Tivoli Workload Scheduler Extended Agent for Peoplesoft (May 2000)

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Preface

The Tivoli Workload Scheduler Extended Agent for PeopleSoft User’s Guide provides task-oriented information on how to set up and use Workload Scheduler to control and execute PeopleSoft jobs in the Workload Scheduler job control environment.

Who Should Read This Guide

The target audience for this guide is system administrators and managers who set up and use Tivoli Workload Scheduler to control PeopleSoft jobs. Users of the guide should have some knowledge of:

- The Windows NT operating system
- PeopleSoft
- PeopleSoft Process Scheduler
- Tivoli Workload Scheduler

Prerequisite and Related Documents

The following related documentation:

- Tivoli Workload Scheduler User’s Guide
  Provides information about using Tivoli Workload Scheduler to monitor and manage your job scheduling environment.

What This Guide Contains

The Tivoli Workload Scheduler Extended Agent for PeopleSoft User’s Guide contains the following sections:

- Chapter 1, “Introduction”
  Describes the features of the extended agent for PeopleSoft.

- Chapter 2, “Implementation Planning”
  Describes prerequisites for installation.

- Chapter 3, “Installation”
  Describes how to install the product.
Chapter 4, “Setting Up”
Describes how to configure an extended agent workstation, and
set up PeopleSoft jobs and schedules in Workload Scheduler.

Conventions Used in This Guide

The guide uses several typeface conventions for special terms and
actions. These conventions have the following meaning:

**Bold**  Commands, keywords, file names, or other information that
you must use literally appear in **bold**. Names of windows,
dialogs, and other controls also appear in **bold**.

*Italics*  Variables and values that you must provide appear in *italics*.

**Monospace**  
Code examples appear in monospace format.

Platform-specific Information

The following table identifies text used to indicate platform-specific
information or procedures. For the latest list of supported platforms,
contact the Tivoli Customer Support Representative.

<table>
<thead>
<tr>
<th>Text</th>
<th>Supported Platform</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIX 4.x</td>
<td>IBM RS/6000 series running AIX 4.2 or 4.3</td>
</tr>
<tr>
<td>DG/UX</td>
<td>Data General AViiON series running DG/UX R4.20MU04</td>
</tr>
<tr>
<td>HP-UX 10.20 and 11.0</td>
<td>HP9000/700 and 800 series running HP-UX 10.20 or 11.0</td>
</tr>
<tr>
<td>SGI</td>
<td>IRIX 6.5</td>
</tr>
<tr>
<td>NCR</td>
<td>SVR4 MP-RAS v3.02 UNIX</td>
</tr>
<tr>
<td>Dec Unix</td>
<td>OSF1 4.0D and 4.0F</td>
</tr>
<tr>
<td>SINIX Pyramid</td>
<td>5.4.4 and 5.4.5</td>
</tr>
<tr>
<td>Sequent</td>
<td>DYNIX 4.4.x and 4.5.1</td>
</tr>
<tr>
<td>SCO</td>
<td>UnixWare 7.1.0</td>
</tr>
<tr>
<td>Solaris</td>
<td>Sun SPARC series running Solaris 2.6 and 2.7</td>
</tr>
</tbody>
</table>
Contacting Customer Support

If you encounter difficulties with any Tivoli products, you can enter http://www.support.tivoli.com to view the Tivoli Support home page. After you link to and submit the customer registration form, you will be able to access many customer support services on the Web.

Use the following phone numbers to contact customer support in the United States: the Tivoli number is 1-800-848-6548 (1-800-TIVOLI8) and the IBM number is 1-800-235-5511 (press or say 8 after you reach this number). Both of these numbers direct your call to the Tivoli Customer Support Call Center.

We are very interested in hearing from you about your experience with Tivoli products and documentation. We welcome your suggestions for improvements. If you have comments or suggestions about this documentation, please send e-mail to pubs@tivoli.com.

