to perform client's request.
User response: Wait for initialization and retry the command.

2621-010  Command not allowed - IBM.RecoveryRM not in configuration quorum.
Explanation: The cluster is probably running with several IBM.RecoveryRM daemons failure. The operation needs the quorum of IBM.RecoveryRM daemons online.
User response: Try to restart the failed IBM.RecoveryRM daemons to bring back the configuration quorum.

2621-011  Command not allowed - node failed configuration data replication.
Explanation: The node had failed updating the configuration data - can not perform the client's request.
User response: Retry the operation. If the problem continues, report to your software service organization.

2621-012  Command not allowed - configuration data replacement in process.
Explanation: The system is in transition to a new configuration data - can not perform the client's request.
User response: Retry the operation. If the problem continues, report to your software service organization.

2621-013  Command not allowed - replication can not be started.
Explanation: An error occurred in initializing the replication process.
User response: Retry the operation. If the problem continues, report to your software service organization.

2621-014  Command not allowed - one or more related resource groups are online.
Explanation: An error was generated while changing a managed resource, resource group, or relationship which involves one or more online resource groups.
User response: Before changing the resource, the resource groups have to be offline.

2621-015  Failed to get resource class persistent attributes for class "class_name".
Explanation: An error was returned while querying the class to get its persistent attributes.
User response: Check if the resource manager to which the class belongs to is operational. If the resource manager is inoperative, consult its user guide to check how to restart.
2621-016  Failed to get definition of resource persistent attributes for class "class_name".
Explanation: An error was returned while querying a resource to get its persistent attributes.
User response: Check if the resource manager to which the class belongs to is operational. If the resource manager is inoperative, consult its user guide to check how to restart.

2621-017  Time out waiting for attribute query responses for the "class_name" class.
Explanation: A time out error occurred while waiting for attribute query response from RMC.
User response: Check if the resource manager to which the class belongs to is operational. If the resource manager is inoperative, consult its user guide to check how to restart.

2621-018  Error encountered when calling function "function_name". return code = return_code
Explanation: An error condition was returned when this function was invoked.
User response: This is an internal error, report it to your software service organization.

2621-019  Time out waiting for response of event registration with resource handle.
Explanation: A time out error occurred while waiting for a response on an event registration with resource handle.
User response: Check if the RMC and the resource manager for the resource are running (use "lssrc -a" command). If either of the subsystem is inoperative, consult the corresponding user guide to check how to restart the non-operational subsystem.

2621-020  Resource has an invalid resource class name "resource_class_name".
Explanation: The referenced resource class name is not found.
User response: Use "lssrc" command to display the supported resource classes. Correct the class name and retry the operation.

2621-021  Resource does not exist.
Explanation: The referenced resource is not found.
User response: Use "lssrc class_name" to display all resources with in a class.

2621-022  Resource encounters event registration error. The error message is: [error_message]
Explanation: An error message was returned by the RMC in response to an event registration for a resource.
User response: Check the error message and take the appropriate measure. Restart the RMC and the resource manager if they are not running.

2621-023  Resource RCP not found
Explanation: An internal error was detected while a control point for a resource was not found.
User response: Contact your software service organization.

2621-024  Timed out waiting for resource enumeration responses for the IBM.PeerDomain class.
Explanation: A time out error occurred while waiting for peer domains enumeration registration
User response: Check if the RMC and ConfigRM are running (use "lssrc -a" command). If either of the subsystem is inoperative, consult the RMC/ConfigRM user guides to check how to restart the non-operational subsystem.
<table>
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<th>User response</th>
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<tbody>
<tr>
<td>2621-025</td>
<td>Value &quot;input_parameter_value&quot; provided for input parameter &quot;input_parameter_name&quot; in SubmitRequest action is not valid.</td>
<td>Value provided for an input parameter in SubmitRequest action is not valid.</td>
<td>Check value provided for input parameter of SubmitRequest action. Correct the value and retry the action.</td>
</tr>
<tr>
<td>2621-026</td>
<td>This functionality is not supported by current active version of the cluster.</td>
<td>The cluster is in co-existence or migration mode. The current active version does not support the functionality.</td>
<td>Retry after migration is completed.</td>
</tr>
<tr>
<td>2621-027</td>
<td>There is no previous request from source [source_name]. Cancellation failed.</td>
<td>Cancellation of request is received but there is no previous request from the specified source.</td>
<td>Check value provided for source of SubmitRequest action. Correct the value and retry the action.</td>
</tr>
<tr>
<td>2621-028</td>
<td>Command not allowed - complete migration action in process.</td>
<td>The system is in transition to a new active code version level - cannot perform the client’s request.</td>
<td>Retry the operation. If the problem continues, report to your software service organization.</td>
</tr>
<tr>
<td>2621-029</td>
<td>Request to move cannot be granted as there is already a move request on the resource.</td>
<td>Request to move cannot be granted as there is already a move request on the same resource group.</td>
<td>Wait for five minutes and Retry the operation.</td>
</tr>
<tr>
<td>2621-030</td>
<td>Timed out waiting for query persistent class attribute request responses for the IBM.PeerNode class.</td>
<td>A time out error occurred while waiting for peer node QuorumType registration</td>
<td>Check if the RMC and ConfigRM are running (use &quot;issrc -a&quot; command). If either of the subsystem is inoperative, consult the RMC/ConfigRM user guides to check how to restart the non-operational subsystem.</td>
</tr>
<tr>
<td>2621-031</td>
<td>Command not allowed - new configuration initialization is in progress.</td>
<td>The system is in transition to a new configuration initialization - cannot perform the client’s request.</td>
<td>Retry the operation. If the problem continues, report to your software service organization.</td>
</tr>
<tr>
<td>2621-050</td>
<td>Resource group name &quot;resource_group_name&quot; already defined.</td>
<td>An error was detected while an existing resource group name is used to define a new resource group.</td>
<td>Use an unique name and retry the command.</td>
</tr>
<tr>
<td>2621-051</td>
<td>Resource group has an invalid allowed node as the equivalency members do not belong to IBM.PeerNode.</td>
<td>The AllowedNode of the defined resource group comes from an equivalency whose MemberClass attribute is not IBM.PeerNode.</td>
<td>Correct the problem and retry the operation.</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Explanation</td>
<td>User response</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2621-052</td>
<td>Resource group member location is incompatible with its outer resource group.</td>
<td>The MemberLocation attribute of the inner resource group is incompatible with its outer resource group.</td>
<td>Correct the problem and retry the operation.</td>
</tr>
<tr>
<td>2621-053</td>
<td>Resource group member location is incompatible with its members relationships.</td>
<td>The MemberLocation attribute of the resource group is incompatible with a defined location sensitive</td>
<td>Fix the location compatibility problem either by changing the attribute or the relationship or both.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Collocated, DependsOn, etc) managed relationship.</td>
<td></td>
</tr>
<tr>
<td>2621-054</td>
<td>Resource group priority must be between 0 and 200.</td>
<td>The priority value specified by the user is not valid.</td>
<td>Specify a priority with in the valid range 0 and 200.</td>
</tr>
<tr>
<td>2621-055</td>
<td>Resource group priority <code>resource_group_priority</code> exceeds the priorities of outer resource groups.</td>
<td>An error was detected in a nested resource group where an inner resource group has a higher priority</td>
<td>Reset the priority so that outer resource group has the same or higher priority than an inner resource group, and retry the command.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>than an outer resource group.</td>
<td></td>
</tr>
<tr>
<td>2621-056</td>
<td>Resource group has an invalid value for attribute MemberLocation: invalid_value.</td>
<td>The value entered for attribute MemberLocation is invalid.</td>
<td>Define resource group with a valid value for attribute MemberLocation.</td>
</tr>
<tr>
<td>2621-057</td>
<td>Resource group has an invalid value for attribute NominalState: invalid_value.</td>
<td>The value entered for attribute NominalState is invalid.</td>
<td>Enter a valid value for attribute NominalState.</td>
</tr>
<tr>
<td>2621-058</td>
<td>Resource group nesting level exceeds the maximum of 50 levels.</td>
<td>The resource groups nesting level can not exceed maximum of 50 levels.</td>
<td>Reduce the resource groups nesting level.</td>
</tr>
<tr>
<td>2621-059</td>
<td>Node ID can not be found.</td>
<td>A node id in SubmitRequest resource action does not correspond to a node in cluster</td>
<td>Check value of node id. Correct the value and retry the action.</td>
</tr>
<tr>
<td>2621-060</td>
<td>ExcludedList is not supported for Resource Group in the current active version of the cluster.</td>
<td>The cluster is in co-existence or migration mode. The current active version does not support the</td>
<td>Retry after migration is completed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ExcludedList attribute for Resource Groups.</td>
<td></td>
</tr>
</tbody>
</table>
Resource group has an invalid ExcludedList as all or some of its members do not belong to the current cluster.

**Explanation:** The ExcludedList of the defined resource has at least one of its members or nodes that do not belong in the current cluster.

**User response:** Correct the problem and retry the operation.

A node specified in move action is not in the allowed node list of resource group.

**Explanation:** Resource group is being requested to move away from a node it is not allowed.

**User response:** Check value provided for input parameter of SubmitRequest action. Correct the value and retry the action.

The resource group is in offline state and can not be moved.

**Explanation:** Resource group being requested to move is in offline state.

**User response:** Check target of move request. Correct the target and retry the action.

Node name list not specified when moving a non-collocated resource group.

**Explanation:** A list of node names to move resources away from must be specified when moving a non-collocated resource group.

**User response:** Retry the command with node name list specified.

Resource group "resource_group" cannot be brought online - Empty Tree.

**Explanation:** The specified resource group cannot be brought online because it did not have any resources that could be brought online.

**User response:** Add a real resource to the group and then bring it online.

Resource group can not be moved as it is not a top-level resource group.

**Explanation:** The specified resource group cannot be moved because it is not a top-level resource group.

**User response:** Issue the move request against a top-level resource group.

Resource group can not be moved as it contains only fixed resources.

**Explanation:** The specified resource group cannot be moved because it contains only fixed resources.

**User response:** Rethink the needs to move this resource group.

Subscription is not supported for Resource Group in the current active version of the cluster.

**Explanation:** The cluster is in co-existence or migration mode. The current active version does not support the Subscription attribute for Resource Groups.

**User response:** Retry after migration is completed.

This attribute is not supported for Resource Group in the current active version of the cluster.

**Explanation:** The cluster is in co-existence or migration mode. The current active version does not support this attribute for Resource Groups.

**User response:** Retry after migration is completed.
<table>
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<td>2621-101</td>
<td>Managed resource cannot be in more than one resource group, already in &quot;resource_group_name&quot;.</td>
<td>An error was detected when a resource that already exists as a managed resource was attempted to be included in the same or another resource group.</td>
<td>Retry the operation with correct parameters.</td>
</tr>
<tr>
<td>2621-102</td>
<td>Managed resource has an invalid resource handle.</td>
<td>A resource manager has responded back with an invalid resource handle.</td>
<td>If this internal problem continues, contact your software service organization.</td>
</tr>
<tr>
<td>2621-103</td>
<td>Managed resource &quot;resource_name&quot; does not have control interface.</td>
<td>An error was generated while it was detected that resource class does not support the control interface.</td>
<td>Check the attributes of the resource class. Add only the resources whose OpState can be changed.</td>
</tr>
<tr>
<td>2621-104</td>
<td>Managed resource’s resource group &quot;resource_group_name&quot; does not exist.</td>
<td>A dangling managed resource is detected whose resource group does not exist any more.</td>
<td>This may be an internal error. Contact your software service organization.</td>
</tr>
<tr>
<td>2621-105</td>
<td>Managed resource has an invalid resource class id class_id.</td>
<td>The referenced managed resource class has an invalid class id.</td>
<td>Use &quot;lsrsrdef -c class-name&quot; to display the correct class id. Use the correct class name and retry the operation.</td>
</tr>
<tr>
<td>2621-106</td>
<td>Managed resource has an invalid resource type resource_type.</td>
<td>A managed resource can either be fixed or floating type. An error occurred as an invalid typed resource was used.</td>
<td>Correct the problem and retry the operation.</td>
</tr>
<tr>
<td>2621-107</td>
<td>Managed resource is a fixed resource, but is not defined on any node.</td>
<td>An error was generated as a fixed managed resource was not found on any node.</td>
<td>Either remove the resource from the resource group or modify type as floating.</td>
</tr>
<tr>
<td>2621-108</td>
<td>Resource group’s member location is incompatible with its outer resource group.</td>
<td>The MemberLocation attribute of the inner resource group is incompatible with its outer resource group.</td>
<td>Correct the problem and retry the operation.</td>
</tr>
<tr>
<td>2621-109</td>
<td>Managed resource is a fixed resource, but is defined on number_of_nodes nodes.</td>
<td>An error was generated as a fixed resource was defined on multiple nodes.</td>
<td>Either remove the resource from the resource group or modify the node list or change type to floating.</td>
</tr>
</tbody>
</table>
2621-110  Can not find resource class information for managed resource.
Explanation: An error was generated when enumerating the class information for a resource.
User response: Verify that the correct class name was used. If error continues, report to your software service organization.

2621-111  Resource group can not be a member of itself.
Explanation: A managed resource (resource group) can not be nested within itself.
User response: Retry the operation with correct parameters.

2621-112  Value of attribute Mandatory: invalid_value for managed resource is not valid.
Explanation: The value entered for attribute Mandatory is invalid.
User response: Define managed resource with a valid value for attribute Mandatory.

2621-113  Managed resource "resource_name" is the target of a resource in another tree.
Explanation: A managed resource can not be the target of two independent resource groups. The error was generated due to the violation of this constraint.
User response: Remove the conflict and retry the operation.

2621-114  Managed resource "resource_name" can not be defined in an equivalency.
Explanation: An error was generated when a managed resource was being included as a member of an equivalency.
User response: Define the equivalency only with resources that are not defined as managed resources.

2621-115  Managed resource is from an invalid class.
Explanation: A resource designated as managed has a resource handle that does not belong to the referenced class.
User response: Correct the class name and retry the operation.

2621-116  Resource does not have dynamic attribute - OpState.
Explanation: An error was generated while it was detected that resource class does not have the dynamic attribute - OpState.
User response: Check dynamic attributes of the resource class. Add only the resources which has OpState.

2621-117  Can not change source managed resource while there are targets.
Explanation: An error was generated while trying to change the source of a relationship when the relationship has one or more targets.
User response: Remove the relationship and recreate a new one with appropriate source.

2621-118  Can not change the resource handle of a managed resource.
Explanation: A managed resource always represents the resource for which it was created.
User response: Remove the member representing the managed resource from the resource group and add a new member that points to the correct resource.
2621-119  Resource group does not exist.
Explanation: An error was generated when a non-existent resource group was referenced.
User response: Check the valid resource groups using "lsrg" command. Retry the operation using correct resource group.

2621-120  Operation temporarily disallowed, as resource registration is in progress.
Explanation: Previous attempt to register for resource events failed. While daemon is retrying the registration, some functionalities is not available.
User response: Correct the registration problem, then retry the operation.

2621-121  Value of attribute SelectFromPolicy: invalid_value for managed resource is not valid.
Explanation: The value entered for attribute SelectFromPolicy is invalid.
User response: Define managed resource with a valid value for attribute SelectFromPolicy.

2621-122  SelectFromPolicy is not supported for Managed resources in the current active version of the cluster.
Explanation: The cluster is in co-existence or migration mode. The current active version does not support the SelectFromPolicy feature for managed resources.
User response: Retry after migration is completed.

2621-123  Subscription is not supported for Managed Resource in the current active version of the cluster.
Explanation: The cluster is in co-existence or migration mode. The current active version does not support the Subscription attribute for Managed Resource.
User response: Retry after migration is completed.

2621-150  Managed relationship has a source resource that is not a managed resource.
Explanation: An error was detected when a non-managed resource was used as the source of a managed relationship. The source must be a managed resource.
User response: Correct the problem, and retry the operation.

2621-151  Managed relationship has a target resource that is not valid.
Explanation: An error was generated as an invalid or non-existent resource was used as the target of a managed relationship.
User response: Correct the problem and retry the operation.

2621-152  Managed relationship name "relationship_name" already defined.
Explanation: A managed relationship with this name was already defined.
User response: Use an unique name and retry the operation.

2621-153  Managed relationship target specified more than once.
Explanation: An error was generated as a resource was used more than once as the target of a managed relationship.
User response: Correct the problem and retry the operation.
2621-154  Managed relationship has an invalid value 0 for attribute - Relationship.
Explanation: A new managed relationship was being defined with no (NONE) relationship value.
User response: Define managed relationship with a valid value for relationship.

2621-155  Managed relationship source defined as target resource.
Explanation: An error condition was detected. A managed relationship’s source and target can not be the same.
User response: Remove source resource from the target, and retry the operation.

2621-156  Managed relationship conflicts with a previously defined relationship.
Explanation: A new relationship was defined which conflicts with a previously defined location sensitive or order sensitive relation.
User response: Remove the conflict and retry the operation.

2621-157  Managed relationship duplicates a previously defined relationship.
Explanation: An error was generated due to re-definition of a relationship.
User response: Define only one instance of a relationship.

2621-158  Managed relationship has a source or target that is not of an allowed class.
Explanation: The resource from this class can’t be the source or target of the defined relationship.
User response: Correct the source or target resource and retry the operation.

2621-159  Managed relationship is not consistent with source’s resource group member location.
Explanation: A conflict was detected in location association of the relationship.
User response: Check the source’s MemberLocation attribute and correct the problem.

2621-160  Managed relationship introduces circular relationship from a resource back to itself.
Explanation: For StartAfter or DependsOn, or DependsOnAny relationship, a circular dependency was detected which may create a deadlock.
User response: Remove the circular dependency and retry the operation.

2621-161  Specified Relationship attribute for Managed relationship is not supported by current active version of the cluster.
Explanation: The cluster is in co-existence or migration mode. The current active version does not support the specified relationship attribute.
User response: Retry after migration is completed.

2621-162  Managed relationship could/cannot be created because the specified target resource "target resource name" is an empty resource group.
Explanation: Empty resource groups can’t be a target of the defined relationship.
User response: Add members to resource group and retry the operation.
**2621-200**  
**Equivalency name** "equivalency_name" **already defined.**

**Explanation:** An equivalency with this name was already defined.

**User response:** Use an unique name and retry the operation.

---

**2621-201**  
**Equivalency membership must either be explicitly enumerated or specified with a select string.**

**Explanation:** An error was generated while both a select string and an enumerated set of resource handles are used to define equivalency membership.

**User response:** Use either enumeration or select string (not both) and retry the operation.

---

**2621-202**  
**Equivalency has an invalid select string.**

**Explanation:** User entered an invalid select string.

**User response:** Correct the problem, especially check the attribute name and value. Retry the operation.

---

**2621-203**  
**Equivalency has an invalid member.**

**Explanation:** An error condition was detected as an equivalency member was found which was either a managed resource or did not belong to the same class as other members.

**User response:** Correct the problem and retry the operation.

---

**2621-204**  
**Equivalency of nodes has invalid member.**

**Explanation:** A node in an equivalency do not belong to IBM.PeerNode class.

**User response:** Correct the problem and retry the operation.

---

**2621-205**  
**Equivalency has members belonging to different resource classes.**

**Explanation:** An error was detected in an equivalency members. Resources within the equivalency are from different classes. All resources within the an equivalency must be from the same class.

**User response:** Correct the problem and retry the operation.

---

**2621-206**  
**Equivalency membership has a duplicated resource handle** "resource_handle".

**Explanation:** Two members of an equivalency has the same resource handle.

**User response:** Remove one and then retry the operation.

---

**2621-207**  
**Equivalency membership has resource handles containing multiple class ids** (class_id1 and class_id2).

**Explanation:** An error was generated while defining an equivalency. Two resource members within the equivalency are from different classes. All resources within the an equivalency must be from the same class.