You can also contact Tivoli at the following addresses:


E-mail address for technical support. support@tivoli.com

E-mail address for documentation comments. pubs@tivoli.com
Introduction

The Tivoli Workload Scheduler (TWS) Extended Agent for PeopleSoft enables you to execute and monitor PeopleSoft jobs from the TWS environment. These jobs can be executed as part of a schedule or submitted for ad-hoc job processing. PeopleSoft extended agent jobs can have all of the same dependencies, and recovery options as other TWS jobs. PeopleSoft jobs must be documented in TWS to be executed and controlled in the TWS environment.

Features

- The TWS Extended Agent for PeopleSoft 7.0 and 7.5 has been certified by PeopleSoft on Windows NT 4.0 with Service Pack 4.
- Use TWS’s standard job dependencies on PeopleSoft jobs.
- Schedule PeopleSoft jobs to run on specified days, times, and in a prescribed order.
- Define inter-dependencies between PeopleSoft jobs and jobs that run on different systems such as SAP R/3 and Oracle Applications.
- Define inter-dependencies between PeopleSoft jobs and jobs that run on different platforms, including Win NT, MVS, HPUX, MPE, and UNIX.
Functional Overview

TWS can launch and monitor jobs in the PeopleSoft Process Scheduler using a PeopleSoft Extended Agent workstation. The PeopleSoft extended agent is defined in a standard TWS workstation definition. This definition is a logical workstation name and specifies the access method as `psagent`. The access method is used to communicate job requests to the PeopleSoft Process Scheduler.

To launch a PeopleSoft job, TWS executes the method, `psagent`, passing it information about the job. An options file provides the method with path, executable and other information about the PeopleSoft Process Scheduler used to launch the job. The extended agent can then access the PeopleSoft Process Request table and make an entry in the table to launch the job. Job progress and status information are written to the job’s standard list file.

Process Scheduler Jobs

The Process Scheduler uses entries in the Process Request table (PSPRCSRQST) to drive its work decisions. These entries describe the processes which the Process Scheduler server agent will launch. They also contain the information required to determine the status of the process. The TWS Extended Agent for PeopleSoft software can insert entries, inquire against the contents and modify the status information within this table (PSPRCSRQST).

When documenting a PeopleSoft job in TWS, the user is actually defining a Process Request to be inserted in the Process Request table (PSPRCSRQST). A process request from TWS must contain three valid pieces of data:

- a process definition
- an operator ID
- a run control ID

All of these items are required for a PeopleSoft job to execute. Note that the Process Scheduler runs on both UNIX and NT whereas the TWS Extended Agent for Peoplesoft runs on UNIX only.
PeopleSoft Job Tracking in TWS

A job in PeopleSoft is a collection of processes that run together as a single unit. TWS jobs can be defined:

- as PeopleSoft jobs, that is, as a collection of PeopleSoft processes. In this case, the status of the PeopleSoft job is tracked, not the status of the individual processes within the job.
- or as PeopleSoft processes. In this case, the status of the individual process is tracked and TWS schedules can be defined to create complex inter-dependencies and recovery options between PeopleSoft processes.

Security

Security for the PeopleSoft jobs is handled by standard Workload Scheduler security.

Batch Processing ID in PeopleSoft

Tivoli Systems recommends that you create a batch processing operator ID in PeopleSoft that has access to all processes within PeopleSoft. All jobs scheduled with TWS should use this operator ID.

The Options Editor

Tivoli Systems recommends that you restrict access to the options editor executable.

If you have multiple installations of the Extended Agent for PeopleSoft, you can enhance security by maintaining a only one copy of the options editor (on the master workstation for example). Using FTP you can manage all your encrypted options files from one location.
Implementation Planning

TWS Extended Agent for Peoplesoft Host Requirements

The TWS Extended Agent for Peoplesoft host has the following requirements:

- must be a Fault Tolerant Agent or Master
- must have network access to the PeopleSoft database
- must be capable of being a PeopleSoft workstation
- must have access to the PeopleSoft and MicroFocus COBOL support libraries

If your site has multiple Process Servers for a single PeopleSoft database, you can configure one TWS Extended Agent workstation (using multiple options files) to process jobs on multiple Process Servers.