**User response:** Correct the problem and retry the operation.

---

**2621-208**  
**Equivalency need to specify both select string and a valid resource class name.**

**Explanation:** An error was generated while an invalid resource class name was used with the dynamic select string.

**User response:** Correct the class name and retry the operation.

---

**2621-209**  
**Can not find resource class information for equivalency** "equivalency_name".

**Explanation:** An error was generated while enumerating the class information for the member class.

**User response:** This may be an internal error, report to your software service organization.
2621-210  Resource class "resource_class_name" is invalid for equivalency.
Explanation: A resource from this class is not valid for this equivalency. Class id may be different from other members.
User response: Use the resources from the same class to correct the problem.

2621-211  Resource class may not be changed in an equivalency without replacing the members.
Explanation: An error was generated while user was trying to change the MemberClass attribute value of an equivalency which has members (may be from a different class).
User response: Remove the members before changing the MemberClass.

2621-212  ManagedResource "equivalency_name" can not be a member of an Equivalency.
Explanation: An error was generated as a managed resource was placed as a member of this equivalency.
User response: Add only the resources that are not member of any resource group.

2621-213  A ManagedResource referenced as an AllowedNode may not change its class.
Explanation: Error was detected as class of a managed resource referenced as an AllowedNode was changed.
User response: Remove the error condition and retry.

2621-214  Resource class may not be changed for an equivalency if there are members.
Explanation: An error was generated while user was trying to change the MemberClass attribute value of an equivalency which has members (may be from a different class).
User response: Remove the members before changing the MemberClass.

2621-215  A selection Policy other than ANY is invalid with a selection string.
Explanation: An error was generated while parsing an equivalency definition with selection string where the selection policy was not ANY.
User response: Change the selection policy to ANY and retry the operation.

2621-216  Minimum value must between 1 and 100.
Explanation: An error was generated while an invalid MinimumNecessary attribute value was entered by the user.
User response: Use a valid value from 1 - 100 and retry the command.

2621-217  Equivalency contains no member resource
Explanation: This error message indicates that an IBM.Equivalency resource is defined with a NULL select string, and an empty membership list.
User response: Define an equivalency with either a select string or a non-empty membership list

2621-218  Floating resource with resource handle "resource_handle" can not be a member of Equivalency "Equivalency_name".
Explanation: Floating resources are not allowed to be a member of an equivalency.
User response: Add only fixed or constituents resources as members of equivalencies.
Subscription is not supported for Equivalency in the current active version of the cluster.
Explanation: The cluster is in co-existence or migration mode. The current active version does not support the Subscription attribute for Equivalency.
User response: Retry after migration is completed.

Node specified by resource handles for excluded nodes could not be found.
Explanation: The excluded nodes contains one or more nodes that are not defined in IBM.PeerNode resource class.
User response: Correct the problem and retry the operation.

Input to the "class_action_name" action is not valid.
Explanation: A class action activation request is received which contains structured data with invalid elements.
User response: Correct the problem and retry the operation.

attribute "invalid_value" has an invalid or out of range value.
Explanation: During the process of attempting to add or change attribute values, it was discovered that the value is either invalid or out of range.
User response: Correct the problem and retry the operation.

The automation engine is not initialized.
Explanation: The decision engine is not initialized.
User response: Wait for five minutes and retry the operation. If problem continues, report to IBM service organization.

Invalid action, RecoveryRM is not in ReplaceConfig mode.
Explanation: An invalid restore configuration option entered.
User response: Correct the problem and retry the operation.

Feature not enabled, RecoveryRM is either running in down graded or migration mode.
Explanation: A feature option that can not be activated is entered.
User response: Complete migration to an appropriate version level.

Input to the 'CompleteMigration' action is not valid. Our IVN is incompatible to this NewActiveVersion: "active_version"
Explanation: The NewActiveVersion release name is incompatible to the current installed RecoveryRM daemon version.
User response: Correct the problem and retry the operation.

Input to the 'CompleteMigration' action is not valid. The range of NewActiveVersion is between version "1.1.0" and version "256.256.256.256" - "version"
Explanation: The value of the NewActiveVersion release name is invalid. It needs to be within the range of "1.1.0" and "256.256.256.256".
User response: Correct the problem and retry the operation.
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<tr>
<td>2621-308</td>
<td>Input to the &quot;CompleteMigration&quot; action is not valid. NewActiveVersion (&quot;new_active_version&quot;) cannot be higher than IVN (&quot;installed_version&quot;) or lower than current AVN (&quot;%.3$s current_active_version&quot;).</td>
<td>The value of the NewActiveVersion release name is invalid. It cannot lower than the current active version number or higher than installed version number.</td>
<td>Correct the problem and retry the operation.</td>
</tr>
<tr>
<td>2621-309</td>
<td>Command not allowed as daemon does not have a valid license.</td>
<td>The command being issued is not allowed to run on this daemon as a valid license is not installed.</td>
<td>Install a valid license and retry the operation.</td>
</tr>
<tr>
<td>2621-310</td>
<td>Cannot perform the &quot;CompleteMigration&quot; action. Current joined RecoveryRM daemon member count (daemon_member_count) is different than the total node count (total_node_count). Use force option (&quot;-f&quot;) to override.</td>
<td>Since not all the RecoveryRM daemons are up and running, we cannot start the migration complete action.</td>
<td>Make sure that all the RecoveryRM daemons are up and running or use the force option (&quot;-f&quot;) to start the migration complete action.</td>
</tr>
<tr>
<td>2621-311</td>
<td>Publisher is not supported in the current active version of the cluster.</td>
<td>The cluster is in co-existence or migration mode. The current active version does not support the Publisher feature.</td>
<td>Retry after migration is completed.</td>
</tr>
<tr>
<td>2621-312</td>
<td>License file &quot;license_file_name&quot; does not exist.</td>
<td>The license file to be installed does not exist.</td>
<td>Find the correct location of the license file to be installed, and retry the operation.</td>
</tr>
<tr>
<td>2621-313</td>
<td>Configuration command not allowed - daemon is in replace configuration mode.</td>
<td>The command being issued is not allowed in replace configuration mode.</td>
<td>Wait for the completion of replace configuration action.</td>
</tr>
<tr>
<td>2621-314</td>
<td>Input to the &quot;CompleteMigration&quot; action is not valid. Current RSCT active version number is incompatible to this NewActiveVersion: &quot;version&quot;</td>
<td>The current RSCT active version number is incompatible to the selected new RecoveryRM daemon active version number.</td>
<td>Correct the problem and retry the operation.</td>
</tr>
<tr>
<td>2621-315</td>
<td>attribute &quot;attribute_name&quot; has an invalid value &quot;invalid_value&quot;.</td>
<td>During the process of attempting to add or change attribute values, it was discovered that the specified value is invalid or out of range.</td>
<td>Correct the problem and retry the operation.</td>
</tr>
<tr>
<td>2621-316</td>
<td>IBM.RecoveryRM publisher configuration file &quot;file_name&quot; not found.</td>
<td>IBM.RecoveryRM publisher configuration file not found. This publisher cannot be enabled.</td>
<td>Fix the problem with the publisher configuration files and enable this publisher by using the &quot;samctrl -e &lt;publisher&gt;&quot; command.</td>
</tr>
</tbody>
</table>

Reference
IBM.RecoveryRM publisher configuration file "file_name" syntax error in line number line_number.

Explanation: IBM.RecoveryRM publisher configuration file syntax error. This publisher cannot be enabled.

User response: Fix the problem with the publisher configuration files and enable this publisher by using the \samctrl -e <publisher>\ command.

IBM.RecoveryRM publisher configuration file not found. The specified configuration file
"ConfigPath=config_file" is not valid in the publisher configuration file "file_name" for the publisher
name "publisher_name".

Explanation: IBM.RecoveryRM publisher configuration file not found. This publisher cannot be enabled.

User response: Fix the problem with the publisher configuration files and enable this publisher by using the \samctrl -e <publisher>\ command.

IBM.RecoveryRM publisher configuration file syntax error. Parameter "parameter" not found in
publisher configuration file "file_name" for the publisher name "publisher_name".

Explanation: IBM.RecoveryRM publisher configuration file syntax error. This publisher cannot be enabled.

User response: Fix the problem with the publisher configuration files and enable this publisher by using the \samctrl -e <publisher>\ command.

IBM.RecoveryRM publisher configuration file syntax error. Same publisher name found multiple
times in publisher configuration file "file_name" with the publisher name "publisher_name".

Explanation: IBM.RecoveryRM publisher configuration file syntax error. This publisher cannot be enabled.

User response: Fix the problem with the publisher configuration files and enable this publisher by using the \samctrl -e <publisher>\ command.

IBM.RecoveryRM publisher configuration file syntax error. Too many publishers found in publisher
configuration file "file_name". A maximum (number) of max_number_publishers publishers is
supported.

Explanation: IBM.RecoveryRM publisher configuration file syntax error. This publisher cannot be enabled.

User response: Fix the problem with the publisher configuration files and enable this publisher by using the \samctrl -e <publisher>\ command.

The command \samctrl -e l -d <publisher>\" failed on the master node. Ensure that all publisher
configuration files have the same content on all nodes. The syslog on the master node may contain
more details. detailed_msg

Explanation: During the process of attempting to add or change a publisher, it was discovered that the specified
publisher name cannot be set.

User response: Correct the problem and retry the operation.

IBM.RecoveryRM publisher configuration file "file_name" does not contain publisher name
"publisher_name".

Explanation: IBM.RecoveryRM publisher not found. This publisher cannot be enabled.

User response: Fix the problem with the publisher configuration files and enable this publisher by using the \samctrl -e <publisher>\ command.

IBM.RecoveryRM publisher configuration file syntax error. Publisher name does not follow syntax
rules in publisher configuration file "file_name" for the publisher name "publisher_name". Publisher
name length: 1-8, Publisher name valid characters: "0"-"9", "A"-"Z", "a"-"z" and "."

Explanation: IBM.RecoveryRM publisher configuration file syntax error. This publisher cannot be enabled.
2621-325 - 2621-406

**User response:** Fix the problem with the publisher configuration files and enable this publisher by using the \`samctrl -e <publisher>\` command.

---

**2621-325** IBM.RecoveryRM publisher configuration file "file_name" does not contain a valid publisher name.

**Explanation:** IBM.RecoveryRM publisher not found. This publisher cannot be enabled.

**User response:** Fix the problem with the publisher configuration files and enable this publisher by using the \`samctrl -e <publisher>\` command.

---

**2621-326** IBM.RecoveryRM publisher "publisher_name" already enabled.

**Explanation:** Disable publisher before enabling it again.

**User response:** Disable one publisher by using the \`samctrl -d <publisher>\` command.

---

**2621-400** Resource manager asynchronous error. Error Id "error_id"

**Explanation:** An asynchronous error has been detected.

**User response:** Check if the resource manager has been restarted.

---

**2621-401** IBM.RecoveryRM daemon exiting - cluster is running in IW mode.

**Explanation:** IW mode is not supported - invoked stopsam IW Mode.

**User response:** Use mkrpdomain and startrpdomain commands to define and start a cluster.

---

**2621-402** IBM.RecoveryRM daemon stopped by SRC command or exiting due to an error condition. Error Id "error_id".

**Explanation:** An error has been detected and daemon stopped by a SRC command.

**User response:** Check the error code.

---

**2621-403** Internal error - GS_JOIN_RETRY_COUNT exceeded limit. GS_JOIN_RETRY_COUNT "gs_join_retry_count".

**Explanation:** Unsuccessful retries to join.

**User response:** Restart the daemon if not already restarted by SRC.

---

**2621-404** Internal error - Group Services(GS) has died abruptly.

**Explanation:** Internal error.

**User response:** Restart the daemon if not already restarted by SRC.

---

**2621-405** IBM.RecoveryRM group has been dissolved.

**Explanation:** Internal error.

**User response:** Restart the daemon if not already restarted by SRC.

---

**2621-406** Received an EXPEL-PROTOCOL, stopping IBM.RecoveryRM daemon.

**Explanation:** Internal error.

**User response:** Restart the daemon if not already restarted by SRC.
### 2621-407
Received an RC_NOGO return code from RIBM. There may be a configuration error. Internal error message was: "error_message".

**Explanation:** Internal error.

**User response:** Check the configuration.

### 2621-408
IBM.RecoveryRM daemon is exiting. Exit reason: Our install version (IVN) is incompatible to the current active version (AVN).

**Explanation:** Incompatible product.

**User response:** Reinstall the correct version of RecoveryRM daemon.

### 2621-409
IBM.RecoveryRM daemon is exiting. Exit reason: Our install version (IVN) is lower than the current active version (AVN).

**Explanation:** Incompatible product.

**User response:** Reinstall the correct version of RecoveryRM daemon.

### 2621-410
IBM.RecoveryRM daemon is exiting. Exit reason: Our local registry active version (AVN) is higher than our install version (IVN).

**Explanation:** Incompatible product.

**User response:** Reinstall the correct version of RecoveryRM daemon.

### 2621-411
IBM.RecoveryRM daemon is exiting. Exit reason: Our local registry active version (AVN) is higher than group state value (GAVN).

**Explanation:** Incompatible product.

**User response:** Reinstall the correct version of RecoveryRM daemon.

### 2621-500
IBM.RecoveryRM publisher configuration file syntax error. Publisher configuration file name: "file_name".

**Explanation:** The publisher is disabled.

**User response:** Fix the problem with the publisher configuration files and enable this publisher by using the `\samctrl -e <publisher>\` command.

### 2621-501
IBM.RecoveryRM publisher configuration file not found. Publisher configuration file name: "file_name".

**Explanation:** The publisher is disabled.

**User response:** Fix the problem with the publisher configuration files and enable this publisher by using the `\samctrl -e <publisher>\` command.

### 2621-502
IBM.RecoveryRM publisher shared library load error. Publisher configuration file name: "file_name".

**Explanation:** The publisher is disabled.

**User response:** Fix the problem with the publisher configuration files and enable this publisher by using the `\samctrl -e <publisher>\` command.

### 2621-503
IBM.RecoveryRM publisher configuration problem. Publisher configuration file name: "file_name".

**Explanation:** The publisher is disabled.

**User response:** Fix the problem with the publisher configuration files and enable this publisher by using the `\samctrl -e <publisher>\` command.
2621-504  IBM.RecoveryRM publisher configuration file not found. Publisher configuration file name: "file_name".

Explanation: The publisher is disabled.

User response: Fix the problem with the publisher configuration files and enable this publisher by using the "samctrl -e <publisher>" command.

2621-505  IBM.RecoveryRM publisher configuration causes problems and all publishers will be disabled when the IBM.RecoveryRM restarts. Fix the problem with the publisher configuration files and enable the publishers by using the "samctrl -e <publisher>" command.

Explanation: All publishers will be disabled when the IBM.RecoveryRM restarts.

User response: Fix the problem with the publisher configuration files and enable the publishers by using the "samctrl -e <publisher>" command.

2621-750  SA event with unknown reason in domain "domain_name".

Explanation: An unknown problem was reported.

User response: Analyze the event details and contact IBM support.

2621-751  SA detected status change for domain "domain_name".

Explanation: The session state for this automation domain has changed, or the quorum state for this automation domain has changed.

User response:

2621-753  SA automation manager started successfully in domain "domain_name".

Explanation: The automation manager started.

User response:

2621-754  SA automation manager stopped successfully in domain "domain_name".

Explanation: The automation manager stopped.

User response: Verify that the automation manager is intended to be stopped.

2621-755  SA detected a configuration policy refresh in domain "domain_name".

Explanation: A new policy has been activated for this automation domain.

User response: Verify that the action is intended for this automation domain.

2621-756  SA detected a new configuration in domain "domain_name".

Explanation: A new resource, relationship or request was created.

User response:
<table>
<thead>
<tr>
<th>Code</th>
<th>Message Description</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>2621-758</td>
<td>SA detected a deleted configuration in domain &quot;domain_name&quot;.</td>
<td>A resource, relationship or request was deleted.</td>
<td></td>
</tr>
<tr>
<td>2621-759</td>
<td>SA detected a status change of resource &quot;resource_name&quot; in domain &quot;domain_name&quot;.</td>
<td>The common observed, desired, operational or compound state changed.</td>
<td></td>
</tr>
<tr>
<td>2621-760</td>
<td>SA enabled the publisher &quot;publisher_name&quot; in domain &quot;domain_name&quot;.</td>
<td>The publisher started.</td>
<td></td>
</tr>
<tr>
<td>2621-761</td>
<td>SA disabled the publisher &quot;publisher_name&quot; in domain &quot;domain_name&quot;.</td>
<td>The publisher stopped.</td>
<td></td>
</tr>
<tr>
<td>2621-770</td>
<td>SA started automation operation for resource group &quot;resource_name&quot; in domain &quot;domain_name&quot;.</td>
<td>This resource will be started or stopped under control of System Automation.</td>
<td></td>
</tr>
<tr>
<td>2621-771</td>
<td>SA completed automation operation for resource group &quot;resource_name&quot; in domain &quot;domain_name&quot;.</td>
<td>This resource was successfully started or stopped under control of System Automation.</td>
<td></td>
</tr>
<tr>
<td>2621-772</td>
<td>SA detected that the system &quot;system_name&quot; switched into maintenance mode by an operator command in domain &quot;domain_name&quot;.</td>
<td>The resources defined on this system are no longer under control of System Automation.</td>
<td></td>
</tr>
<tr>
<td>2621-773</td>
<td>SA detected that the system &quot;system_name&quot; switched back to automation mode by an operator command in domain &quot;domain_name&quot;.</td>
<td>The resources defined on this system are now under control of System Automation.</td>
<td></td>
</tr>
<tr>
<td>2621-775</td>
<td>SA suspended automation for resource &quot;resource_name&quot; in domain &quot;domain_name&quot;.</td>
<td>An operator requested suspending automation for this resource.</td>
<td></td>
</tr>
<tr>
<td>2621-776</td>
<td>SA resumed automation for resource &quot;resource_name&quot; in domain &quot;domain_name&quot;.</td>
<td>An operator requested resuming automation for this resource.</td>
<td></td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Explanation</td>
<td>User response</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2621-778</td>
<td>SA set the resource &quot;resource_name&quot; online as requested in domain &quot;domain_name&quot;.</td>
<td>System Automation has set the resource online successfully.</td>
<td></td>
</tr>
<tr>
<td>2621-779</td>
<td>SA set the resource &quot;resource_name&quot; offline as requested in domain &quot;domain_name&quot;.</td>
<td>System Automation has set the resource offline successfully.</td>
<td></td>
</tr>
<tr>
<td>2621-780</td>
<td>SA detected that the system &quot;system_name&quot; joined the domain &quot;domain_name&quot;.</td>
<td>A system joined the cluster.</td>
<td></td>
</tr>
<tr>
<td>2621-781</td>
<td>SA detected that the system &quot;system_name&quot; left the domain &quot;domain_name&quot;.</td>
<td>A system left the cluster.</td>
<td>Verify that this system is intended to leave the cluster.</td>
</tr>
<tr>
<td>2621-784</td>
<td>SA detected a warning in domain &quot;domain_name&quot;. The resource &quot;resource_name&quot; has been degraded.</td>
<td>The resource has been degraded.</td>
<td>Inspect the individual status fields of this resource.</td>
</tr>
<tr>
<td>2621-785</td>
<td>SA detected a warning in domain &quot;domain_name&quot;. The resource &quot;resource_name&quot; has a performance problem.</td>
<td>The resource has a performance problem.</td>
<td></td>
</tr>
<tr>
<td>2621-786</td>
<td>SA detected a warning in domain &quot;domain_name&quot;. The resource &quot;resource_name&quot; has problems caused by a dependency to another resource.</td>
<td>An automation operation on the specified resource cannot be performed because it depends on another resource which prevents the operation.</td>
<td>Inspect the status of the resources on which the specified resource depends.</td>
</tr>
<tr>
<td>2621-788</td>
<td>SA detected a problem in domain &quot;domain_name&quot;. No online system found to start resource &quot;resource_name&quot; based on the configuration.</td>
<td>No online system found to start the resource based on the configuration.</td>
<td></td>
</tr>
<tr>
<td>2621-789</td>
<td>SA detected a problem in domain &quot;domain_name&quot;. The resource &quot;resource_name&quot; cannot be set to the requested state.</td>
<td>An automation operation on the specified resource cannot be performed.</td>
<td>Inspect the individual status fields of this resource.</td>
</tr>
<tr>
<td>Code</td>
<td>Message</td>
<td>Explanation</td>
<td>User response</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2621-790</td>
<td>SA detected a problem in domain &quot;domain_name&quot;. The resource &quot;resource_name&quot; needs a manual reset by the operator.</td>
<td>An automation operation on the specified resource cannot be performed.</td>
<td>Fix the configuration of this resource and reset the automation resource.</td>
</tr>
<tr>
<td>2621-791</td>
<td>SA detected a problem in domain &quot;domain_name&quot;. The resource &quot;resource_name&quot; has problems caused by a offline system.</td>
<td>The resource has problems caused by a offline system.</td>
<td>Inspect the system status of this resource.</td>
</tr>
<tr>
<td>2621-792</td>
<td>SA detected a problem in domain &quot;domain_name&quot;. The operational quorum is lost.</td>
<td>The operational quorum is lost.</td>
<td>Inspect the cluster status.</td>
</tr>
<tr>
<td>2621-793</td>
<td>Node &quot;node_name&quot; cannot be made offline. System Automation Manager reports that there are resources online on this node.</td>
<td>Stopping system automation on this node is prevented because of running resources.</td>
<td>There are resources online on this node, that must be stopped prior to stopping the system automation.</td>
</tr>
<tr>
<td>2621-794</td>
<td>Node can be made offline.</td>
<td>Stopping system automation is not prevented on this node.</td>
<td>There are no controllable resources online on this node.</td>
</tr>
<tr>
<td>2622-001</td>
<td>program_name: 2622-001 Not a recognized flag: flag.</td>
<td>The flag or combination of flags passed to &lt;program_name&gt; was either an unsupported flag or an invalid combination of flags.</td>
<td>Refer to the Usage statement which lists the valid flag. Correct the command and re-enter.</td>
</tr>
<tr>
<td>2622-002</td>
<td>program_name: 2622-002 Flag &quot;flag&quot; is not allowed with the unsupported operand &quot;operand&quot;.</td>
<td>The operand passed with the flag was an unsupported or invalid operand or combination of operands.</td>
<td>Refer to the Usage statement which lists the valid operand. Correct the command and re-enter.</td>
</tr>
<tr>
<td>2622-003</td>
<td>program_name: 2622-003 The combination of flags &quot;flag&quot; and &quot;flag or operand&quot; is not allowed.</td>
<td>The combination of the specified flags or flag and operand is not allowed.</td>
<td>Either choose a different flag or do not enter the operand. Refer to the Usage statement which lists the valid valid flag, operands, and flag operand combinations.</td>
</tr>
<tr>
<td>2622-004</td>
<td>program_name: 2622-004 The &quot;flag&quot; flag is required.</td>
<td>The indicated flag must be specified when using this command.</td>
<td>Check the command syntax and issue the command again.</td>
</tr>
</tbody>
</table>
2622-005  program_name: 2622-005 The "flag" flag requires an operand.
Explanation: The indicated flag must be specified with an operand when using this command.
User response: Check the command syntax and issue the command again.