Software Requirements

The TWS Extended Agent for PeopleSoft has the following software requirements:

- Windows NT 4.0 with Service Pack 4 or higher
- TWS version 6.x, or 7.0
- PeopleSoft version 6.0, 7.0, 7.5
Software Requirements

Notes:

1. The Extended Agent for PeopleSoft 7.5 was compiled on Micro Focus Express 2.1
2. The TWS Extended Agent for PeopleSoft 6.0 and 7.0 was compiled on Micro Focus COBOL Compiler version 4.1
3. The compiler is not required if you use the Windows NT Process Scheduler executable provided. If you modify the Process Scheduler executable or your Process Scheduler is running in UNIX you will need the Micro Focus Express 2.1 compiler for PeopleSoft 7.5 and the Micro Focus COBOL Compiler 4.1 for PeopleSoft 6.0 and 7.0.

Patch Requirement for Tivoli Workload Scheduler

This release of the software requires that one or more patches to Tivoli Workload Scheduler or the Extended Agent be installed before implementation. Please contact Tivoli Support for the latest patches at 1-800-TIVOLI8 or go to the support webpage for information and patch installation instructions. The support webpage is located at the following URL:

http://www.support.tivoli.com/patches

The readme for each patch provides information about the fixes contained within that patch.

Windows NT User Setup

- Use Windows User Manager to create a User ID. The permissions for this user should be set up to allow access to the PeopleSoft software and Tivoli Workload Scheduler.
- Log on as the new user.
- Mount the appropriate drives for PeopleSoft. Be sure to select "Reconnect at Logon". The drive letter should be the same as the one you have specified as PSDRIVE in psagent.opts.
- Perform a workstation setup. Follow the instructions supplied with your PeopleSoft software.
Create a Tivoli Workload Scheduler user of the same name. This is the user name used to document jobs in Tivoli Workload Scheduler for the PeopleSoft extended agent.

Backup Prior to Installation

The installation of the TWS Extended Agent for PeopleSoft replaces two files in your PeopleSoft installation:

- PTPUPRCS.exe
- PTPUPRCS.gnt

These two files are located in the COBOL root directory (CBLBIN) specified for your PeopleSoft installation.

Tivoli Systems recommends that you back up these files prior to installation. The installation process saves copies of the old versions by adding the extension .old.

Verifying the PeopleSoft Environment

Make sure that your PeopleSoft environment is properly configured and that PeopleSoft jobs can be executed successfully by the Process Scheduler.

Creating a Batch Processing ID in PeopleSoft

Tivoli Systems recommends that you create a operator ID in PeopleSoft dedicated to batch scheduling and that all jobs submitted by Tivoli Workload Scheduler use this operator ID.

Installed Files

The following files are installed to Tivoli Workload Scheduler and PeopleSoft during the installation of the Extended Agent for PeopleSoft:
### Installed Files

<table>
<thead>
<tr>
<th>Destination</th>
<th>Files</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>twshome\PeopleSoft</code></td>
<td>TVPUPSF.T.dms</td>
<td>Tivoli Workload Scheduler User</td>
</tr>
<tr>
<td></td>
<td>PTCUDCOP.cbl</td>
<td></td>
</tr>
<tr>
<td><code>twshome\bin</code></td>
<td>psoption.exe</td>
<td>Tivoli Workload Scheduler User</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><code>twshome\methods</code></td>
<td>psagent.exe psagent.opts MSVCRT.DLL (only if it does not exist) MSVCRT20.DLL (only if it does not exist) MSVCRT40.DLL (only if it does not exist) MSVCIRT.DLL (only if it does not exist)</td>
<td>Tivoli Workload Scheduler User</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><code>PSDRIVE\PSVER\cblbin</code></td>
<td>PTPUPRCS.exe TVPUPSF.T.exe TVPUPSF.T.gnt</td>
<td>Owner of PTPUPRCS.exe</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Installation Procedure

To install the Tivoli Workload Scheduler (TWS) Extended Agent for PeopleSoft from CD-ROM, perform the following steps:

1. Shut down TWS before proceeding.
2. Log in with administrator privileges.
4. Insert the product CD in your CD-ROM drive.
5. From the Start menu, select Run and execute the following command:
   \[ D:\PSOFT\I386\PTxxx\SETUP.EXE \]
   where \( D \) is your CD-ROM drive letter and \( PTxxx \) is either PT600 for PeopleSoft 6.0, PT700 for PeopleSoft 7.0, or PT750 for PeopleSoft 7.5.

   This starts the install program which prompts you for installation information. The Welcome window is displayed.
6. The Welcome window provides information about installing the PeopleSoft Extended Agent software. To continue, click the Next button. The Select TWS User window is displayed.
7. Select a Workload Scheduler user from the display field. Click the Next button. The PeopleSoft Information window is displayed.

8. Enter the PeopleSoft drive letter and the relative path to your PeopleSoft home root directory.
9. Click the Next button. An information window is displayed showing the data you entered. Use this window to verify your selections.
Installation Procedure

Figure 4. Set up Information

10. If the information is correct, click the Next button. If the information is not correct, click the Back button to re-enter the data. A bar graph is displayed showing the installation progress. Click the Cancel button to interrupt the installation.

11. When installation is complete, click the Yes button to run the Options editor and create the PeopleSoft options file.

Creating the Options File

The PeopleSoft extended agent options file is created during the installation and used to set up the method run environment. It specifies which database user the method uses to connect to the PeopleSoft database, and is used to specify the polling rate to the PeopleSoft module for checking job status.

This file must reside on the host computer for the extended agent in the WShome\methods directory.
Creating the PeopleSoft Options File

The options file editor is used to create and modify the Extended Agent for PeopleSoft options file. You can have more than one options file. The options file editor can encrypt the contents of the options file.

To create the PeopleSoft Options file:

1. Open the Options Editor.
2. Open an existing file or create a new options file. The name of the options file you are editing is displayed in the top left corner of the editor window.
3. Enter the parameter values specific to your site.

Figure 5. The Options Editor
# Creating the Options File

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Launch Job User</td>
<td>Enter the Windows NT user ID which launches the TWS jobs. This Windows NT user must be a valid Workload Scheduler User on the host workstation.</td>
</tr>
<tr>
<td>Modify Job User</td>
<td>Enter your NT user ID which executes a job modify. The default value is to match the Launch Job User.</td>
</tr>
<tr>
<td>Check File User</td>
<td>Enter your NT user ID which executes a check file. The default value is to match the Launch Job User.</td>
</tr>
<tr>
<td>Status Check Interval</td>
<td>Enter the number of minutes between status checks when monitoring a Process Request. The default value is 2.</td>
</tr>
<tr>
<td>PeopleSoft Drive Letter</td>
<td>Enter the NT drive letter for the PeopleSoft files.</td>
</tr>
<tr>
<td>PeopleSoft Home Directory</td>
<td>Enter the home directory to the PeopleSoft files.</td>
</tr>
<tr>
<td>COBOL Root Directory</td>
<td>Enter the path to the base directory for the Micro Focus COBOL libraries.</td>
</tr>
<tr>
<td>Database Type</td>
<td>Enter the RDBMS system type. Choose one of the following:</td>
</tr>
<tr>
<td></td>
<td>- ORACLE</td>
</tr>
<tr>
<td></td>
<td>- MICROSOFT (Microsoft SQL Server)</td>
</tr>
<tr>
<td></td>
<td>- DB2 (DB2 for MVS)</td>
</tr>
<tr>
<td></td>
<td>- DB2UNIX</td>
</tr>
<tr>
<td></td>
<td>- SQLBASE</td>
</tr>
<tr>
<td></td>
<td>- DB2ODBC</td>
</tr>
<tr>
<td></td>
<td>- DB2400</td>
</tr>
<tr>
<td></td>
<td>- INFORMIX</td>
</tr>
<tr>
<td></td>
<td>- SYBASE</td>
</tr>
<tr>
<td></td>
<td>- DB2MDI</td>
</tr>
<tr>
<td>Database Server Name</td>
<td>Enter the Database Server Name. This is for Informix and Sybase only.</td>
</tr>
<tr>
<td>Database Name</td>
<td>Enter the name of the PeopleSoft database you want to connect to.</td>
</tr>
<tr>
<td>Password</td>
<td>Enter the Password for the operator ID.</td>
</tr>
<tr>
<td>Operator ID</td>
<td>Enter the operator ID used to connect to the PeopleSoft database.</td>
</tr>
</tbody>
</table>