2622-006  program_name: 2622-006 There are no resource groups defined.
Explanation: There were no Resources Groups.
User response: Add Resources Groups.

2622-007  program_name: 2622-007 There are no member resources defined.
Explanation: There were no member Resources.
User response: Add member resources to groups.

2622-008  program_name: 2622-008 Not a valid number of operands.
Explanation: <program_name> was called with an invalid number of operands.
User response: Refer to the Usage statement which lists the valid operand. Correct the command and re-enter.

2622-009  program_name: 2622-009 An unexpected RMC error occurred. The RMC return code was rmc_return_code.
Explanation: A call to an RMC CLI script returned an unexpected error.
User response: Check to see if RMC is operational and retry the command.

2622-010  program_name: 2622-010 error_exit received an unexpected return code return_code.
Explanation: All SAM return codes should be converted to an appropriate SAM CLI (command line interface) return code. The actual API return code or other internal subroutine return code is printed. It is treated as a severe error and processing of the command stops.
User response: This is an internal script error and should not occur. Report the command name, and this message to the IBM Support Center at your convenience.

2622-011  program_name: 2622-011 The specified selection string "selection_string" did not match any resource groups.
Explanation: The specified selection string did not match any resource groups.
User response: Check the selection string and issue the command again.

2622-012  program_name: 2622-012 The resource group "resource_group" already exists.
Explanation: The resource group specified already exists.
User response: Check the resource group name and issue the command again.

2622-013  program_name: 2622-013 The resource group "resource_group" does not exist.
Explanation: The specified resource group name does not exist.
User response: Check the resource group name and issue the command again.
<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2622-014</td>
<td>The resource &quot;resource_name&quot; not found in the class &quot;resource_class&quot;.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The resource specified does not belong in the specified class.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Check the resource and class name combination and issue the command again.</td>
</tr>
<tr>
<td>2622-015</td>
<td>None of the resources with the specified types exists in their respective classes.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>All the resources specified were not found in their respective classes</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Make sure the resources with the specified types are part of their classes and then re-enter command.</td>
</tr>
<tr>
<td>2622-016</td>
<td>No resources were found with the selection string &quot;selection_string&quot; from the class &quot;resource_class&quot;.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>No resources were found using the specified selection string.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Check the class name and selection string combination and then issue the command again.</td>
</tr>
<tr>
<td>2622-017</td>
<td>Resource &quot;resource&quot; already exists as a Member of Group &quot;resource_group&quot;.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>Resource already exist as a member resource.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>No action required.</td>
</tr>
<tr>
<td>2622-018</td>
<td>Resource &quot;resource&quot; is not a member resource of Resource Group &quot;resource_group&quot;.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>Resource is not a member resource of the specified resource group.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>May be required to add this resource to the specified resource group.</td>
</tr>
<tr>
<td>2622-019</td>
<td>All of the specified resources are already managed resources.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>All member resources already exist as a managed Resource.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>No action required.</td>
</tr>
<tr>
<td>2622-020</td>
<td>None of the resources specified are member resources of resource group &quot;resource_group&quot;.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>All member resources don’t exist for the specified resource group.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Add these resources as member resources.</td>
</tr>
<tr>
<td>2622-021</td>
<td>Multiple entries of the flag flag not allowed.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>User had entered the same flag with operands more than once.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Re-enter the command with only one occurrence of the concerned flag.</td>
</tr>
<tr>
<td>2622-022</td>
<td>None of the resources specified are managed resources.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>None of the resources specified exist as managed resources.</td>
</tr>
<tr>
<td><strong>User Response:</strong></td>
<td>Check resources and re-enter with valid resources.</td>
</tr>
</tbody>
</table>
**2622-023**  *2622-023* Resource "resource" is not a managed resource.

**Explanation:** Specified resource is not a managed resource.

**User response:** Check Resources and re-enter with valid resources.

**2622-024**  *2622-024* Either flag "flag1" or "flag2" or "flag3" is required with the -N flag.

**Explanation:** One the three flags are required when using current flag.

**User response:** Add the required flags to the command and try again.

**2622-025**  *2622-025* The specified source resource "source_resource" does not exist.

**Explanation:** The specified source resource name does not exist in the specified class.

**User response:** Check the resource name and class name combination and then issue the command again.

**2622-026**  *2622-026* The specified source selection string "source_string" did not match any resource.

**Explanation:** The specified source selection string did not match any resource in the specified class.

**User response:** Check the selection string or class name combination and then issue the command again.

**2622-027**  *2622-027* More than one relations were found with the same name "source_resource".

**Explanation:** More than one relations was returned for the source when the operation only requires one relationship.

**User response:** Make the query more specific and issue the command again.

**2622-028**  *2622-028* Name change not allowed for more than one relations that matched from "query".

**Explanation:** The selection string or query returned more than one source resource. Relation name has to be unique.

**User response:** Check the selection string or query and issue the command again.

**2622-029**  *2622-029* The specified equivalency "equivalency" already exists.

**Explanation:** Specified equivalency already exists.

**User response:** Re-enter the command with an equivalency name that does not already exist.

**2622-030**  *2622-030* The specified equivalency "equivalency" does not exist.

**Explanation:** Specified equivalency does not exist.

**User response:** Make sure the equivalency name already exist, re-issue the command.

**2622-031**  *2622-031* The node "node_name" does not exist in the cluster.

**Explanation:** The node specified does not belong in the cluster.

**User response:** Check the node name and issue the command again.

**2622-032**  *2622-032* Resource "resource_name" of resource class "class_name" is not from the allowed nodes for resource group "Resource_group_name".

**Explanation:** Member resource is not from the allowed nodes for the new resource group.

**User response:** Member resources must be part of the allowed node list of resource group.
2622-033: Resource Group "resource_group" has no member resources.
Explanation: The specified resource group name does not contain any member resources.
User response: Check the resource group name and issue the command again.

2622-034: No resource groups were found that matched the specified query.
Explanation: No existing resource groups matched the specified query.
User response: Check the resource group name and issue the command again.

2622-035: No member resources were found that matched the specified query.
Explanation: No existing member resources matched the specified query.
User response: Check the selection string or resource group name and issue the command again.

2622-036: Display the error message from lsrsrc-api.
Explanation: SAM command line interface user Error.
User response: Check the error message for appropriate action.

2622-037: Invalid user error. The return code was return Code
Explanation: SAM command line interface user Error.
User response: Check the error message for appropriate action.

2622-038: No resources were found. The return code was return Code
Explanation: No resources were found.
User response: Check the error message for appropriate action.

2622-039: No resources were specified for class class_name
Explanation: No resources were specified for the class in the command line.
User response: Repeat the command with resources associated with the specified class.

2622-040: Multiple resources of the same type were matched for resource "resource_name" from class "resource_class"
Explanation: Multiple resources of the same resource type were found for the specified resource.
User response: Make sure only one resource is matched with same Type and then re-enter the command.

2622-901: Attributes and Arguments are mismatched.
Explanation: Arguments are missing for some of the attributes in the input file.
User response: Repeat the command by updating the input file.

2622-902: Do not specify attribute attribute when defining resource resource_class row: row.
Explanation: Arguments are missing for some of the attributes in the input file.
User response: Repeat the command by updating the input file.
2622-903  •  2622-911

2622-903  program_name: 2622-903 Error processing attribute attribute_name value "attribute_value".
Explanation:  The value for this particular attribute is not valid. See the preceding error message for additional details.
User response:  Verify the data type for this particular attribute using the lsrcrdef command. Verify and correctly specify the value so that it is appropriate for this data type. For example, if the data type is an array, the values must be enclosed within curly braces { }. See the appropriate command man page and the man page for the Resource Data Input File for valid syntax values.

2622-904  program_name: 2622-904 Required argument argument_name argument_name (SD element name) for resource resource_class name of the resource class must be specified.
Explanation:  The specified command arguments for this resource class and this command must be specified.
User response:  Run lsrcrdef command to see the list of argument names and data types expected as input for this command.

2622-905  program_name: 2622-905 No resources were entered for resource class "resource_class".
Explanation:  Resources were not entered with the command for the specified class.
User response:  Enter the resources and retry the command.

2622-906  program_name: 2622-906 Failed to create some or all resources from Input file "input_file_name".
Explanation:  Failed to create some or all resources from input file for specified class.
User response:  Check the file data, correct if possible and re-run command.

2622-907  program_name: 2622-907 Fixed resource resource on node node_name is not a managed resource.
Explanation:  Specified fixed resource is not a managed resource.
User response:  Check Resources and re-enter with valid resources.

2622-908  program_name: 2622-908 Resource "resource_name" of resource class "class_name" is not from the allowed nodes for the Top resource group "Top_Resource_group_name".
Explanation:  Member resource is not from the allowed nodes for the new resource group’s top most group.
User response:  Member resources must be part of the allowed node list of resource group and its top most group.

2622-909  program_name: 2622-909 A Consumer is required for the Specified subscription "Subscription".
Explanation:  Specified Subscription is missing the consumer.
User response:  Re-enter subscription with a valid Consumer.

2622-910  program_name: 2622-910 The event family "event_family" specified with the subscription "subscription" is not supported.
Explanation:  Specified Subscription contains an invalid event family value.
User response:  Re-enter subscription with a valid event family.

2622-911  program_name: 2622-911 The event filter "event_filter" specified with the subscription "subscription" is not supported.
Explanation:  Specified Subscription contains an invalid event filter value.
User response:  Re-enter subscription with a valid event filter.
2622-061  Consumer "consumer" can be specified more than once for the same resource.
Explanation: Only one subscription per consumer is allowed to a resource.
User response: Re-enter subscription without any duplicate consumer.

2622-062  Subscription "subscription" already exist as a subscription.
Explanation: Specified subscription already exist for the specified resource.
User response: None.

2622-063  Subscription "subscription" can be found.
Explanation: Specified subscription does not exist for this resource, therefore cannot be removed.
User response: None.

2622-064  None of the subscription specified exists in the list.
Explanation: The specified subscriptions do not exist in the subscription list.
User response: Check the subscriptions and issue the command again.

2622-065  All the Subscriptions specified already exists in the list.
Explanation: All the specified subscriptions already exist in the subscription list.
User response: Check the subscription names and issue the command again.

2622-066  When specifying an equivalency select-from policy, the combination of values options is not allowed.
Explanation: The combination of the specified option is not allowed.
User response: Either choose a different option or do not enter the operand. Refer to the Usage statement which lists the valid valid flag, operands, and flag operand combinations.

2622-067  When specifying an equivalency select-from policy, either of the values "A" or "O" is required.
Explanation: One of the specified values must be provided when specifying a select-from policy.
User response: Either choose one of the given values or do not specify a policy. Refer to the Usage statement which lists the valid valid flag, operands, and flag operand combinations.

2622-068  No resources were entered for resource class "resource_class".
Explanation: Resources were not entered with the command for the specified class.
User response: Enter the resources and retry the command.

2622-069  No selection string was entered for resource class "resource_class".
Explanation: Selection string was not entered with the command for the specified class.
User response: Enter the resources and retry the command.

2622-070  The specified resource group input file "input_file_name" does not exist.
Explanation: Specified resource file name was not found.
User response: Make sure the resource group file name exist, re-enter the command.
## 2622-062

*program_name:* 2622-062 Failed to create resource groups from the specified resource group input file "input_file_name".

**Explanation:** Failed to create resource groups from the specified resource file.

**User response:** Correct the associated error with this and, re-enter the command.

## 2622-063

*program_name:* 2622-063 None of the nodes specified exists in the cluster.

**Explanation:** The specified node names do not exist in the cluster.

**User response:** Check the node names and issue the command again.

## 2622-081

*program_name:* 2622-081 None of the specified resource groups were found or could not be removed.

**Explanation:** None of the specified resource group or selection string matched any existing resource groups or some of them just couldn’t be removed.

**User response:** Check the message that preceded this message for the actual cause, if resource groups already exist.

## 2622-082

*program_name:* 2622-082 Resource group "resource_group" does not exist or could not be removed.

**Explanation:** The specified resource group was not found or even if it was found it just couldn’t be removed.

**User response:** Check the message that preceded this message for the actual cause, if resource group already exists.

## 2622-083

*program_name:* 2622-083 Resource Groups matched by the specified selection string "selection_string" could not be removed or did not exist.

**Explanation:** The specified select string did not match any existing group or even if it was found it just couldn’t be removed.

**User response:** Check the message that preceded this message for the actual cause, if resource group already exists.

## 2622-101

*program_name:* 2622-101 Must change attributes of resource group "resource_group".

**Explanation:** At least one of the resource group attributes must be changed when using chrg command.

**User response:** Enable the appropriate options to change required attributes of resource group.

## 2622-102

*program_name:* 2622-102 Cannot change name of more than one resource group.

**Explanation:** Can only change name of one resource group at a time.

**User response:** Repeat the command with only one resource group.

## 2622-103

*program_name:* 2622-103 None of the specified resource groups were found or could not be changed.

**Explanation:** None of the specified resource group or selection string matched any existing resource groups or some of them just couldn’t be changed.

**User response:** Check the message that preceded this message for the actual cause, if resource groups already exist.

## 2622-104

*program_name:* 2622-104 Resource Group "resource_group" does not exist or could not be changed.

**Explanation:** The specified resource group was not found or even if it was found it just couldn’t be changed.

**User response:** Check the message that preceded this message for the actual cause, if resource group already exists.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2622-105</td>
<td><strong>program_name:</strong> 2622-105 Allowed node of Resource Group &quot;resource_group&quot; could not be changed to node &quot;node_name&quot;.</td>
</tr>
<tr>
<td>Explanation: The specified resource group's allowed node could not be changed to the specified node because its members are not from this node.</td>
<td></td>
</tr>
<tr>
<td>User response: Specify a node or equivalency that contains all the nodes of the resource groups members.</td>
<td></td>
</tr>
<tr>
<td>2622-106</td>
<td><strong>program_name:</strong> 2622-106 Allowed node of Resource Group &quot;resource_group&quot; could not be changed to the equivalency &quot;equiv_name&quot;.</td>
</tr>
<tr>
<td>Explanation: The specified resource group's allowed node could not be changed to the specified equivalency because its members are not from the nodes in the equivalency.</td>
<td></td>
</tr>
<tr>
<td>User response: Specify a node or equivalency that contains all the nodes of the resource groups members.</td>
<td></td>
</tr>
<tr>
<td>2622-107</td>
<td><strong>program_name:</strong> 2622-107 Allowed node of all the specified resource groups could not be changed.</td>
</tr>
<tr>
<td>Explanation: The specified resource group's allowed node could not be changed to the specified equivalency or node because its members are not from the node or nodes in the equivalency.</td>
<td></td>
</tr>
<tr>
<td>User response: Specify a node or equivalency that contains all the nodes of the resource groups members.</td>
<td></td>
</tr>
<tr>
<td>2622-108</td>
<td><strong>program_name:</strong> 2622-108 The specified node &quot;excluded_node&quot; does not exist in the list.</td>
</tr>
<tr>
<td>Explanation: The specified node name does not exist in the excluded node list.</td>
<td></td>
</tr>
<tr>
<td>User response: Check the node name and issue the command again.</td>
<td></td>
</tr>
<tr>
<td>2622-109</td>
<td><strong>program_name:</strong> 2622-109 The specified node &quot;excluded_node&quot; already exists in the list.</td>
</tr>
<tr>
<td>Explanation: The specified node name already exists in the excluded node list.</td>
<td></td>
</tr>
<tr>
<td>User response: Check the node name and issue the command again.</td>
<td></td>
</tr>
<tr>
<td>2622-110</td>
<td><strong>program_name:</strong> 2622-110 None of the nodes specified exists in the list.</td>
</tr>
<tr>
<td>Explanation: The specified node names do not exist in the excluded node list.</td>
<td></td>
</tr>
<tr>
<td>User response: Check the node names and issue the command again.</td>
<td></td>
</tr>
<tr>
<td>2622-111</td>
<td><strong>program_name:</strong> 2622-111 None of the nodes specified exists in the cluster.</td>
</tr>
<tr>
<td>Explanation: The specified node names do not exist in the cluster.</td>
<td></td>
</tr>
<tr>
<td>User response: Check the node names and issue the command again.</td>
<td></td>
</tr>
<tr>
<td>2622-112</td>
<td><strong>program_name:</strong> 2622-112 All the nodes specified already exists in the list.</td>
</tr>
<tr>
<td>Explanation: All the nodes specified nodes already exist in the excluded node list.</td>
<td></td>
</tr>
<tr>
<td>User response: Check the node names and issue the command again.</td>
<td></td>
</tr>
<tr>
<td>2622-113</td>
<td><strong>program_name:</strong> 2622-113 Too many groups were specified to change to the new ExcludedList.</td>
</tr>
<tr>
<td>Explanation: Only one group name can be specified to change the excluded node list attribute.</td>
<td></td>
</tr>
<tr>
<td>User response: Check the group name and issue the command again.</td>
<td></td>
</tr>
</tbody>
</table>
2622-121  program_name: 2622-121 No resources were entered for resource class "resource_class".
Explanation: Resources were not entered with the command for the specified class.
User response: Enter the resources and retry the command.