3. Installation
Creating the Options File

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default Process Server</td>
<td>Enter the default process server that executes jobs in PeopleSoft.</td>
</tr>
</tbody>
</table>

4. Check the Save Options Encrypted checkbox to encrypt the contents of the options file.

5. Save the file as `psagent.opts` and copy the file to the `WShome\methods` directory.

**Example Options File**

Below are two example options files. These examples are meant to help you determine your specific site requirements. Your options file may differ from the examples below.

**Example 1**

- Launch Job User maestro
- Modify Job Usermaestro
- Check File Usermaestro
- Status Check Interval 2
- PeopleSoft Drive Letter N:
- PeopleSoft Home Directory FS600
- COBOL Root Directory FS600
- Database Type Oracle
- Database Name FSDMO
- Operator ID VP1
- Default Process Server PSNT

**Example 2**

- Launch Job User maestr1
- Modify Job Usermaestr1
- Check File Usermaestr1
- Status Check Interval 5
- PeopleSoft Drive Letter N:
- PeopleSoft Home Directory FS600
- COBOL Root Directory FS600
- Database Type Oracle
- Database Name HRDMO
Connecting to More than One PeopleSoft Database

It may be necessary for the method **psagent** to connect to more than one PeopleSoft database. For example, a single installation of PeopleSoft may have a TEST, DEMO, and PRODUCTION environment, each with a separate database. This requires that the method **psagent** use a separate connect string for each database.

In order to support this, you can setup multiple TWS workstations that connect to the same method but use different options files. When a workstation starts the method it first looks for the options file with that extended agent workstation name prepended to **psagent.opts**. For example, a PeopleSoft Extended Agent named jupiter would have the following options file:

```
jupiter_psagent.opts
```

The method **psagent** searches first for an options file with the workstation name appended, and then for the default **psagent.opts** file. This allows the user to set up an extended agent for each PeopleSoft database.

The installation process will set up only the default options file, unqualified by the extended agent workstation name. If you need to connect to only one database use the default name for the options file, **psagent.opts**.

An Extended Agent for PeopleSoft product license may be required for each production installation of PeopleSoft that is connected to TWS.

Setting Up the PeopleSoft Environment

**Windows NT PeopleSoft Server**

If your PeopleSoft server is a Windows NT machine, the following files are added to your COBOL bin directory in your PeopleSoft installation:

- **PTPUPRCS.exe**
Creating the Options File

- PTPUPRCS.gnt
- TVPUPSFT.exe
- TVPUPSFT.gnt

**UNIX PeopleSoft Server**

If your PeopleSoft server is a UNIX machine, Tivoli has provided source code that must be compiled to create the PTPUPRCS.exe file. The source code is in a file called PTCUPDCOP.cbl and is located in the following directory:

N:\PSVER\src\cbl\base directory

where N: is your PeopleSoft drive letter and PSVER is your PeopleSoft version number. See your PeopleSoft administrator to accurately this code.

**Note:** This is the default location for this file. The exact location can vary from site to site, depending on your installation input.