2622-122  program_name: 2622-122 No Selection string entered for Resource class "resource_class".
Explanation: Selection string was not entered with the command for the specified class.
User response: Enter the selection string and retry the command.

2622-123  program_name: 2622-123 None of the specified member resources are from the allowed nodes for resource group "resource_group".
Explanation: All of the specified resources are not in the allowed node list of the new resource group.
User response: Member resources must be part of the allowed node list of resource group.

2622-124  program_name: 2622-124 The specified managed resource input file "input_file_name" does not exist.
Explanation: Specified resource file name was not found.
User response: Make sure the managed resource file name exist, re-enter the command.

2622-125  program_name: 2622-125 Failed to create resources from the specified managed resource input file "input_file_name".
Explanation: Failed to create resources from the specified resource file.
User response: Correct the associated error with this and, re-enter the command.

2622-126  program_name: 2622-126 None of the nodes specified exists in the cluster.
Explanation: The specified node names do not exist in the cluster.
User response: Check the node names and issue the command again.

2622-127  program_name: 2622-127 Fixed resource "resource_name" is not allowed to have an ExcludedList.
Explanation: The specified fixed resource can not be moved, therefore point less to carry an ExcludedList.
User response: Add all the fixed resources without an ExcludedList.

2622-128  program_name: 2622-128 None of the specified managed resources were created.
Explanation: None of the specified managed resources were created because they were fixed resources.
User response: Add all the fixed resources without an ExcludedList or Policy.

2622-141  program_name: 2622-141 No resources were entered for resource class "resource_class".
Explanation: Resources were not entered with the command for the specified class.
User response: Enter the resources and retry the command.

2622-142  program_name: 2622-142 No selection string was entered for resource class "resource_class".
Explanation: Selection string was not entered with the command for the specified class.
User response: Enter the resources and retry the command.
2622-161  program_name: 2622-161 Must change attributes of member resources.
Explanation: At least one of the member resource attributes must be changed when using chrgmbr command.
User response: Enable the appropriate options to change required attributes of resource group.

2622-162  program_name: 2622-162 No resources were entered for resource class "resource_class".
Explanation: Resources were not entered with the command for the specified class.
User response: Enter the resources and retry the command.

2622-163  program_name: 2622-163 No selection string was entered for Resource class "resource_class".
Explanation: Selection string was not entered with the command for the specified class.
User response: Enter the resources and retry the command.

2622-164  program_name: 2622-164 None of the specified member resources are from the allowed nodes for resource group "resource_group".
Explanation: All of the specified resources are not in the allowed node list of the new resource group.
User response: Member resources must be part of the allowed node list of resource group.

2622-165  program_name: 2622-165 The specified node "excluded_node" does not exist in the list.
Explanation: The specified node name does not exist in the excluded node list.
User response: Check the node name and issue the command again.

2622-166  program_name: 2622-166 The specified node "excluded_node" already exists in the list.
Explanation: The specified node name already exists in the excluded node list.
User response: Check the node name and issue the command again.

2622-167  program_name: 2622-167 None of the nodes specified exists in the list.
Explanation: The specified node names do not exist in the excluded node list.
User response: Check the node names and issue the command again.

2622-168  program_name: 2622-168 None of the nodes specified exists in the cluster.
Explanation: The specified node names do not exist in the cluster.
User response: Check the node names and issue the command again.

2622-169  program_name: 2622-169 All the nodes specified already exists in the list.
Explanation: All the nodes specified nodes already exist in the excluded node list.
User response: Check the node names and issue the command again.

2622-170  program_name: 2622-170 Too many resources were specified to change to the new ExcludedList.
Explanation: Only one resource can be specified to change the excluded node list attribute.
User response: Check the resource count and issue the command again.
### 2622-171

<table>
<thead>
<tr>
<th>program_name: 2622-171</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed resource &quot;resource_name&quot; is not allowed to have an ExcludedList or Policy.</td>
</tr>
<tr>
<td>Explanation: The specified fixed resource can not be moved, therefore point less to carry an ExcludedList or SelectFromPolicy.</td>
</tr>
<tr>
<td>User response: Change all the fixed resources without an ExcludedList or Policy.</td>
</tr>
</tbody>
</table>

### 2622-172

<table>
<thead>
<tr>
<th>program_name: 2622-172</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the specified managed resources were created.</td>
</tr>
<tr>
<td>Explanation: None of the specified managed resources were created because they were fixed resources.</td>
</tr>
<tr>
<td>User response: Change all the fixed resources without an ExcludedList or Policy.</td>
</tr>
</tbody>
</table>

### 2622-181

<table>
<thead>
<tr>
<th>program_name: 2622-181</th>
</tr>
</thead>
<tbody>
<tr>
<td>The specified Source resource source_resource is not a member resource.</td>
</tr>
<tr>
<td>Explanation: specified Source Resource is not a member resource.</td>
</tr>
<tr>
<td>User response: Make sure the source is a member resource, then re-issue the command.</td>
</tr>
</tbody>
</table>

### 2622-182

<table>
<thead>
<tr>
<th>program_name: 2622-182</th>
</tr>
</thead>
<tbody>
<tr>
<td>The specified source resource matched from selection string &quot;source_string&quot; is not a member resource.</td>
</tr>
<tr>
<td>Explanation: specified source resource matched from selection string is not a member resource.</td>
</tr>
<tr>
<td>User response: Make sure the source is a member resource, then re-issue the command.</td>
</tr>
</tbody>
</table>

### 2622-183

<table>
<thead>
<tr>
<th>program_name: 2622-183</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source resource &quot;source_resource&quot; already exists.</td>
</tr>
<tr>
<td>Explanation: Source resource cannot already exist when creating it.</td>
</tr>
<tr>
<td>User response: use chrel to make changes to the relationships related to this source resource.</td>
</tr>
</tbody>
</table>

### 2622-184

<table>
<thead>
<tr>
<th>program_name: 2622-184</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source resource matched from selection string &quot;source_resource&quot; already exists.</td>
</tr>
<tr>
<td>Explanation: Source resource cannot already exist when creating it.</td>
</tr>
<tr>
<td>User response: use chrel to make changes to the relations related to this source resource.</td>
</tr>
</tbody>
</table>

### 2622-185

<table>
<thead>
<tr>
<th>program_name: 2622-185</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the specified source resources Exist.</td>
</tr>
<tr>
<td>Explanation: There were no source resources.</td>
</tr>
<tr>
<td>User response: None.</td>
</tr>
</tbody>
</table>

### 2622-186

<table>
<thead>
<tr>
<th>program_name: 2622-186</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the specified target resources Exist.</td>
</tr>
<tr>
<td>Explanation: There were no target resources.</td>
</tr>
<tr>
<td>User response: No action is required.</td>
</tr>
</tbody>
</table>

### 2622-187

<table>
<thead>
<tr>
<th>program_name: 2622-187</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than one source resources were matched for &quot;source&quot;.</td>
</tr>
<tr>
<td>Explanation: More than one source was matched for specified source name.</td>
</tr>
<tr>
<td>User response: No action is required.</td>
</tr>
</tbody>
</table>

### 2622-188

<table>
<thead>
<tr>
<th>program_name: 2622-188</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than one source resource were matched using selection string &quot;selection_string&quot; on class_name class.</td>
</tr>
<tr>
<td>Explanation: More than one source was matched with source selection string.</td>
</tr>
<tr>
<td>User response: No action is required.</td>
</tr>
<tr>
<td>Code</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>2622-189</td>
</tr>
<tr>
<td>2622-190</td>
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<tr>
<td>2622-191</td>
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<tr>
<td>2622-201</td>
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<td>2622-202</td>
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<td>2622-203</td>
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<tr>
<td>2622-205</td>
</tr>
<tr>
<td>2622-206</td>
</tr>
<tr>
<td>2622-207</td>
</tr>
</tbody>
</table>
### 2622-208

**program_name**: 2622-208  At least one change must be made to the relationship.

**Explanation**: No changes were requested by the command.

**User response**: Use `chrel` to change one or more attributes of the relations related to this source resource.

---

### 2622-209

**program_name**: 2622-209  There are no relations defined for sources matched from selection string "selection_string".

**Explanation**: Selection string did not match a relationship.

**User response**: Use `mkrel` to make relationships related to this source resource.

---

### 2622-210

**program_name**: 2622-210  The selection string "selection_string" did not match any relationships.

**Explanation**: Selection string did not match a relationship.

**User response**: Re-enter command with string that will match at least a relationship.

---

### 2622-211

**program_name**: 2622-211  The managed relation "managed_relation" does not exist as a relationship.

**Explanation**: The managed relation specified does not exist.

**User response**: Re-enter command with an existing managed relationship.

---

### 2622-212

**program_name**: 2622-212  None of the queried target resources Exists.

**Explanation**: The target resources used to query the relationships do not exist.

**User response**: No action required.

---

### 2622-213

**program_name**: 2622-213  None of the specified source resources exists.

**Explanation**: There were no source resources.

**User response**: No action is required.

---

### 2622-214

**program_name**: 2622-214  Specified condition is not allowed with the relationship "relationship".

**Explanation**: Only locate-with relationships are allowed to have conditions.

**User response**: No action is required.

---

### 2622-221

**program_name**: 2622-221  No relationships matched the query "source_query".

**Explanation**: Source query did not match any existing relationships.

**User response**: Check the query and re-run the command.

---

### 2622-222

**program_name**: 2622-222  There are no relationships defined for source resource "source" matched from selection string "selection_string".

**Explanation**: Source resource must already have a relationship defined.

**User response**: Use `mkrel` to make relationships related to this source resource.

---

### 2622-223

**program_name**: 2622-223  There are no relationships defined for any of the specified source resources.

**Explanation**: Source resource must already have a relationship defined.

**User response**: Use `mkrel` to make relationships related to this source resource.
program_name: 2622-224 The selection string "selection_string" did not match any managed relations.

Explanation: Selection string did not match any managed relations.

User response: Re-enter the command with string that will match at least one managed relations.

program_name: 2622-225 None of the specified relation "relation_names" exists.

Explanation: All the managed relations specified does not exist.

User response: Re-enter the command with at least one existing managed relations.

program_name: 2622-226 None of the specified queried target resources exists.

Explanation: The target resources used to query the relationships do not exist.

User response: No action is required.

program_name: 2622-227 None of the specified source resources exists.

Explanation: There were no source resources.

User response: No action is required.

program_name: 2622-228 Relationship "relation_name" does not exist or could not be removed.

Explanation: Specified relationship was not found or even if it was found it just couldn’t be removed.

User response: Check the message that preceded this message for the actual cause if already exists.

program_name: 2622-229 None of the specified Relationships were found or could not be removed.

Explanation: None of the specified relationships or selection string matched any existing relationships or some of them just couldn’t be removed.

User response: Check the message that preceded this message for the actual cause.

program_name: 2622-261 The specified logiddeck file "logicdeck_filename" with the "option_flag" flag does not exist.

Explanation: The specified logid deck file name does not exist in the specified location.

User response: Check the logid deck file name and issue the command again.

program_name: 2622-262 At least one change must be made to the SAM Controls.

Explanation: No changes were requested by the command.

User response: Use appropriate samctrl flags to change one or more sam controls attributes.

program_name: 2622-263 The specified node "excluded_node" does not exist in the list.

Explanation: The specified node name does not exist in the excluded node list.

User response: Check the node name and issue the command again.

program_name: 2622-264 The specified node "excluded_node" already exists in the list.

Explanation: The specified node name already exists in the excluded node list.

User response: Check the node name and issue the command again.
<table>
<thead>
<tr>
<th>Program Name</th>
<th>Description</th>
</tr>
</thead>
</table>
| **2622-265** | Program name: 2622-265 None of the nodes specified exists in the list.  
Explanation: The specified node names do not exist in the excluded node list.  
User response: Check the node names and issue the command again. |
| **2622-266** | Program name: 2622-266 None of the nodes specified exists in the cluster.  
Explanation: The specified node names do not exist in the cluster.  
User response: Check the node names and issue the command again. |
| **2622-267** | Program name: 2622-267 All the nodes specified already exists in the list.  
Explanation: All the specified nodes already exist in the excluded node list.  
User response: Check the node names and issue the command again. |
| **2622-268** | Program name: 2622-268 Specified engine action failed.  
Explanation: Specified engine action failed to process successfully.  
User response: No action required. |
| **2622-269** | Program name: 2622-269 Migration action failed with return code "return_code".  
Explanation: Specified Migration action failed to process successfully.  
User response: No action required. |
| **2622-270** | Program name: 2622-270 Install License Action failed with return code "return_code".  
Explanation: Install License action failed to process successfully.  
User response: No action required. |
| **2622-271** | Program name: 2622-271 Specified license file "FileName" does not exist.  
Explanation: License file could not be found at specified location.  
User response: Re-enter the command with a valid file name. |
| **2622-272** | Program name: 2622-272 Specified publisher "publisher_name" is not enabled.  
Explanation: Publisher is not in the list of lssamctl EnablePublisher.  
User response: Re-enter the command with a valid publisher. |
| **2622-281** | Program name: 2622-281 The specified equivalency input file "input_file_name" does not exist.  
Explanation: Specified equivalency file name was not found.  
User response: Make sure the equivalency file name exist, re-enter the command. |
| **2622-282** | Program name: 2622-282 No resources were entered for resource class "resource_class".  
Explanation: Resources were not entered with the command for the specified class.  
User response: Enter the resources and retry the command. |
<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
<th>Explanation</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>2622-283</td>
<td><strong>program_name</strong>: 2622-283 No Selection string was entered for Resource class &quot;resource_class&quot;.</td>
<td>Selection string was not entered with the command for the specified class.</td>
<td>Enter the resources and retry the command.</td>
</tr>
<tr>
<td></td>
<td><strong>User response</strong>: Enter the resources and retry the command.</td>
<td>-------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2622-284</td>
<td><strong>program_name</strong>: 2622-284 Policy other than Any is not allowed with option &quot;option_flag&quot;.</td>
<td>Selection string was not entered with SelectFromPolicy Any.</td>
<td>Retry making equivalency with Policy Any.</td>
</tr>
<tr>
<td></td>
<td><strong>User response</strong>: Retry making equivalency with Policy Any.</td>
<td>-------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2622-285</td>
<td><strong>program_name</strong>: 2622-285 Failed to create resources from the specified equivalency input file &quot;input_file_name&quot;.</td>
<td>Failed to create resources from the specified equivalency input file.</td>
<td>Correct the associated error with this and, re-enter the command.</td>
</tr>
<tr>
<td></td>
<td><strong>User response</strong>: Correct the associated error with this and, re-enter the command.</td>
<td>-------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2622-286</td>
<td><strong>program_name</strong>: 2622-286 All of the specified members for equivalency &quot;equivalency_name&quot; are floating resources.</td>
<td>All of the specified members are floating resources, but as a rule for equivalency they can not be included as members of an equivalency</td>
<td>Add at least a fixed resources as a member of an equivalency.</td>
</tr>
<tr>
<td></td>
<td><strong>User response</strong>: Add at least a fixed resources as a member of an equivalency.</td>
<td>-------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2622-301</td>
<td><strong>program_name</strong>: 2622-301 The equivalency &quot;equivalency&quot; already has a SelectString defined.</td>
<td>There is already a SelectString defined therefore won’t allow an add or delete function.</td>
<td>Try using the overwrite function for command.</td>
</tr>
<tr>
<td></td>
<td><strong>User response</strong>: Try using the overwrite function for command.</td>
<td>-------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2622-302</td>
<td><strong>program_name</strong>: 2622-302 No changes were made to the equivalency &quot;equivalency&quot;.</td>
<td>Specified equivalency did not change.</td>
<td>Re-enter the command based on the information that preceded this error.</td>
</tr>
<tr>
<td></td>
<td><strong>User response</strong>: Re-enter the command based on the information that preceded this error.</td>
<td>-------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2622-303</td>
<td><strong>program_name</strong>: 2622-303 At least one change must be made to the equivalency &quot;equivalency&quot;.</td>
<td>Must make a change when using this command.</td>
<td>Specify a change to the equivalency when issuing the command.</td>
</tr>
<tr>
<td></td>
<td><strong>User response</strong>: Specify a change to the equivalency when issuing the command.</td>
<td>-------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2622-304</td>
<td><strong>program_name</strong>: 2622-304 No resources were entered for resource class &quot;resource_class&quot;.</td>
<td>Resources were not entered with the command for the specified class.</td>
<td>Enter the resources and retry the command.</td>
</tr>
<tr>
<td></td>
<td><strong>User response</strong>: Enter the resources and retry the command.</td>
<td>-------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2622-305</td>
<td><strong>program_name</strong>: 2622-305 No selection string was entered for resource class &quot;resource_class&quot;.</td>
<td>Selection string was not entered with the command for the specified class.</td>
<td>Enter the resources and retry the command.</td>
</tr>
<tr>
<td></td>
<td><strong>User response</strong>: Enter the resources and retry the command.</td>
<td>-------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2622-306</td>
<td><strong>program_name</strong>: 2622-306 Policy other than Any is not allowed with option &quot;option_flag&quot;.</td>
<td>Selection string was not entered with SelectFromPolicy Any.</td>
<td>Retry changing equivalency with Policy Any.</td>
</tr>
</tbody>
</table>
2622-307  program_name: 2622-307 Equivalency "equivalency" does not exist or could not be changed.
Explanation: Specified equivalency was not found or even if it was found it just could not be changed.
User response: Check the message that preceded this message for the actual cause if it already exists.

2622-308  program_name: 2622-308 All of the specified members for equivalency "equivalency_name" are floating resources.
Explanation: All of the specified members are floating resources, but as a rule for equivalency they can not be included as a members of an equivalency. The members will not be updated and will be left alone.
User response: Add at least a fixed resources as a member of an equivalency.

2622-321  program_name: 2622-321 None of the specified equivalencies were found or could not be removed.
Explanation: None of the specified equivalencies were found or just could not be removed.
User response: Check the message that preceded this message for the actual cause.

2622-322  program_name: 2622-322 Equivalency "equivalency" does not exist or could not be removed.
Explanation: Specified equivalency was not found or even if it was found it just could not be removed.
User response: Check the message that preceded this message for the actual cause if it already exists.

2622-323  program_name: 2622-323 The selection string "selection_string" did not match any equivalencies.
Explanation: The specified selection string did not match any equivalencies.
User response: Check the equivalency select string and issue the command again.

2622-341  program_name: 2622-341 No relationships matched the query "source_Query.
Explanation: Source query did not match any existing relationships.
User response: Check the query and re-run the command.

2622-342  program_name: 2622-342 There are no relationships defined that matched from selection string "selection_string".
Explanation: Selection string did not match to an existing relationship.
User response: use mkrel to make this relationships.

2622-343  program_name: 2622-343 The managed relation "selection_string" does not exist.
Explanation: The managed relation specified does not exist.
User response: Re-enter command with an existing managed relationship.

2622-344  program_name: 2622-344 There are no relationships defined.
Explanation: There are no managed relations currently defined.
User response: Re-enter command with an existing managed relationship.

2622-345  program_name: 2622-345 The specified target selection string "target_string" did not match any resource.
Explanation: The specified target selection string did not match any resource in the specified class.
User response: Check the selection string or class name combination and issue the command.
The specified target resources "target_resource" does not exist.
Explanation: The specified resource was not found in the specified class.
User response: Check the resource and issue the command again.