**Building the Process Server on UNIX**

To build the process server on a UNIX machine:

1. Log onto the UNIX server.
2. Change the current directory to the PeopleSoft Home directory.
3. Run the psconfig.sh script.
4. Change directories to the $PS_HOME/src/cbl directory.
5. Rename the PTCUDCOP.cbl to PTCUDCOP.old using the following command:
   ```
   mv PTCUDCOP.cbl PTCUDCOP.old
   ```
6. Copy PTCUDCOP.cbl from the extended agent (twshome/PeopleSoft) using FTP.
7. Execute the following commands:
   ```
   copy cd ..../install
   pscbl.mak PTPUPRCS
   ```
Modifications to the PTPUPRCS File
Whether your PeopleSoft Server is Windows NT or UNIX, if you have made any modifications to the PTPUPRCS.exe file you will have to merge your code changes with the changes made by Tivoli. The source code for our modifications are provided in the file PTCUPDCOP.cbl.

If you install a new version of PeopleSoft, make sure the Tivoli modifications to the PTPUPRCS.exe file are not overwritten or TWS controlled jobs will not execute correctly.

Running the Data Mover Script
After the installation sequence is complete the PeopleSoft Data Mover is used to moved the stored procedures for the PeopleSoft Extended Agent into place. For more information on the Data Mover script consult your Peoplesoft documentation.

1. Click on the DataMover icon in the PeopleSoft group. The Peoplesoft Signon window is displayed with a list of database types.
Creating the Options File

2. Select the appropriate database, and click **OK**. The PeopleSoft login window is displayed.

3. Fill in the login fields, and click **OK**. The Data Mover window is displayed.

4. From the **File** menu on the Data Mover window, select the **Open** command. Open the following file in the Data Mover window: \TWShome\PeopleSoft\TVPUPSFT.dms

5. Once you have loaded the scripts in the Data Mover window, run the scripts.
   
   The Data Mover window is separated into two parts. The upper section shows the Data Mover script statements. The lower part shows the status of the script statements as they execute.

6. Verify that all the scripts ran successfully.
If statements fail, check the startup window values for correct Database Name, Login ID, Password... then repeat this process. If the Data Mover script continues to fail, see your DBA to determine if there is a problem in your database.

**Note:** The Data Mover script must be run on each database the TWS Extended Agent for PeopleSoft will use. To run the scripts on another database, change the database name and/or RDBMS in the login sequence.
Setting Up the Extended Agent

This chapter describes how to create a Peoplesoft workstation definition in TWS, and create jobs and job streams using the Extended Agent for PeopleSoft.

Creating a Peoplesoft Extended Agent Workstation

Extended Agent workstation definitions are required for each installation of Peoplesoft that will execute Workload Scheduler controlled jobs. They are defined the same as standard workstations except they include the name of the extended agent’s host workstation and the access method name, psagent. The following figures show a workstation definition window for a Peoplesoft Extended Agent workstation. Both the JS Console GUI and legacy GUI screens are shown.
Creating a Peoplesoft Extended Agent Workstation

Figure 8. Properties - Workstation in Database Window (JS Console GUI)
To define an Extended Agent for Peoplesoft workstation:

1. Log into the Job Scheduling Console.
2. Highlight the TWS Engine.
3. From the Selected Menu, click New Workstation. The Properties - Workstation in Database window is displayed.
4. In the Name field, specify a name for this workstation. The workstation name can have up to 8 alphanumeric characters for unexpanded database or 16 alphanumeric characters for expanded database. The name can including a dash and underscore, but must begin with a letter.
5. In the Node field, specify the node name or the IP address of the workstation running the process scheduler. Fully qualified domain names are accepted. This is a required field.
6. In the TCP Port field, enter 0.
7. For Operating System, select OTHER.
Creating a PeopleSoft Extended Agent Workstation

8. In the Domain field, enter the domain name of the host workstation. The Extended Agent and the Host workstation must be in the same domain.

9. In the Time Zone field, enter the Time zone of the Extended Agent workstation. This option is only valid if time zones are turned on in your TWS network.