None of the specified queried target resources exists.
Explanation: The Target resources used to query the relationships does not exist in the relationship.
User response: No action is required.

None of the specified relationships exists.
Explanation: None of the relationships specified exists.
User response: No action is required.

None of the specified source resources exists.
Explanation: There were no source resources.
User response: No action is required.

There are no equivalencies defined that matched from selection string "selection_string".
Explanation: No equivalencies matched the select string.
User response: No action is required.

The equivalency "equivalency" does not exist.
Explanation: The equivalency specified does not exist.
User response: Re-enter command with an existing equivalency.

There are No Equivalencies defined.
Explanation: There are no equivalencies currently defined.
User response: Re-enter command after creating an existing equivalency.

List License Action failed with return code "return_code".
Explanation: List License action failed to process successfully.
User response: No action required.

No resources were entered for resource class "resource_class".
Explanation: Resources were not entered with the command for the specified class.
User response: Enter the resources and retry the command.

Samdiag action failed with return code "error_code".
Explanation: Samdiag action failed to acquire information on specified resource.
User response: Refer to related error messages or return code and then rerun command based on those messages.
<table>
<thead>
<tr>
<th>Code</th>
<th>Program Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2622-403</td>
<td>Resource handle &quot;resource_handle&quot; could not be resolved.</td>
<td></td>
</tr>
<tr>
<td>Explanation: Resource handle used to acquire information could not be resolved to an actual resource.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>User response: Enter resource handles that exist.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 2622-421 | Samcfg action failed with return code "error_code". |
| Explanation: Samcfg action failed for the specified reason. |
| User response: Refer to related error messages or return code and then rerun command based on those messages. |

| 2622-422 | Specified file "resource_handle" is not in the SAM Configuration file format. |
| Explanation: File associated with the command does not seem to be the format designed for SAM Configuration. |
| User response: Correct the format of file if possible and re-run command with file again. |

| 2622-423 | Invalid Command "Command" in file "FileName". |
| Explanation: Command found in configuration file is not valid. |
| User response: Correct the entry in file and then re-run the command again. |

| 2622-424 | Specified file "FileName" not found. |
| Explanation: Configuration file could not be found at the specified location. |
| User response: Enter the correct path for the file and re-run the command. |

| 2622-425 | None of the clusters are online on this node. |
| Explanation: None of the clusters defined on this node are online. |
| User response: Bring this node online in a cluster, and re-run the command. |

| 2622-426 | Specified file "FileName" does not exist. |
| Explanation: Restore file could not be found at specified location. |
| User response: Re-enter the command with a valid file name. |

| 2622-427 | Specified file "FileName" did not contain any SAM commands. |
| Explanation: Restore file were missing SAM commands. |
| User response: Re-enter the command with a valid file name containing SAM commands. |

| 2622-428 | Timed out waiting for user prompt while restoring from file "FileName". |
| Explanation: User did not respond in 90 secs when prompted to continue restoration. |
| User response: Re-enter the command but respond as when prompted promptly. |

| 2622-429 | Error opening specified file "FileName"; Error. |
| Explanation: Specified file could not be opened. |
| User response: Re-enter the command after the problem indicated by the error is resolved. |
2622-441  *program_name*: 2622-441 *Samdvs* action failed with *return code* "*error_code*".
Explanation: *Samdvs* action failed to acquire information on specified resource.
User response: Refer to related error messages or return code and then rerun command based on those messages.

2622-442  *program_name*: 2622-442 The specified input file "*input_filename*" does not exist.
Explanation: Specified DVS input file was not found at the specified location.
User response: Make sure the DVS file exists, then re-enter the command.

2622-443  *program_name*: 2622-443 The specified output file "*DVS_Outputfile*" already exist and was not overwritten.
Explanation: Specified DVS Output file already exist at the specified location and was not overwritten.
User response: Make sure the DVS file don’t exist or is overwritten when prompted, then re-enter the command.

2622-444  *program_name*: 2622-444 The specified file "*filename*" failed to open with *return code* "*return_code*".
Explanation: Specified DVS file failed to open.
User response: Retry the command with the trace option to find the error messages indicating the reason for this failure. Fix it if possible then re-enter the command.

2622-445  *program_name*: 2622-445 The specified file "*filename*" failed to close with *return code* "*return_code*".
Explanation: Specified DVS file failed to close.
User response: Retry the command with the trace option to find the error messages indicating the reason for this failure. Fix it if possible then re-enter the command.

2622-446  *program_name*: 2622-446 Writing to the specified file "*filename*" failed with *return code* "*return_code*".
Explanation: Specified DVS file failed when attempted to be written.
User response: Retry the command with the trace option to find the error messages indicating the reason for this failure. Fix it if possible then re-enter the command.

2622-461  *program_name*: 2622-461 *Must be a move action*.
Explanation: This must a Move action.
User response: Re-enter the request as a move action.

2622-462  *program_name*: 2622-462 "*node_name*" name is not a valid node name.
Explanation: The specified node name is not valid node.
User response: Repeat the command with a valid node name.

2622-463  *program_name*: 2622-463 request action on resource group failed with *return code* "*error_code*".
Explanation: Request action on the specified resource group failed.
User response: Refer to related error messages or return code and then rerun command based on those messages.

2622-481  *program_name*: 2622-481 *Must be a move action*.
Explanation: This must a Move action.
User response: Re-enter the request as a move action.
2622-482  program_name: 2622-482 "node_name" name is not a valid node name.
Explanation: The specified node name is not valid node.
User response: Repeat the command with a valid node name.

2622-483  program_name: 2622-483 request action on managed resources failed with return code "error_code".
Explanation: Request action on the specified managed resources failed.
User response: Refer to related error messages or return code and then rerun command based on those messages.

2622-484  program_name: 2622-484 No resources were entered for resource class "resource_class".
Explanation: Resources were not entered with the command for the specified class.
User response: Enter the resources and retry the command.

2622-485  program_name: 2622-485 No Selection string entered for Resource class "resource_class".
Explanation: Selection string was not entered with the command for the specified class.
User response: Enter the selection string and retry the command.

2622-486  program_name: 2622-486 Move action is not allowed for managed resources.
Explanation: Move Action is not allowed when requested on a managed resource.
User response: Move can only be applied to a resource group.

2622-501  program_name: 2622-501 No resources were entered for resource class "resource_class".
Explanation: Resources were not entered with the command for the specified class.
User response: Enter the resources and retry the command.

2622-502  program_name: 2622-502 No selection string was entered for resource class "resource_class".
Explanation: Selection string was not entered with the command for the specified class.
User response: Enter the resources and retry the command.

2622-503  program_name: 2622-503 List request action failed with return code "error_code".
Explanation: List request action on the specified managed resources failed.
User response: Refer to related error messages or return code and then rerun command based on those messages.

2622-521  program_name: 2622-521 Found fields found simulation data fields where fields expected were expected at file_name line line_number.
Explanation: A line in the simulation input contains more or less data fields than are required.
User response: Add the missing or delete the extra data field(s) and retry the command.

2622-522  program_name: 2622-522 Invalid priority code "priority" found at file_name line line_number. Valid values are "low", "high", and "force".
Explanation: A line in the simulation input contains an invalid priority code.
User response: Correct the erroneous priority code and retry the command.
<table>
<thead>
<tr>
<th>Program Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2622-523</td>
<td>Invalid action code &quot;action&quot; found at file_name line line_number. Valid values are &quot;noop&quot;, &quot;start&quot;, &quot;stop&quot;, &quot;move&quot;, &quot;cancel&quot;, &quot;failed&quot;, &quot;online&quot;, and &quot;offline&quot;. Explanation: A line in the simulation input contains an invalid action code. User response: Correct the erroneous action code and retry the command.</td>
</tr>
<tr>
<td>2622-524</td>
<td>No simulation input data found in file_name. Explanation: The simulation input does not contain any non-comment, non-empty lines. User response: Retry the command, submitting valid simulation data as input.</td>
</tr>
<tr>
<td>2622-525</td>
<td>Samsimul action failed with return code &quot;error_code&quot;. Explanation: Samsimul action failed to submit the simulation input data and retrieve simulation results. User response: Refer to related error messages or return code and then rerun command \n based on those messages.</td>
</tr>
<tr>
<td>2622-526</td>
<td>Unexpected output when running samsimul action. Explanation: Samsimul action failed to return an output of the expected format. User response: This is an internal script error and should not occur. Report the command name, and this message to the IBM Support Center at your convenience.</td>
</tr>
<tr>
<td>2622-541</td>
<td>No resource groups defined or cluster is offline! Explanation: Currently no resource groups defined or the cluster is offline. User response: Define resource groups or turn the cluster online.</td>
</tr>
<tr>
<td>2622-561</td>
<td>No java runtime found at java_path. Explanation: The java runtime was not found at the expected location. User response: Verify the installation has been successful and verify the userid has sufficient access rights to the location.</td>
</tr>
<tr>
<td>2622-562</td>
<td>No domain is online. Explanation: The program cannot be executed, because no online domain is found. User response: Start the domain. Then issue the command again.</td>
</tr>
<tr>
<td>2622-572</td>
<td>Incorrect option specified option_specified. Explanation: The option specified is not valid. User response: Use a valid option as shown in the usage statement and rerun the command.</td>
</tr>
<tr>
<td>2622-573</td>
<td>Command not found command. Explanation: The command was not found when the program tried to call it. User response: Verify that the installation has been successful.</td>
</tr>
<tr>
<td>2622-574</td>
<td>Top level XML file not found at file_path. Explanation: The top level XML file was not found at the expected location. User response: Verify the installation has been successful and verify the userid has sufficient access rights to the location.</td>
</tr>
</tbody>
</table>
### 2622-575
*program_name: 2622-575*

**Specified properties file not found file_path.**

**Explanation:** The specified properties file was not found.

**User response:** Verify the specified properties file and verify the userid has sufficient access rights.

---

### 2622-576
*program_name: 2622-576*

**Creating domain via mkrpdomain command failed.**

**Explanation:** The program tried to create a domain via the command mkrpdomain. This command failed.

**User response:** Check the related error messages and try to resolve the problem. Then rerun the program.

---

### 2622-577
*program_name: 2622-577*

**Calling the sampolicy command failed.**

**Explanation:** The program tried to call the command sampolicy. This command failed.

**User response:** Check the related error messages and try to resolve the problem. Then rerun the program.

---

### 2622-578
*program_name: 2622-578*

**Removing domain via rmrpdomain command failed.**

**Explanation:** The program tried to remove a domain via the command rmrpdomain. This command failed.

**User response:** Check the related error messages and try to resolve the problem. Then rerun the program.

---

### 2622-579
*program_name: 2622-579*

**Starting domain via startrpdomain command failed.**

**Explanation:** The program tried to start a domain via the command startrpdomain. This command failed.

**User response:** Check the related error messages and try to resolve the problem. Then rerun the program.

---

### 2622-580
*program_name: 2622-580*

**Preparing domain via preprpnode command failed.**

**Explanation:** The program tried to prepare a domain via the command preprpnode. This command failed.

**User response:** Check the related error messages and try to resolve the problem. Then rerun the program.

---

### 2622-581
*program_name: 2622-581*

**Domain does not exist.**

**Explanation:** The program tried to remove a domain that does not exist.

**User response:** Verify that you entered the correct domain name.

---

### 2622-582
*program_name: 2622-582*

**Domain does already exist.**

**Explanation:** The program tried to create a domain that does already exist.

**User response:** None.

---

### 2622-583
*program_name: 2622-583*

**Domain is offline and cannot be removed.**

**Explanation:** The program tried to remove a domain that is offline.

**User response:** Start the domain. Then issue the command again.

---

### 2622-584
*program_name: 2622-584*

**Not able to write to file file_path.**

**Explanation:** The program was not able to write to its output directory.

**User response:** Verify the userid has sufficient rights.
2622-585  program_name: 2622-585 eezautomate command failed.
Explanation: The program tried to call the command eezautomate. This command failed.
User response: Check the related error messages and try to resolve the problem. Then issue the command again.

2661-001  Attribute "attribute_name" cannot be specified when defining a new resource.
Explanation: While attempting to create an Application resource, an attribute was encountered that is not allowed to be defined.
User response: Do not specify this attribute when attempting to create an Application resource.

2661-002  The value of the MonitorCommandPeriod attribute must be greater or equal to the value of the MonitorCommandTimeout attribute.
Explanation: While attempting to create or change an Application resource, a combination of MonitorCommandPeriod and MonitorCommandTimeout attributes was encountered that is not valid.
User response: Correct the value for either the MonitorCommandPeriod or the MonitorCommandTimeout attribute, such that the MonitorCommandPeriod is greater or equal to the MonitorCommandTimeout.

2661-003  Class name "class_name" is not recognized by this resource manager.
Explanation: The Resource Manager does not recognize the named resource class as belonging to it. This is either an internal error or indicates a corrupted RMC configuration.
User response: Record the above information and contact your software service organization.

2661-004  Could not initialize control point for class "class_name".
Explanation: The Resource Manager was unable to create and initialize RCCP for the named resource class.
User response: Make sure the system has plenty of resources (paging space, available /var file system space, and so on). If this does not resolve the problem, record the above information and contact your software service organization.

2661-005  The value of the MonitorCommandPeriod attribute must be greater than 0.
Explanation: While attempting to create or change an Application resource, a MonitorCommandPeriod attribute was encountered that is lower than zero.
User response: Correct the value for the MonitorCommandPeriod attribute to be greater than 0.

2661-006  The start command did not complete successfully, exit code is the exit value from the start command.
Stdout = stdout generated by the start command Stderr = stderr generated by the start command
Explanation: In response to a request to bring a resource online, the associated start command was executed but it did not complete successfully. The exit code, stderr and stdout are listed in the error message.
User response: Attempt to correct the problems identified by the output from the command and retry the operation.

2661-007  The stop command did not complete successfully, exit code is the exit value from the stop command.
Stdout = stdout generated by the stop command Stderr = stderr generated by the stop command
Explanation: In response to a request to take a resource offline, the associated stop command was executed but it did not complete successfully. The exit code, stderr and stdout are listed in the error message.
User response: Attempt to correct the problems identified by the output from the command and retry the operation.
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
</table>
| 2661-008   | The value of the ResourceType attribute must be 0 or 1.  
**Explanation:** While attempting to create or change an Application resource, a ResourceType attribute was encountered that is not valid.  
**User response:** Correct the value for the ResourceType attribute to be either 0 (for fixed resources) or 1 (for floating resources). |
| 2661-009   | The value of the RunCommandsSync attribute must be 0 or 1.  
**Explanation:** While attempting to create or change an Application resource, a RunCommandsSync attribute was encountered that is not valid.  
**User response:** Correct the value for the RunCommandsSync attribute to be either 0 (for "fire and forget" of start/stop commands) or 1 (starting/stopping resources will wait for the completion of start/stop commands). |
| 2661-010   | The user name specified is not valid or does not exist.  
**Explanation:** While attempting to create or change an Application resource, a user name was encountered that is not valid or does not exist.  
**User response:** Correct the user name or ensure that the user name is defined on each target node where the resource is to exist. |
| 2661-011   | The command specified for attribute `the attribute name that the command in error is specified for` or has insufficient permissions to be run.  
**Explanation:** While attempting to create or change an Application resource, a command string for the specified attribute was encountered that is not valid. The command is either a NULL string, is not an absolute path, does not exist or has insufficient permissions to be run.  
**User response:** Correct the value to be one a valid command on all the target nodes or ensure that the specified command exists on all target node and has the proper permissions. |
| 2661-012   | The specified netmask "the specified netmask in error" is not valid.  
**Explanation:** While attempting to create or change a ServiceIP resource, an invalid value for the NetMask attribute was encountered.  
**User response:** Correct the value to be one of the valid representations for specifying a netmask such as `xxx.xxx.xxx.xxx` or an empty string in which case the netmask will be inherited from the network interface that it is activated on. |
| 2661-013   | The specified IP address "the specified IP address in error" is not valid.  
**Explanation:** While attempting to create or change a ServiceIP resource, an invalid value for the IPAddress attribute was encountered.  
**User response:** Correct the value to be one of the valid representations for specifying an IP address such as `xxx.xxx.xxx.xxx`. |
| 2661-014   | The network interface specified for use in bringing an IP address online does not exist or is not valid.  
**Explanation:** The resource manager was requested to bring an IP address online and the specified supporting resource (a network interface) does not exist or is not usable.  
**User response:** Chose a different supporting resource to use in the online request. |
The maximum number of aliases are already active on network interface interface_name.

Explanation: The resource manager was requested to bring an IP address online but the specified interface to be used already has the maximum number of aliases active.

User response: Either deactivate some aliases or chose another interface to be used for this service IP address.

The reset command did not complete successfully, exit code is the exit value from the reset command. Stdout = stdout generated by the reset command Stderr = stderr generated by the reset command

Explanation: In response to a request to reset a resource, the associated reset command was executed but it did not complete successfully. The exit code, stderr and stdout are listed in the error message.

User response: Attempt to correct the problems identified by the output from the command and retry the operation.

The stop command timed out, exit code is the exit value from the stop command. Stdout = stdout generated by the stop command Stderr = stderr generated by the stop command

Explanation: In response to a request to take a resource offline, the associated stop command was run but it exceeded the time limit and was ended. The exit code, stderr and stdout are listed in the error message.

User response: Attempt to correct the problems identified by the output from the command and retry the operation.

The reset command timed out, exit code is the exit value from the reset command. Stdout = stdout generated by the reset command Stderr = stderr generated by the reset command

Explanation: In response to a request to reset a resource, the associated reset command was run but it exceeded the time limit and was ended. The exit code, stderr and stdout are listed in the error message.

User response: Attempt to correct the problems identified by the output from the command and retry the operation.

The value specified for the attribute named ProtectionMode must be either 0 or 1.

Explanation: An invalid value was specified for the attribute named ProtectionMode.

User response: Correct the value specified and retry the operation.

The command used to monitor the resource did not complete successfully, exit code is the exit value from the monitor command. Stdout = stdout generated by the monitor command Stderr = stderr generated by the monitor command

Explanation: While monitoring the operational state of a resource, the associated monitor command was executed but it did not complete successfully. The exit code, stderr and stdout are listed in the error message.

User response: Attempt to correct the problems identified by the output from the command and retry the operation.

The command used to monitor the resource timed out, exit code is the exit value from the monitor command. Stdout = stdout generated by the monitor command Stderr = stderr generated by the monitor command

Explanation: While monitoring the operational state of a resource, the associated monitor command was run but it exceeded the time limit and was stopped. The exit code, stderr and stdout are listed in the error message.

User response: Attempt to correct the problems identified by the output from the command and retry the operation.
2661-023  The IP address specified is the base address for a network interface and therefore cannot be used.
Explanation:  The address specified is already the base IP address for a network interface which makes it invalid for use as a service IP address.
User response:  Choose a different IP address and retry the operation.

2661-024  The resource "resource_name" cannot be deleted because it is online.
Explanation:  The resource cannot be deleted because it is online.
User response:  Make sure the resource is offline and retry the operation.

2661-025  The operation cannot be completed because one or more resources from the resource class name class is online.
Explanation:  The operation (stop node, stop domain or remove domain) cannot be completed because one or more resources are online on the target node(s).
User response:  Make sure the resource is offline and retry the operation.

2661-026  Invalid parameter format passed to the configCoordinationAll action for resource class resource class name.
Explanation:  The configCoordinationAll action was received by the RM for the indicated class but the input format is not valid or not supported.
User response:  This is an internal error so contact your software service organization.

2661-027  An online or offline operation is not valid when the resource is in the failed offline state.
Explanation:  An online or offline operation was targeted to a resource that is in the failed offline state. This is not a valid request. The only control operation that is permitted in the failed offline state is reset.
User response:  Perform the reset operation against the resource and then retry the online or offline operation. The command 'resetrsr' can be used to reset a resource.

2661-028  Receiver of the SendEIFevent is not online, or not a constituent resource.
Explanation:  An internal error of the GblResRM.
User response:  Record the above information and contact your software service organization.

2661-029  Resource received a start command but is already in pending online state.
Explanation:  An online operation was targeted to a resource that is in the pending online state. This is not a valid request. The only control operation that is permitted in the pending online state is reset.
User response:  Perform the reset operation against the resource and then retry the online operation. The command 'resetrsr' can be used to reset a resource.

2661-030  Resource received a stop command, but is already in pending offline state.
Explanation:  An offline operation was targeted to a resource that is in the pending offline state. This is not a valid request. The only control operation that is permitted in the pending offline state is reset.
User response:  Perform the reset operation against the resource. The command 'resetrsr' can be used to reset a resource.
<table>
<thead>
<tr>
<th>Message ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2661-031</td>
<td><strong>The move prepare command timed out, exit code is the exit value from the move prepare command.</strong>&lt;br&gt;Stdout = stdout generated by the move prepare command Stderr = stderr generated by the move prepare command**</td>
</tr>
<tr>
<td>Explanation:</td>
<td>In response to a request to prepare for a move or cleanup a resource, the associated move prepare command was run but it exceeded the time limit and was ended. The exit code, stderr and stdout are listed in the error message.</td>
</tr>
<tr>
<td>User response:</td>
<td>Attempt to correct the problems identified by the output from the command and retry the operation.</td>
</tr>
<tr>
<td>2661-032</td>
<td><strong>The move prepare command did not complete successfully, exit code is the exit value from the move prepare command.</strong>&lt;br&gt;Stdout = stdout generated by the move prepare command Stderr = stderr generated by the move prepare command**</td>
</tr>
<tr>
<td>Explanation:</td>
<td>In response to a request to prepare for a move or cleanup a resource, the associated move prepare command was executed but it did not complete successfully. The exit code, stderr and stdout are listed in the error message.</td>
</tr>
<tr>
<td>User response:</td>
<td>Attempt to correct the problems identified by the output from the command and retry the operation.</td>
</tr>
<tr>
<td>2661-033</td>
<td><strong>The move complete command timed out, exit code is the exit value from the move complete command.</strong>&lt;br&gt;Stdout = stdout generated by the move complete command Stderr = stderr generated by the move complete command**</td>
</tr>
<tr>
<td>Explanation:</td>
<td>In response to a request to complete a move, the associated move complete command was run but it exceeded the time limit and was ended. The exit code, stderr and stdout are listed in the error message.</td>
</tr>
<tr>
<td>User response:</td>
<td>Attempt to correct the problems identified by the output from the command and retry the operation.</td>
</tr>
<tr>
<td>2661-034</td>
<td><strong>The move complete command did not complete successfully, exit code is the exit value from the move complete command.</strong>&lt;br&gt;Stdout = stdout generated by the move complete command Stderr = stderr generated by the move complete command**</td>
</tr>
<tr>
<td>Explanation:</td>
<td>In response to a request to complete a move, the associated move complete command was executed but it did not complete successfully. The exit code, stderr and stdout are listed in the error message.</td>
</tr>
<tr>
<td>User response:</td>
<td>Attempt to correct the problems identified by the output from the command and retry the operation.</td>
</tr>
<tr>
<td>2661-035</td>
<td><strong>The move cancel command timed out, exit code is the exit value from the move cancel command.</strong>&lt;br&gt;Stdout = stdout generated by the move cancel command Stderr = stderr generated by the move cancel command**</td>
</tr>
<tr>
<td>Explanation:</td>
<td>In response to a request to cancel a failed move, the associated move cancel command was run but it exceeded the time limit and was ended. The exit code, stderr and stdout are listed in the error message.</td>
</tr>
<tr>
<td>User response:</td>
<td>Attempt to correct the problems identified by the output from the command and retry the operation.</td>
</tr>
<tr>
<td>2661-036</td>
<td><strong>The move cancel command did not complete successfully, exit code is the exit value from the move cancel command.</strong>&lt;br&gt;Stdout = stdout generated by the move cancel command Stderr = stderr generated by the move cancel command**</td>
</tr>
<tr>
<td>Explanation:</td>
<td>In response to a request to cancel a failed move, the associated move cancel command was executed but it did not complete successfully. The exit code, stderr and stdout are listed in the error message.</td>
</tr>
<tr>
<td>User response:</td>
<td>Attempt to correct the problems identified by the output from the command and retry the operation.</td>
</tr>
<tr>
<td>2661-037</td>
<td>At least one of the entries of the CleanupList is not valid.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>While attempting to create or change an Application resource, a CleanupList attribute with an invalid entry was encountered.</td>
</tr>
<tr>
<td>User response:</td>
<td>Correct the invalid entry of the CleanupList attribute.</td>
</tr>
</tbody>
</table>
2661-038 • 2661-045

2661-038  Move Prepare, Complete, Cancel and Cleanup actions cannot be issued against aggregate resources.
Explanation: The attempt to issue one of the above mentioned actions against an aggregate resource was rejected.
User response: Run the action against the constituents of the aggregate resource.

2661-039  IBM.Application start/stop command timed out. Resource name: resource_name
Explanation: The Resource Manager killed the start/stop command because it did not return within the specified timeframe.
User response: Check the time the start/stop command needs to complete. Adapt the StartCommandTimeout/StopCommandTimeout attribute if necessary.

2661-040  IBM.Application monitor command timed out. Resource name: resource_name
Explanation: The Resource Manager killed the monitor command because it did not return within the specified command timeout.
User response: Check the time the monitor command needs to complete. Adapt the MonitorCommandTimeout attribute if necessary.

2661-041  IBM.Application health command timed out. Resource name: resource_name
Explanation: The Resource Manager killed the health command because it did not return within the specified command timeout.
User response: Check the time the health command needs to complete. Adapt the HealthCommandTimeout attribute if necessary.

2661-042  IBM.Application could not run the monitor command. Resource name: resource_name
Explanation: The Resource Manager could not run the monitor command because it is not accessible or has insufficient permissions.
User response: Check that the Resource Manager can access the monitor command during operation even if the resource itself is offline.

2661-043  IBM.Application received reset request. Resource name: resource_name
Explanation: IBM.Application resource received a reset request either by automation or by manual resetsrc command.
User response: If the reset comes from automation, check the application resource. Maybe one of the pending operational states last too long and automation tries to recover this application error condition.

2661-044  IBM.ServiceIP assigned address to device. IP address: ip_address
Explanation: IBM.ServiceIP assigned IP address to network interface.
User response: IBM.ServiceIP successfully assigned an IP address to a network interface.

2661-045  IBM.ServiceIP failed to assign address to device. IP address: ip_address
Explanation: IBM.ServiceIP failed to assign IP address to network interface.
User response: Check your ServiceIP address setup. Make sure the IP address can be assigned to the network device. Take care IBM.ServiceIP can either automatically choose a device or it is connected to an equivalency of network interfaces.
<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>2661-046</td>
<td>IBM.ServiceIP removed address. IP address: ip_address</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>IBM.ServiceIP removed IP address from network interface.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>IBM.ServiceIP successfully removed an IP address from a network interface.</td>
</tr>
<tr>
<td>2661-047</td>
<td>IBM.ServiceIP failed to remove address. IP address: ip_address</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>IBM.ServiceIP failed to remove an IP address from network interface.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Check your IP address setup. Remove the ServiceIP address with the ifconfig command.</td>
</tr>
<tr>
<td>2661-048</td>
<td>IBM.Application failed to terminate a hanging monitor command for resource resource_name due to a glibc bug.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>IBM.Application could not terminate a hanging monitor command.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>This bug is caused by a well known glibc bug.</td>
</tr>
<tr>
<td>2662-001</td>
<td>Attribute &quot;attribute_name&quot; cannot be specified when defining a new resource.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>While attempting to create an Application resource, an attribute was encountered that is not allowed to be defined.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Do not specify this attribute when attempting to create an Application resource.</td>
</tr>
<tr>
<td>2662-002</td>
<td>Attribute &quot;attribute_name&quot; appears in request more than once.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>An attribute appears more than once in a request.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Specify an attribute only once in a request.</td>
</tr>
<tr>
<td>2662-003</td>
<td>Class name &quot;class_name&quot; is not recognized by this resource manager.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The Resource Manager does not recognize the named resource class as belonging to it. This is either an internal error or indicates a corrupted RMC configuration.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Record the above information and contact your software service organization.</td>
</tr>
<tr>
<td>2662-004</td>
<td>Could not initialize control point for class &quot;class_name&quot;.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The Resource Manager was unable to create and initialize RCCP for the named resource class.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Make sure the system has plenty of resources (paging space, available /var file system space, and so on). If this does not resolve the problem, record the above information and contact your software service organization.</td>
</tr>
<tr>
<td>2662-005</td>
<td>Attribute &quot;attribute_name&quot; must be specified when defining a new resource.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The ResourceManager was unable to create the resource because a mandatory attribute was not defined.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Make sure to specify this attribute during creation of the resource.</td>
</tr>
<tr>
<td>2662-006</td>
<td>The value of the attribute must be 0 or 1.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The value of this attribute must be 0 or 1.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Change the attribute to 0 or 1. M: The value of this attribute must be 0 or 1. Change the attribute to 0 or 1.</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2662-007</td>
<td>The value of the ResourceType attribute must be 0 or 1.</td>
</tr>
<tr>
<td>2662-008</td>
<td>The time in the Start/Stop/Move attribute must be &gt;= 0 and &lt; 600 (10 min)</td>
</tr>
<tr>
<td>2662-009</td>
<td>The value of ForceOpState must be a valid rmc opstate (0,1,2,3,4,5,6,8)</td>
</tr>
<tr>
<td>2662-010</td>
<td>Resource does not support move protocol</td>
</tr>
<tr>
<td>2662-011</td>
<td>Resource is not an aggregate resource</td>
</tr>
<tr>
<td>2662-012</td>
<td>Resource not in move state NONE when prepare action received</td>
</tr>
<tr>
<td>2662-013</td>
<td>Resource not in move state READY when complete action received</td>
</tr>
<tr>
<td>2662-014</td>
<td>Complete/Cancel action or cleanup already in progress</td>
</tr>
<tr>
<td>2662-015</td>
<td>Prepare action already in progress</td>
</tr>
<tr>
<td>2662-016</td>
<td>Resource not in READY or FAILED state when cancel action received</td>
</tr>
<tr>
<td>ID</td>
<td>Message</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2662-017</td>
<td>Attribute &quot;attribute_name&quot; cannot be specified when defining a new resource.&quot;</td>
</tr>
<tr>
<td>2662-018</td>
<td>Wrong input specified for the action.</td>
</tr>
<tr>
<td>2662-019</td>
<td>IBM.Test received an online request. Resource name: resource_name</td>
</tr>
<tr>
<td>2662-020</td>
<td>IBM.Test received an offline request. Resource name: resource_name</td>
</tr>
<tr>
<td>2662-021</td>
<td>IBM.Test received a reset request. Resource name: resource_name</td>
</tr>
<tr>
<td>2662-022</td>
<td>IBM.Test is online. Resource name: resource_name</td>
</tr>
<tr>
<td>2662-023</td>
<td>IBM.Test is offline. Resource name: resource_name</td>
</tr>
<tr>
<td>2662-024</td>
<td>IBM.Test Opstate has been forced. Resource name: ResourceNameForceOpState</td>
</tr>
</tbody>
</table>
### Messages generated by the sampolicy command

This section lists the messages that are generated by the `sampolicy` command and start with the prefix SAMP. The `sampolicy` command may also generate messages starting with the prefix EEZ. These messages are listed in the IBM Tivoli System Automation Application Manager Reference.

---

**SAMP0001E**  An `IOException` was caught in method `methodName` of class `className`. The received message was `message`.

**Explanation:** The processing was interrupted by this exception and cannot complete.

**System action:** The task is ended.

**Operator response:** Try to resolve the problem described in the exception message and resubmit the command.

---

**SAMP0002E**  The specified policy `policyLocation` is not valid.

**Explanation:** The policy is not valid. You cannot perform any task with this policy.

**System action:** The current task ends.

**Operator response:** Try to make the policy valid by analyzing the error messages following this message. Then resubmit the command.

---

**SAMP0003E**  Not able to create an object of type `Object-type`. The name of the tree-node is `node-name`.

**Explanation:** There is a problem when building an internal object of the input XML.

**System action:** The current task ends.

**Operator response:** Check for related messages. If you cannot resolve the problem contact IBM support.

---

**SAMP0004E**  Not able to retrieve the policy information.

**Explanation:** The policy information cannot be retrieved because the policy is not valid.

**System action:** The current task ends.

**Operator response:** Try to make the policy valid by analyzing all the error messages.

---

**SAMP0005E**  Received errors when trying to activate the policy.

**Explanation:** Policy activation task resulted in errors.

**System action:** The activation task ends.

**Operator response:** Analyze the error messages and try to resolve the problem.

---

**SAMP0006E**  The specified policy file "`policyFile`" cannot be found.

**Explanation:** The policy cannot be loaded from this location.

**System action:** The current task ends.

**Operator response:** Verify the policy XML file name and its path.

---

**SAMP0007E**  Original Parser Exception: `exceptionMessage`

**Explanation:** An internal problem occurred while parsing this policy.

**System action:** The task cannot be performed.

**Operator response:** Verify if the product is installed correctly.

---

**SAMP0008E**  Received errors when trying to deactivate the current policy.

**Explanation:** Policy deactivation resulted in errors.

**System action:** The deactivation task ends.

**Operator response:** Analyze the error messages and try to resolve the problem.

---

**SAMP0009E**  Received errors when trying to check the policy.

**Explanation:** Policy check task resulted in errors.

**System action:** The check task ends.

**Operator response:** Analyze the error messages and try to resolve the problem.

---

**SAMP0010E**  Received errors when trying to save the current policy.

**Explanation:** Policy save task resulted in errors.

**System action:** The save task ends.

**Operator response:** Analyze the error messages and try to resolve the problem.

---

**SAMP0011E**  The resource with name `resourceName` and class `className` was found as member of multiple groups.
**Explanation:** A resource can only be member of one group.

**System action:** This policy is not valid and cannot be activated.

**Operator response:** Check that each resource is only member of at most one group element in this policy.

**SAMP0012E** The resource with name resourceName and class className was found as member of an equivalency and of a group.

**Explanation:** A resource cannot be member of a group and of an equivalency.

**System action:** This policy is not valid and cannot be activated.

**Operator response:** Check that each resource is only member of either a group or an equivalency.

**SAMP0013E** The specified member "memberName" was found multiple times in the same <groupForm> "groupName ".

**Explanation:** All <Members> child elements must be unique in one group.

**System action:** This policy is not valid.

**Operator response:** Check that the group has no duplicate <Members> child elements in this policy.

**SAMP0014E** The specified <groupForm> "groupName " was found as member of itself.

**Explanation:** A group cannot be member of itself.

**System action:** This policy is not valid.

**Operator response:** Check that no group is member of itself in this policy.

**SAMP0015E** The resource group with name resourceGroupName has a nesting level of more than 50.

**Explanation:** The nesting level of a resource group is limited to 50.

**System action:** This policy is not valid and cannot be activated.

**Operator response:** Reduce the nesting level of this group and resubmit the command.

**SAMP0016E** An ‘Exception’ was caught in method methodName of class className. The received message was message.

**Explanation:** The processing was interrupted by this exception and cannot complete.

**System action:** The task is ended.

**Operator response:** Check that at most one <Relationship> of this type is specified in this policy.

**SAMP0017E** The relationship with the source with name sourceName and type type has a target with the same key.

**Explanation:** A relationship cannot have the same source and target.

**System action:** This policy is not valid and cannot be activated.

**Operator response:** Correct the relationship and resubmit the command.

**SAMP0018E** The relationship source with name sourceName and class sourceClass is not a resource group nor member of a resource group.

**Explanation:** A relationship source must either be a resource group or member of a resource group.

**System action:** This policy is not valid and cannot be activated.

**Operator response:** Correct the relationship and resubmit the command.

**SAMP0019E** An error occurred in method methodName of class className. Error details details.

**Explanation:** The processing was interrupted by this error and cannot complete.

**System action:** The task is ended.

**Operator response:** Try to resolve the problem described in the error details and resubmit the command.

**SAMP0020E** The specified <Relationship> with the <Type> "relationType ", the <Source> with the name " source " and the <Target> with the name " target " was found multiple times in the policy document.

**Explanation:** All <Relationship> elements must be unique.

**System action:** This policy cannot be activated.

**Operator response:** Try to resolve the problem described in the policy document and resubmit the command.

**SAMP0021E** An ‘UTFDataFormatException’ was caught in method methodName of class className. The received message was message.

**Explanation:** The processing was interrupted by this
exception and cannot complete.

System action: The task cannot be performed.

Operator response: Ensure the correct data format of the policy document by only using editors which create UTF-8 conform documents.

SAMP0022E A `<Element>` can only contain either a `<subElement1>` or a `<subElement2>`.

Explanation: It is not allowed to specify both kinds of sub-elements for this element.

System action: This policy cannot be activated.

Operator response: Check that at only one of the conflicting sub-elements is specified in this policy.

SAMP0023E A `<Element>` that contains a `<subElement1>` must also contain a `<subElement2>`.

Explanation: It is not allowed to specify only one of these sub-elements for this element.

System action: This policy cannot be activated.

Operator response: Check that both sub-elements are specified in this policy.

SAMP0024E A `<Element>` that contains a `<subElement1>` must also contain a `<subElement2>` or a `<subElement3>`.

Explanation: It is not allowed to specify only one of these sub-elements for this element.

System action: This policy cannot be activated.

Operator response: Check that both sub-elements are specified in this policy.

SAMP0025E The `<Element>` with the name "referenceName" refers to a resource that does not exist on the cluster.

Explanation: Every resource that is referenced within the policy must exist in the cluster.

System action: This policy cannot be activated.

Operator response: Create the resource on the cluster then resubmit the command.

SAMP0026E The node with the name "nodeName" does not exist on the cluster.

Explanation: Every node that is referred to within a resource attribute must be online in the cluster.

System action: This policy cannot be activated.

Operator response: Correct the value of the node in the policy then resubmit the command.

SAMP0027E The node with the name "nodeName" is not online in the cluster.

Explanation: Every node that is referred to within a resource attribute must be online in the cluster.

System action: This policy cannot be activated.

Operator response: Correct the value of the node in the policy or make the node online then resubmit the command.

SAMP0028E The value "domainName" of the element `<elementName>` does not conform to the real name of the cluster "actualDomainName".

Explanation: The name of the cluster specified in the policy must be equal to the real name.

System action: This policy cannot be activated.

Operator response: Correct the value in the policy then resubmit the command.

SAMP0029E The specified element `<element>` with the name "groupName" contains a member with a different name "memberName".

Explanation: For this kind of group all `<Members>` child elements must have the same name as the group itself.

System action: This policy is not valid.

Operator response: Check that the groups name is equal to all `<Members>` child elements names in this policy.

SAMP0030E The specified element `<element>` was found more than once.

Explanation: Only zero or one element of this type is allowed in the policy.

System action: This policy cannot be activated.

Operator response: Check that at most one element of this type is specified in the policy.

SAMP0031E The specified element `<childElement>` was found more than once as child element of `<parentElement>`.

Explanation: Only zero or one element of this type is allowed.

System action: This policy cannot be activated.

Operator response: Check that at most one element of this type is specified in this policy.
SAMP0032E  The specified element <childElement> was found more than once as child element of <parentElement> with the name "parentName ".

Explanation:  Only zero or one element of this type is allowed in this group.

System action:  This policy cannot be activated.

Operator response:  Check that at most one element of this type is specified in this group in this policy.

SAMP0033E  The value "value " of the element <allowedNode> does not exist as a node, nor is an equivalency with this name defined.