10. In the Description field, enter a description for the Extended Agent workstation. This field is an optional text description of the workstation (up to 40 characters).

11. In the Workstation Type field, select Extended Agent.

12. In the Access Method field, enter the name of the PeopleSoft access method, `psagent`. This file is executed by the Workload Scheduler host to connect to an instance of PeopleSoft. Click the Methods button to select the `psagent` method from a list.

13. In the Host workstation field, enter the name of the Extended Agent’s host workstation. This is the Master, domain manager, or fault-tolerant agent that hosts the Extended Agent for PeopleSoft workstation definition. Click the workstations button to select a workstation from the list.

14. Click OK to save the workstation definition to the database.

**Note:** The new workstation will not be recognized by Workload Scheduler (TWS) until Jnextday executes.

**Command Line Example**

PeopleSoft workstation definitions can also be entered using the Composer command line. The workstation definition shown in the previous example would be entered as follows:

```
cpuname ps_cpu
node ps_cpu
os other
description "Peoplesoft Extended Agent"
for maestro
host tws_host_wkstn
```
Creating a Peoplesoft Extended Agent Workstation

access psagent
end

For information about using the command line to create a workstation definition, refer to the Tivoli Workload Scheduler Reference Guide.

Creating Peoplesoft Job Definitions

TWS job definitions are required for each Peoplesoft job you intend to control. Peoplesoft jobs are defined in TWS like other jobs and include job name, owner name, script file specifications, and recovery options. The following figure shows a Job Definition window for an extended agent job. Both the JS Console GUI and legacy GUI screen versions are shown.

![Job Definition Window](image)

*Figure 10. Properties - Job Definition Window (JS Console GUI)*
To define a Peoplesoft job in Workload Scheduler:

1. Log into the Job Scheduling Console.
2. Highlight the TWS Engine.
3. From the Selected Menu, click New Job Definition. The Select a Task Type window is displayed.
4. Select the Extended Agent Task as the task type.
5. Click OK. The Properties - Job Definition window is displayed.
6. In the Name field, enter a name for this job. The job name can have up to 8 alphanumeric characters for unexpanded database or 40 alphanumeric characters for expanded database. The name can including a dash and underscore, but must begin with a letter.
7. In the Workstation field, enter the name of the Peoplesoft extended agent workstation.

Creating Peoplesoft Job Definitions

![Properties - Job Definition Window (Legacy GUI)](image)

Figure 11. Properties - Job Definition Window (Legacy GUI)
8. In the Description field, enter a description for the job. The description can be up to 64 characters.

9. In the Login field, enter the Peoplesoft user ID who runs the Peoplesoft jobs. This user ID is required to run jobs in Peoplesoft, and it will appear in TWS displays.

**Note:** Recovery Options are optional. For information on Recovery Options and other Job control features refer to the *Tivoli Workload Scheduler User's Guide*.

10. Click the Task tab. Both the JS Console GUI and Legacy GUI screens are shown in the following figures.

![Figure 12. Properties - Job Definition: Task (JS Console GUI)](image)

**Creating Peoplesoft Job Definitions**

---

4. Setting Up the Extended Agent
Creating Peoplesoft Job Definitions

11. In the Command field, enter the specifications for the Peoplesoft job file. There are four parameters:

- operator *opid*
- process *procname*
- type 'proctype'
- runcontrol *runcontrol_id*

where:

*opid*  Specify the PeopleSoft operator ID to use in connecting to the database.

*procname*  Specify the Process name for the PeopleSoft job.

*proctype*  Specify the Process type for the PeopleSoft job. This entry must be enclosed in single quotes.
Creating Peoplesoft Job Definitions

runcontrol_id
Specify the runcontrol ID for the PeopleSoft job.