Explanation:  This value must either be a node or the name of an equivalency.

System action:  This policy is not valid and cannot be activated.

Operator response:  Correct the policy and resubmit the command.

SAMP0034E  The element <element> with the name "equivalencyName " cannot be target of a location relationship.

Explanation:  A location relationship cannot have a target element of that kind.

System action:  This policy is not valid and cannot be activated.

Operator response:  Correct the relationship and resubmit the command.

SAMP0035E  The element <element> with the value "elementValue " can only be used with a location relationship except the relationship of the type "isStartableType ".

Explanation:  A condition is not allowed for this kind of relationship.

System action:  This policy is not valid and cannot be activated.

Operator response:  Correct the relationship and resubmit the command.

SAMP0036E  The element <element> with the name "elementName " has got members that are not from the same resource class.

Explanation:  All members of an equivalency must be from the same resource class.

System action:  This policy is not valid and cannot be activated.

SAMP0037E  The connection to the backend failed because the following exception occurred exception.

Explanation:  An exception occurred when trying to perform an operation on the backend.

System action:  The policy cannot be activated.

Operator response:  Try to analyze the exception description and try to correct the problem. If the problem persists, contact IBM support.

SAMP0038E  The element <tie-breaker> with the name "name " is set to active although at least one other element of this kind is set to active, too.

Explanation:  Only one such element is allowed to be active.

System action:  The policy cannot be activated.

Operator response:  Ensure there is at most one active element of this kind in the policy and resubmit the command.

SAMP0039E  The specified element <element> with the value "value " of the subelement <subelement1> cannot contain a subelement <subelement2> as well.

Explanation:  For this kind of element some subelements are not allowed for certain subelement values.

System action:  This policy is not valid.

Operator response:  Remove the invalid subelement or change the value of the other subelement and resubmit the command.

SAMP0040E  An IOException was caught when trying to write the policy to the file "filename ". The exception message was: exception-message.

Explanation:  The file could not be written.

System action:  The active task ends.

Operator response:  Ensure the directory does exist and there is enough disk space available then resubmit the command.

SAMP0041E  Exception occurred when trying to validate the selection string "selectString ". Either the selection string is not valid or the connection to the backend failed. Exception message was: exception.
Explanation: An exception occurred when trying to validate the selection string.

Operator response: Ensure the selection string is valid. Try to analyze the exception description and try to correct the problem. If the problem persists, contact IBM support.

System action: The policy cannot be activated.

SAMP0042E  The <Element> with the name "referenceName" has an invalid value for the subelement <Sub-Element>.

Explanation: <ResourceReference> elements may not have one of the following values for their <Class> subelement: IBM.Application, IBM.ServiceIP, IBM.Test.

System action: This policy cannot be activated.

Operator response: Correct the subelement value then resubmit the command.

SAMP0043E  The <Element> with the type "value" is not allowed on a "value" system.

Explanation: The processing was interrupted by this error and cannot complete.

System action: This policy cannot be activated.

Operator response: Correct the value then resubmit the command.

SAMP0044E  A <Element> must either contain a <Subelement> or a <Subelement>.

Explanation: The processing was interrupted by this error and cannot complete.

System action: This policy cannot be activated.

Operator response: Correct the element then resubmit the command.

SAMP0045E  An IOException was caught when trying to read from the included policy file "filename". The exception message was: exception-message.

Explanation: The file could not be read.

System action: The active task ends.

Operator response: Ensure the file does exist and the userid used for the command has sufficient access rights then resubmit the command.

SAMP0046E  The syntax of the input policy file "filename" is invalid. The line in error is: invalid line.

Explanation: The input policy file contains an invalid line.

System action: The active task ends.

Operator response: Correct the invalid line in the input file then resubmit the command.

SAMP0047E  Variable referenced within line "invalid line" not found in top-level XML file.

Explanation: The input policy contains a variable that is not defined in the top-level XML file.

System action: The active task ends.

Operator response: Add the variable to the top-level XML file then resubmit the command.

SAMP0048E  The policy created from the top-level file policyLocation is not valid. The resulting policy can be found in the temporary file temp-filename.

Explanation: The resulting policy is not valid. You cannot perform any task with this policy.

System action: The current task ends.

Operator response: Try to make the policy valid by analyzing the error messages following this message. Then resubmit the command.

SAMP0049E  An error occurred in class: className method: methodName. The resource resourceName could not be defined. There was no exception, but the define call did not return any object either.

Explanation: The current process was interrupted by this exception and cannot complete.

System action: The policy activation process stops and will return with this error message.

Operator response: Try to find out, if this resource was described properly in the XML policy document and restart the activation. Please contact IBM support, if the problem persists and provide logs and traces.

SAMP0050E  An error occurred in class: className method: methodName. The resource resourceName could not be defined. The received exception was exception.

Explanation: The process was interrupted by this exception and cannot complete.

System action: The policy activation process stops and will not complete.

Operator response: Try to find out, if this resource was described properly in the XML policy document and restart the activation. Please contact IBM support, if the problem persists and provide logs and traces.
**SAMP0051E**  An error occurred in class: *className*
method: *methodName*. The resource *resourceName* could not be added to the resource group *groupName*. The received exception was *exception*

Explanation: The process was interrupted by this exception and cannot complete.

System action: The policy activation process stops and will not complete.

Operator response: Try to solve the problem described in the exception message and resubmit the command.

**SAMP0052E**  An error occurred in class: *className*
method: *methodName*. The resource group *groupName* could not be set to the desired state *state*. The received exception was *exception*

Explanation: The process was interrupted by this exception and cannot complete.

System action: The policy activation process stops and will not complete.

Operator response: Try to solve the problem described in the exception message and resubmit the command.

**SAMP0053E**  An error occurred in class: *className*
method: *methodName*. The resource *resourceName* could not be undefined. The received exception was *exception*

Explanation: The resource might have been deleted before by internal commands.

System action: The policy activation or deactivation will continue.

Operator response: Try to verify, if the resource still exists. Analyze the exception and try to resubmit the command.

**SAMP0054E**  An error occurred in class: *className*
method: *methodName*. The resource *resourceName* could not be identified and located. This can be caused by an exception or the resource could not be found. Therefore the resource *resourceName* cannot be added to the resource group *groupName*. The received exception was *exception*

Explanation: The process was interrupted by this exception and cannot complete.

System action: The policy activation process stops and will not complete.

Operator response: Try to verify, if the resource still exists. Analyze the exception and try to resubmit the command.

**SAMP0055E**  An error occurred in class: *className*
method: *methodName*. The resource *resourceName* could not be identified and located. This can be caused by an exception or the resource could not be found. Therefore the resource *resourceName* cannot be created, because it requires resource *resourceName*. The received exception was *exception*

Explanation: The process was interrupted by this exception and cannot complete.

System action: The policy activation process stops and will not complete.

Operator response: Try to solve the problem described in the exception message and resubmit the command.

**SAMP0056E**  An error occurred in class: *className*
method: *methodName*. The resource *resourceName* could not be identified and located. This can be caused by an exception or the resource could not be found. Therefore the resource *resourceName* cannot be deleted. The received exception was *exception*

Explanation: The resource might have been deleted before by internal commands.

System action: The current process will continue.

Operator response: Try to verify, if the resource still exists. Analyze the exception and try to resubmit the command.

**SAMP0057E**  An error occurred in class: *className*
method: *methodName*. The resource *resourceName* could not be identified and located. This can be caused by an exception or the resource could not be found. Therefore the resource *resourceName* cannot be modified. The
SAMP0059E • SAMP0065E

received exception was exception

Explanation: The process was interrupted by this exception and cannot complete.

System action: The current process will continue.

Operator response: Try to verify, if the resource still exists. Analyze the exception and try to resubmit the command.

SAMP0059E An error occurred in class: className method: methodName. The resource resourceName could not be modified. The received exception was exception

Explanation: The current process was interrupted by this exception and cannot complete.

System action: The policy activation process stops and will return with this error message.

Operator response: Try to find out, if this resource was described properly in the XML policy.

SAMP0060E An error occurred in class: className method: methodName. The resource resourceName could not be modified. The received exception was exception

Explanation: The current process was interrupted by this exception and cannot complete.

System action: The policy activation process stops and will return with this error message.

Operator response: Try to find out, if this resource was described properly in the XML policy and restart the activation. Please contact IBM support, if the problem persists and provide logs and traces.

SAMP0061E An error occurred in class: className method: methodName. The IBM.TieBreaker resource resourceName could not be identified and located. The received exception was exception

Explanation: The current process was interrupted by this exception and cannot complete.

System action: The policy activation process stops and will return with this error message.

Operator response: Try to find out, if this resource was described properly in the XML policy and restart the activation. Please contact IBM support, if the problem persists and provide logs and traces.

SAMP0062E An error occurred in class: className method: methodName. The active IBM.TieBreaker resource could not be identified and located. Therefore the IBM.TieBreaker resource resourceName could not be modified or created. The received exception was exception

Explanation: The current process was interrupted by this exception and cannot complete.

System action: The policy activation process stops and will return with this error message.

Operator response: Try to find out, if this resource was described properly in the XML policy and restart the activation. Please contact IBM support, if the problem persists and provide logs and traces.

SAMP0063E An error occurred in class: className method: methodName. The IBM.TieBreaker resource resourceName could not be set to active. The received exception was exception

Explanation: The current process was interrupted by this exception and cannot complete.

System action: The policy activation process stops and will return with this error message.

Operator response: Try to find out, if this resource was described properly in the XML policy and restart the activation. Please contact IBM support, if the problem persists and provide logs and traces.

SAMP0064E An error occurred in class: className method: methodName. The subscription from consumer consumer to resource resourceName has failed. The received exception was exception

Explanation: The current process was interrupted by this exception and cannot complete.

System action: The policy activation process stops and will return with this error message.

Operator response: Try to find out, if this resource was described properly in the XML policy and restart the activation. Please contact IBM support, if the problem persists and provide logs and traces.

SAMP0065E The attempt to update the current automation policy failed because errors were detected.

Explanation: The policy update task resulted in errors.

System action: The policy update task ends.

Operator response: Analyze the subsequent error messages and try to resolve the problem.
<table>
<thead>
<tr>
<th>SAMP066E</th>
<th>The <code>&lt;element&gt;</code> with the name <code>elementName</code> contains a member that has an invalid value <code>className</code> for its attribute class.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>For this kind of element the value of the class attribute must be equal for all its members.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>This policy cannot be activated.</td>
</tr>
<tr>
<td><strong>Operator response:</strong></td>
<td>Check that all members have the correct value for the class attribute.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SAMP070E</th>
<th>An error occurred in class: <code>className</code> method: <code>methodName</code>.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The current process was interrupted by this exception and cannot complete.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The policy deactivation process stops and will return with this error message.</td>
</tr>
<tr>
<td><strong>Operator response:</strong></td>
<td>Try to submit the command, again. Please contact IBM support, if the problem persists and provide logs and traces.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SAMP071E</th>
<th>An error occurred in class: <code>className</code> method: <code>methodName</code>.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The current process was interrupted by this exception and cannot complete.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The policy save process stops and will return with this error message.</td>
</tr>
<tr>
<td><strong>Operator response:</strong></td>
<td>Try to submit the command, again. Please contact IBM support, if the problem persists and provide logs and traces.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SAMP072E</th>
<th>Failed to set information about the activated policy file name: <code>fileName</code>, the error message is: <code>error-message</code>.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The actual activation of the policy was successful, but saving its name and time failed.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The name of the file of the activated policy and the activation time was not saved.</td>
</tr>
<tr>
<td><strong>Operator response:</strong></td>
<td>Try to submit the command, again. Please contact IBM support, if the problem persists and provide logs and traces.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SAMP073E</th>
<th>Failed to set information about deactivating a policy. The error message is: <code>error-message</code>.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The actual deactivation of the policy was successful, but saving the fact failed.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>The fact that the policy was deactivated was not saved.</td>
</tr>
<tr>
<td><strong>Operator response:</strong></td>
<td>Try to submit the command, again. Please contact IBM support, if the problem persists and provide logs and traces.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SAMP0500W</th>
<th>The specified policy <code>policyLocation</code> contains no resource group.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The policy is valid, but without a resource group there is no automation active.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>Processing continues.</td>
</tr>
<tr>
<td><strong>Operator response:</strong></td>
<td>Ensure this is what you want to do. Otherwise change the policy to contain at least one resource group and resubmit the command.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SAMP0501W</th>
<th>An ‘Exception’ was caught in method <code>methodName</code> of class <code>className</code>. The received message was <code>message</code>.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The processing was interrupted by this exception but it can continue.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>Processing continues.</td>
</tr>
<tr>
<td><strong>Operator response:</strong></td>
<td>Try to resolve the problem described in the exception message.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SAMP0502W</th>
<th>The two <code>&lt;Relationship&gt;</code> elements with <code>&lt;Type&gt; &quot;StartAfter&quot; and </code>&lt;Type&gt; &quot;StopAfter&quot; were found with the same <code>&lt;Source&gt;</code> with the name &quot;source&quot; and <code>&lt;Target&gt;</code> with the name &quot;target&quot;.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The two <code>&lt;Relationship&gt;</code> elements with <code>&lt;Type&gt; &quot;StartAfter&quot; and </code>&lt;Type&gt; &quot;StopAfter&quot; should not have the same <code>&lt;Source&gt;</code> and <code>&lt;Target&gt;</code>. With this configuration the <code>&lt;Target&gt;</code> is started before the <code>&lt;Source&gt;</code> and the <code>&lt;Target&gt;</code> is stopped before the <code>&lt;Source&gt;</code>.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>Application continues.</td>
</tr>
<tr>
<td><strong>Operator response:</strong></td>
<td>Verify this behavior. The common usage of &quot;StartAfter&quot; together with &quot;StopAfter&quot; is the following: 1. The <code>&lt;Source&gt;</code> of the &quot;StartAfter&quot; is the <code>&lt;Target&gt;</code> of the &quot;StopAfter&quot;. 2. The <code>&lt;Target&gt;</code> of the &quot;StartAfter&quot; is the <code>&lt;Source&gt;</code> of the &quot;StopAfter&quot;.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SAMP0503W</th>
<th>All members of the group with the name &quot;groupName&quot; should be collocated, because the group is part of a location relationship or of a relationship of the type &quot;dependsOnType &quot;. Set the value of the groups tag <code>&lt;memberLocation&gt;</code> to &quot;collocatedValue &quot;.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>For these kinds of relationships all members of a source or target group should be collocated.</td>
</tr>
<tr>
<td><strong>System action:</strong></td>
<td>Application continues.</td>
</tr>
<tr>
<td><strong>Operator response:</strong></td>
<td>Check that all members of this group are collocated in this policy.</td>
</tr>
</tbody>
</table>
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SAMP0504W  The specified <Relationship> with
          <Type> "relationType " and <Source>
          with the name " SourceName " and
          <Target> with the name " Target " was
          found in a loop.

Explanation:  <Relationship> elements of the same
          <Type> where one <Relationship> element <Target>
          is the next <Relationship> element <Source> should
          not form a loop.

System action:  Application continues.

Operator response:  Check that the <Relationship>
          elements are not defined as loop in this policy.

SAMP0505W  A <Relationship> with the <Type> " relationType "
          was found that has linked
          more than 100 resources.

Explanation:  The numbers of resources linked by a
          relationship is limited to 100.

System action:  Application continues.

Operator response:  Reduce the number of resources
          linked by the relationship.

SAMP0506W  The specified element <element> with
          the value " value " of the subelement
          <subelement1> should not contain a
          subelement <subelement2> as well. This
          subelement is ignored.

Explanation:  For this kind of element some
          subelements are not supported for certain subelement
          values.

System action:  Application continues. Subelement is
          ignored.

Operator response:  Remove the invalid subelement or
          change the value of the other subelement.

SAMP0507W  The resource group with name
          resourceGroupName has linked more than
          100 resources.

Explanation:  The numbers of resources linked by a
          resource group is limited to 100.

System action:  Application continues.

Operator response:  Reduce the number of resources
          linked by this group.

SAMP0508W  An error occurred in method methodName
          of class className. Error details details.

Explanation:  The processing was interrupted by this
          error but it can continue.

System action:  Processing continues.

Operator response:  Try to resolve the problem
          described in the error details.

SAMP0509W  A non-critical error occurred in method
          methodName of class className during
          activation of a new policy. Error details details.

Explanation:  The processing was interrupted by this
          error but it can continue.

System action:  Activation continues.

Operator response:  Try to resolve the problem
          described in the error details. Please try to activate
          the policy again and check, if the error still occurs. If
          the error persists, please contact IBM support and
          provide logs and traces.

SAMP0510W  A non-critical error occurred in method
          methodName of class className during
          deactivation of the current policy. Error details details.

Explanation:  The processing was interrupted by this
          error but it can continue.

System action:  Deactivation continues.

Operator response:  Try to resolve the problem
          described in the error details. Please try to deactivate
          the policy again and check, if the error still occurs. If
          the error persists, please contact IBM support and
          provide logs and traces.

SAMP0511W  A non-critical error occurred in method
          methodName of class className during
          saving of the current policy. Error details details.

Explanation:  The processing was interrupted by this
          error but it can continue.

System action:  Saving process continues.

Operator response:  Try to resolve the problem
          described in the error details. Please try to resubmit the
          save command and check, if the error still occurs. If
          the error persists, please contact IBM support and
          provide logs and traces.

SAMP10001  Usage:
          sampolicy -h
          sampolicy [-T] [-V] [-q] -a filename
          sampolicy [-T] [-V] [-q] -u filename
          sampolicy [-T] [-V] [-q] -r filename
          sampolicy [-T] [-V] [-q] -d
          sampolicy [-T] [-V] -s [filename]
          sampolicy [-T] [-V] [-u] -c filename
          sampolicy [-T] [-V] -i filename
          sampolicy [-T] [-V] [-q] -a -t
templatefilename
          sampolicy [-T] [-V] [-q] -u -t
templatefilename
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**SAMP1001I** The specified policy policyLocation is valid.

Explanation: The policy is valid and can be activated.

System action: Processing continues.

Operator response: None.

**SAMP1002I** The policy has the following policy information: policyInfo.

Explanation: This is the information for the policy.

System action: Processing continues.

Operator response: None.

**SAMP1003I** The policy has been activated successfully.

Explanation: The policy is now active in the domain.

System action: Processing continues.

Operator response: None.

**SAMP1004I** The activation task ends.

Explanation: The policy is not going to be activated because the user did not confirm this action.

System action: Processing ends.

Operator response: None.

**SAMP1005I** The activation task ends.

Explanation: The automation policy could not be activated.

System action: Processing ends.

Operator response: None.

**SAMP1006I** The current policy was saved to file filename.

Explanation: No additional information is available for this message.

**SAMP1007I** The automation policy was deactivated successfully.

Explanation: There is now no policy active in the domain.

System action: Processing continues.

Operator response: None.

**SAMP1008I** Template processing failed. The active task ends.

Explanation: Template processing failed and therefore the active task cannot complete successfully.

System action: Processing ends.

Operator response: None.

**SAMP1009I** The automation policy was updated successfully.

Explanation: The current automation policy was updated with the new policy.

System action: Processing continues.

Operator response: None.

**SAMP1010I** The update task ends because you did not confirm the action.

Explanation: The current automation policy can only be updated if you confirm the update action.

System action: Processing ends.

Operator response: None.

**SAMP1011I** The attempt to update the current automation policy failed.

Explanation: The current automation policy could not be updated.

System action: Processing ends.

Operator response: None.

**SAMP1012I** Starting to check policy policyLocation.

Explanation: No additional information is available for this message.

**SAMP1013I** Starting to load policy policy.

Explanation: No additional information is available for this message.
SAMP1102I  Retrieving policy info of policyLocation.
Explanation: No additional information is available for this message.

SAMP1103I  Are you sure you want to activate a new automation policy?
Yes (y) or No (n) ?
Explanation: No additional information is available for this message.

SAMP1104I  Deactivation will remove all resources which can be created via policy activation.
Deactivation will not change any resources of the class IBM.TieBreaker
Are you sure you want to deactivate the current automation policy?
Yes (y) or No (n) ?
Explanation: No additional information is available for this message.

SAMP1105I  Please enter the root password:
Explanation: No additional information is available for this message.

SAMP1106I  Now calling the backend in order to retrieve all data needed.
Explanation: No additional information is available for this message.

SAMP1107I  Now calling the backend in order to activate the policy.
Explanation: No additional information is available for this message.

SAMP1108I  Now calling the backend in order to deactivate the policy.
Explanation: No additional information is available for this message.

SAMP1109I  Removed resources successfully.
Explanation: No additional information is available for this message.

SAMP1110I  Created and changed resources successfully.
Explanation: No additional information is available for this message.

SAMP1111I  Are you sure you want to update the current automation policy?
Yes (y) or No (n) ?
Explanation: No additional information is available for this message.
**Messages generated by the end-to-end automation adapter**

This section lists the messages which are generated by the plug-in of the end-to-end automation adapter and have the prefix SAMA. The adapter command may also generate messages with the prefix EEZ. These messages are listed in the IBM Tivoli System Automation Application Manager Reference.

<table>
<thead>
<tr>
<th>Message Code</th>
<th>Description</th>
<th>Explanation</th>
<th>System action</th>
<th>Operator response</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMA0001E</td>
<td>Failed to load library: lib, message is: message.</td>
<td>Loading a library failed. Either the library or a prerequisite library is not available.</td>
<td>The automation adapter will not start.</td>
<td>Examine the message for the reason why the request failed.</td>
</tr>
<tr>
<td>SAMA0002E</td>
<td>Domain domain went offline and the automation adapter is stopped.</td>
<td>An event indicated that the domain went offline. The automation adapter can only operate with a domain that is online. Therefore, the automation adapter is stopped.</td>
<td>The automation adapter does not accept any further requests. The automation adapter is stopped.</td>
<td>Examine the message for the reason why the request failed.</td>
</tr>
<tr>
<td>SAMA0003E</td>
<td>Request request must not be applied on an automated adapter resource resource.</td>
<td>Automated resources that control the adapter cannot accept such a request because it prevents correct automation of the samadapter. For example, requesting the samadapter to become 'Offline' will cause the domain to become unreachable from the operations console.</td>
<td>The request was not performed.</td>
<td>Examine the message for the reason why obtaining contained resource failed.</td>
</tr>
<tr>
<td>SAMA0004E</td>
<td>Request request failed on resource resource with message: message.</td>
<td>The request could not be performed on the resource. The reason may be found in the message.</td>
<td>The request was not performed.</td>
<td>Examine the message for the reason why obtaining top level resource failed.</td>
</tr>
</tbody>
</table>

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SAM0009E Cannot establish remote access for operating console in direct mode, message is message.

Explanation: Access from a remote operating console over RMI was specified in sam.adapter.plugin.properties. Attempting to provide the direct access failed.

System action: The adapter is not reachable from a remote operating console.

Operator response: Examine the message. Check the configuration of the adapter for direct access from a remote operating console.

SAM010E Failed to exclude node node from automation, message is message.

Explanation: An error occurred when trying to exclude the node from automation. The reason may be found in the message.

System action: Excluding the node was not performed.

Operator response: Examine the message for the reason why excluding the node failed.

SAM011E Failed to unsubscribe resource resource, message is message.

Explanation: An error occurred when trying to remove the subscription for the resource. The reason may be found in the message.

System action: The subscription may not have been removed.

Operator response: Examine the message for the reason why removing the subscription failed.

SAM013E Failed to establish a session, message is message.

Explanation: Trying to establish an RMC session with the backend failed. Therefore, the request cannot be satisfied.

System action: No session with RMC is established.

Operator response: Examine the message to find out why the RMC session failed.

SAM016E Failed to include node node into automation, message is message.

Explanation: An error occurred when trying to include the node into automation. The reason may be found in the message.

System action: Including the node was not performed.

Operator response: Examine the message for the reason why including the node failed.

SAM018E Failed to subscribe resource resource, message is message.

Explanation: An error occurred when requesting a subscription for the resource. The reason may be found in the message.

System action: The subscription has not been made.

Operator response: Examine the message for the reason why requesting the subscription failed.

SAM019E Failed to obtain details for domain domain, message is message.

Explanation: The domain was retrieved successfully, but trying to obtain associated class information failed. The reason may be found in the message.

System action: The information for the domain is missing.

Operator response: Examine the message for the reason why obtaining the additional information failed.

SAM020E Failed to validate resource: grp.

Explanation: The resource for which a request was made does not exist.

System action: The request is not performed.

Operator response: Use list commands to verify that the resource exists. If it does not exist, the resource had been removed. If it exists the request should be repeated.

SAM022E Failed to get resource relationships, message is message.

Explanation: An error occurred when trying to get relationships between resources. The reason may be found in the message.

System action: No relationships were returned.

Operator response: Examine the message for the reason why the request failed.

SAM023E Failed to lookup resources, message is message.

Explanation: An error occurred when trying to identify resources. The reason may be found in the message.

System action: No resource were returned.

Operator response: Examine the message for the reason why the request failed.
SAM0024E  Failed to get resources based on filter, resource is message.
Explanation: An error occurred when trying to get resources based on a filter. The reason may be found in the message.
System action: No filtered resource were returned.
Operator response: Examine the message for the reason why the request failed.

SAM0025E  Failed to get the parent resource for resource, message is message.
Explanation: An error occurred when trying to get parent of the resource. The reason may be found in the message.
System action: The parent resource was not returned.
Operator response: Examine the message for the reason why the request failed.

SAM0026E  Failed to get the resources on node node, message is message.
Explanation: An error occurred when trying to get the resources that can run on the node. The reason may be found in the message.
System action: No resources on that node were returned.
Operator response: Examine the message for the reason why the request failed.

SAM0027E  Failed to refresh resources, message is message.
Explanation: An error occurred when trying to refresh resources. The reason may be found in the message.
System action: No resource were refreshed.
Operator response: Examine the message for the reason why the request failed.

SAM0028E  Failed to get nodes of the domain, message is message.
Explanation: An error occurred when trying to get the nodes in the domain. The reason may be found in the message.
System action: No nodes were returned.
Operator response: Examine the message for the reason why the request failed.

SAM0029E  Failed to get nodes from an equivalency, message is message.
Explanation: An error occurred when trying to get the nodes from an equivalency. The reason may be found in the message.
System action: No nodes were returned.
Operator response: Examine the message for the reason why the request failed.

SAM0030E  Failed to get nodes excluded from automation, message is message.
Explanation: An error occurred when trying to get the nodes that are excluded from automation. The reason may be found in the message.
System action: No nodes were returned.
Operator response: Examine the message for the reason why the request failed.

SAM0031E  Failed to enable event publishing in first-level automation manager, message is message.
Explanation: The reason for failing to enable publishing may be an inoperative IBM.RecoveryRM. Details may be found in the message.
System action: Event publishing was not enabled.
Operator response: Examine the message for the reason why enabling event publishing failed.

SAM0032E  Adapter stops because domain domain is going offline.
Explanation: The adapter was notified by an event that the domain is going offline. The adapter cannot continue to exist if the domain is offline. Therefore, the adapter is stopped.
System action: The adapter is stopped.
Operator response: If the domain went offline unexpectedly determine the reason. The domain can be restarted using command ‘startrpmdomain <domain-name>’ If the domain is online and the adapter is automated it will restart automatically. Otherwise, issue command ‘samadapter start’ to restart the adapter.

SAM0033E  Request request is not implemented.
Explanation: The request is currently not supported
System action: The request is not performed
Operator response: Check if a more recent version of the automation adapter is available that supports the request.
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Message Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMA0037E</td>
<td>No domain that is online was detected. Automation adapter is stopped.</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
</tr>
<tr>
<td>The user account expired, message is:</td>
<td></td>
</tr>
<tr>
<td>System action:</td>
<td></td>
</tr>
<tr>
<td>Operator response:</td>
<td></td>
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<tr>
<th>Error Code</th>
<th>Message Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMA0038E</td>
<td>Request request on resource resource returned with code: return-code, and error message: error.</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
</tr>
<tr>
<td>The request returned with a non-zero return code which indicates that it has not been successfully performed. The reason may be found in the message.</td>
<td></td>
</tr>
<tr>
<td>System action:</td>
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<tr>
<td>Operator response:</td>
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<th>Error Code</th>
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<tbody>
<tr>
<td>SAMA0039E</td>
<td>Request request on resource resource returned without result.</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
</tr>
<tr>
<td>The request did not respond with return code and message.</td>
<td></td>
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<tr>
<td>System action:</td>
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<tr>
<td>Operator response:</td>
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<th>Error Code</th>
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<tbody>
<tr>
<td>SAMA0040E</td>
<td>Log in for user ID user failed for an unknown reason, message is: message</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
</tr>
<tr>
<td>The user account expired, message is:</td>
<td></td>
</tr>
<tr>
<td>System action:</td>
<td></td>
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<tr>
<td>Operator response:</td>
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<tr>
<td>SAMA0041E</td>
<td>Log in for user ID user failed, message is: message</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
</tr>
<tr>
<td>The user ID and password validation was performed.</td>
<td></td>
</tr>
<tr>
<td>System action:</td>
<td></td>
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<tr>
<td>Operator response:</td>
<td></td>
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<th>Message Description</th>
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</thead>
<tbody>
<tr>
<td>SAMA0042E</td>
<td>Log in for user ID user failed, because the user account expired, message is: message</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
</tr>
<tr>
<td>The user account is expired.</td>
<td></td>
</tr>
<tr>
<td>System action:</td>
<td></td>
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<tr>
<td>Operator response:</td>
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<tbody>
<tr>
<td>SAMA0043E</td>
<td>Log in for user ID user failed, because the password expired, message is: message</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
</tr>
<tr>
<td>The password is expired.</td>
<td></td>
</tr>
<tr>
<td>System action:</td>
<td></td>
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<tr>
<td>Operator response:</td>
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<th>Error Code</th>
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<tbody>
<tr>
<td>SAMA0044E</td>
<td>Programming error detected, message is error-message.</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
</tr>
<tr>
<td>The automation adapter detected an error that cannot be handled.</td>
<td></td>
</tr>
<tr>
<td>System action:</td>
<td></td>
</tr>
<tr>
<td>Operator response:</td>
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<tr>
<th>Error Code</th>
<th>Message Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMA0045E</td>
<td>Failed to get nodes for resource group resource, message is message.</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
</tr>
<tr>
<td>An error occurred when trying to get nodes on which the resource group can run. The reason may be found in the message.</td>
<td></td>
</tr>
<tr>
<td>System action:</td>
<td></td>
</tr>
<tr>
<td>Operator response:</td>
<td></td>
</tr>
</tbody>
</table>

Reference
SAMA0046E Resource group resource is already online on node node.

Explanation: Trying to start a resource group failed, because it is already online on that node. The state of the resource group was offline at the time when Request online was selected, but had changed to online when the request was tried to process.

System action: The online request is not performed, because the resource group is already online.

Operator response: Since the goal was to have the resource group online on the node, no further action is required.

SAMA0047E Resource group resource is already online on node online-node and therefore cannot be started on node requested-node.

Explanation: Trying to start a resource group on a specific node failed, because it is already online on another node.

System action: The online request is not performed.

Operator response: Check on which node the resource group is online. If the resource group must be online on another node, first bring offline on the node where it is online. Then repeat the online request on the other node.

SAMA0048E Adapter stops because domain domain is going offline.

Explanation: The adapter was notified by an event that the domain represented by the cluster services had been stopped. The adapter cannot continue to exist on a node where the cluster services have been stopped. Therefore, the adapter is stopped.

System action: The adapter is stopped.

Operator response: If the cluster services stopped unexpectedly determine the reason. The cluster services can be restarted using smitty hacmp. If the cluster services are started the adapter is automated it will restart automatically. Otherwise, issue command 'hacadapter start' to restart the adapter.

SAMA0049E No domain that is online was detected. Automation adapter is stopped.

Explanation: The domain represented by the cluster services was not found online or an error occurred trying to try the domain. The automation adapter can only operate with a domain that is online. Therefore, the automation adapter is stopped.

System action: The automation adapter does not accept any further requests. The automation adapter is stopped.

Operator response: If the automation adapter is automated by HACMP no action is required and it will be restarted when the domain comes back online. If the automation adapter is not automated, restart it using command 'hacadapter start'. Use command 'hacadapter status' to find out if the automation adapter is automated.

SAMA0050E Request request is not allowed, because domain cluster has SubState: substate.

SubState: STABLE is required.

Explanation: The request can only be performed if the domain (cluster) is in SubState: STABLE.

System action: The automation adapter does not accept the request.

Operator response: Wait until the domain has reached SubState: STABLE. To check the SubState in the operations console select the domain and inspect the Cluster-SubState in tab Additional Info. Select Refresh all before inspecting the Cluster-SubState again. If the SubState does not change to STABLE within reasonable time use smitty hacmp > Problem determination to resolve the condition.

SAMA0051E Request request on resource resource has already been submitted and is currently being performed.

Explanation: The request is pending in its execution and therefore will not be submitted again.

System action: The request was not performed.

Operator response: Wait for the pending command to complete. State changes in the resource may indicated that it has completed. If the log requires attention, view the log to see if the request failed.

SAMA0052E Deactivating the current automation policy failed with error message: error.

Explanation: The request to deactivate the currently active automation policy returned with an error.

System action: The policy was not deactivated correctly.

Operator response: Examine the message for the reason why the policy could not be deactivated. Use View log on the domain to find additional error messages.

SAMA0053E Activating automation policy from file file failed with error message: error.

Explanation: The request to activate the automation policy returned with an error.

System action: The policy was not activated.

Operator response: Examine the message for the reason why the policy could not be activated. Use View
log on the domain to find additional error messages.

**SAMA0054E**  Automation policy request `request` cannot be performed because policy request `current-req` is in progress.

**Explanation:** The automation policy request cannot be performed because another request is still in progress.

**System action:** The policy request has been rejected.

**Operator response:** Wait for the current policy request to finish. Use View log on the domain to find additional information on policy request results.

**SAMA0055E** Request `request` must not be applied on an automated adapter resource `resource`.

**Explanation:** Automated resources that control the adapter cannot accept such a request because it prevents correct automation of the hacadapter. For example, bringing the hacadapter ‘Offline’ will cause the domain to become unreachable from the operations console.

**System action:** The request was not performed.

**Operator response:** Use only supplied scripts 'hacadapter start' and 'hacadapter stop' to control the adapter from one of the nodes in the HACMP cluster.

**SAMA0056E** Failed to get information about the currently active policy. The error message is: `error-message`.

**Explanation:** Trying to retrieve information about the currently active policy failed.

**System action:** No information about the currently active policy can be provided.

**Operator response:** Try to submit the command, again. Please contact IBM support if the problem persists and provide logs and traces.

**SAMA0057E** The policy file "policyFile" cannot be found.

**Explanation:** The policy does not exist.

**System action:** The policy is not activated.

**Operator response:** Verify the policy XML file by that path and name exists.

**SAMA0058E** No automation policies are available in policy pool directory for automation domain `domain`.

**Explanation:** There are no policy files in the policy pool directory.

**System action:** No policies are listed.

**Operator response:** Verify the policy pool contains policy files before trying to work with a policy.

**SAMA0059E** The policy file "policyFile" for the currently active policy cannot be found.

**Explanation:** The active policy once was successfully activated from the file. But currently the file cannot be found.

**System action:** The currently active policy could not be checked, because the file was not found. Therefore, the policy information is incomplete.

**Operator response:** If the file had been accidently removed, use command ‘sampolicy -s filename’ to save the policy. Otherwise move the file to the path, or use cfgsamadapter to correct the policy pool path and activate the policy from there.

**SAMA0060E** The policy file "policyFile" cannot be saved to the domain directory.

**Explanation:** An error occurred when attempting to save the policy file to the domain directory.

**System action:** The policy file could not be saved.

**Operator response:** Check if there is enough space on the local node. See original error for details.

**SAMA0061E** Trying to replicate policy file "fileName" from local node "localNode" on remote nodes "remoteNodes" failed. The original error was: "errorMessage".

**Explanation:** An error occurred when attempting to replicate a policy file on remote nodes. See original error for details.

**System action:** See original error for details.

**Operator response:** See original error for details.

**SAMA0062E** Trying to store policy file "fileName" on local node "localNode" failed. The original error was: "errorMessage".

**Explanation:** An error occurred when attempting to store a policy file locally. See original error for details.

**System action:** The attempt to store the policy file locally failed. No policy file was created.

**Operator response:** Check if there is enough space on the local node. See original error for details.

**SAMA0063E** Trying to read policy from file "fileName" on local node "localNode" failed. The original error was: "errorMessage".

**Explanation:** An error occurred when attempting to read a policy file locally. See original error for details.

**System action:** See original error for details.

**Operator response:** Check if the file exists. See original error for details.

**SAMA0064E** A move request is not allowed on resource group "resourceGroup" because it is contained in another resource group.

**Explanation:** A move requests is only allowed on a resource group which is not contained in any other resource group.
System action: The move request is not performed.
Operator response: If possible, move the top-level-resource group in which the resource group is contained.

---

SAMA0064E Trying to delete policy file "fileName" on remote nodes "remoteNodes" failed.
The original error was: "errorMessage".
Explanation: An error occurred when attempting to delete a policy file on remote nodes.
System action: The current task ends.
Operator response: See original error for details.

---

SAMA0065E Deleting policy file "fileName" is not allowed, because the policy is currently activated.
Explanation: The file of the currently active policy cannot be deleted.
System action: The policy file is not deleted.
Operator response: Deactivate the current policy. Then try to delete the file.

---

SAMA0500W Event of type type are not processed in this version.
Explanation: The event of this type is not supported.
System action: The event is not processed.
Operator response: Check if a more recent version of the automation adapter is available that supports this type of event.

---

SAMA0501W Closing session failed.
Explanation: An error was encountered, when the session with RMC was closed.
System action: The session may not have been closed.
Operator response: None.

---

SAMA0502W Unable to locate resource with name: name, class: class, node: node.
Explanation: The resource identified in an event by name, class, and node could not be found.
System action: The resource is not updated with event information.
Operator response: None.

---

SAMA0503W Automation mode on domain domain has changed from mode1 to mode2.
Explanation: The automation mode can be Auto (resources are automated) or Manual (resources are only monitored).
is being performed by automation on the indicated resource.

System action: The command has been issued to the resource.

Operator response: No action is required. You can verify in the operations console if the resource changed its state.

Node node has been excluded from automation on behalf of user userid.

Explanation: A user has requested to exclude the node from automation. See 'System action below'.

System action: Resources on that node are stopped by automation. Then automation tries to restart the resources on other nodes in the domain.

Operator response: No action is required. You can verify in the operations console if the resource was moved.

Node node has been included into automation on behalf of user userid.

Explanation: A user has requested to include the node into automation. See 'System action below'.

System action: Once the node has been included into automation, automation may try to start resources on the node.

Operator response: No action is required. You can verify in the operations console if resources are automated on the included node.

A request to move resource group resource away from nodes node has been performed with return code: return-code on behalf of user userid with comment: comment.

Explanation: A user has issued a request to move a resource group away from one or more nodes. The command is being performed by automation.

System action: The move request has been issued to the resource.

Operator response: No action is required. You can verify in the operations console if the resource was moved.

A request to move resource group resource to node node has been performed with return code: return-code on behalf of user userid with comment: comment.

Explanation: A user has issued a request to move a resource group to another node. The command is being performed by automation.

System action: The move request has been issued to the resource.

Operator response: No action is required. You can verify in the operations console if the resource was moved.
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