12. Click **OK** to save the job definition to the database.

**Command Line Example**

Jobs can also be defined at the Composer command line. The following example documents a Workload Scheduler job named PSJOB2 that runs on an Peoplesoft Extended Agent workstation named Peoplesoft. If recovery is needed, Workload Scheduler will run job RECOV2 and then continue processing.

```bash
PS_CPU#PS_JOB
STREAMLOGIN PEOPLESOFTJOBS
SCRIPTNAME "-OPERATOR OPID -PROCESS PROCNAME -TYPE 'PROCTYPE' \ -RUNCONTROL RUNCONTROL_ID"
DESCRIPTION "PEOPLESOFT JOB"
RECOVERY CONTINUE AFTER RECOV2
```

For information about using the command line to create Peoplesoft job definitions, refer to the *Tivoli Workload Scheduler Reference Guide*.

**Creating Peoplesoft Job Streams**

Peoplesoft job streams are created in the same manner as other Workload Scheduler job streams and can include dependencies and other controls. The following figure shows a Job Stream Editor window for a job stream that includes Extended Agent for Peoplesoft jobs.
Creating Peoplesoft Job Streams

To define a job stream using Peoplesoft jobs:

1. Log into the Job Scheduling Console.
2. Highlight the TWS Engine.
3. From the Selected Menu, click New Job Stream. The Properties - Job Stream window is displayed in the Job Stream Editor.
4. In the Name field of the Properties - Job Stream window, specify the name of the job stream. You can enter up to 8 alphanumeric characters for unexpanded database or 16 alphanumeric characters for expanded database. In the Workstation field of the Properties - Job Stream window, specify the Extended Agent for Peoplesoft workstation. In the Description field of the Properties - Job Stream window, enter a description of the job stream.
5. Click the OK button to save and close the job stream properties. The Job Stream Editor is now displayed.
6. Add the Peoplesoft jobs to the job stream:
   a. Click the Add Job Definition button on the toolbar. The Properties - Job window is displayed.
Creating Peoplesoft Job Streams

b. Use the search button to search for and select the Peoplesoft job definition you want to add to the job stream. Once you have selected a job the workstation field is automatically filled in.

c. You can now optionally add time restrictions, resource dependencies, files dependencies, or prompts to the job. For more information, refer to the *Tivoli Workload Scheduler User’s Guide*.

d. After you have completed all the fields, click **OK**. The job is added to the job stream.

7. If you added two or more jobs, you can create a follow dependency between the jobs.

   a. Ensure that the jobs are displayed in the Graph View of the Job Stream Editor.

   b. Click the **Add Link** button on the toolbar and then click the predecessor job icon and drag the link to the successor job icon. An arrow is drawn between the two jobs. This arrow represents a follows dependency between the two jobs.

8. Create run cycles that determine the days that this job stream will execute. Create run cycles using the Run Cycle view of the Job Stream Editor, for more information refer to the *Tivoli Workload Scheduler User’s Guide*.

9. Compare run times of the job stream and the jobs and adjust them as necessary.

10. Save the job stream.

**Note:** When creating Job Streams using Peoplesoft Extended Agent jobs, you can use TWS standard dependencies and other controls. For more information about using these features refer to the *Tivoli Workload Scheduler User’s Guide*.

### Command Line Example

Schedules can also be defined using the Composer command line. The following example shows a Extended Agent for Peoplesoft job stream definition.
Creating Peoplesoft Job Streams

SCHEDULE PS_CPU#MYJOBSTREAM
ON MONTHEND
AT 1600
:
MASTER#MYJOB
PS_CPU#PS_JOB1 FOLLOWS MASTER#MYJOB
PS_CPU#PS_JOB2 FOLLOWS PS_CPU#PS_JOB1
END

For information about using the command line interface to create schedules, refer to the Tivoli Workload Scheduler Reference Guide.

Setting up Opens Dependencies

You can set up a TWS opens dependencies on PeopleSoft jobs. TWS opens dependencies are mapped to an SQL “select count” command with a “where” clause on the PeopleSoft database. This SQL basically checks that values you select exist in the database. If the specified entries do exist in the database, the count will return with a value and the job will execute. If the specified entries do not exist in the database, the count will return with a 0 and the job will not be allowed to execute. A result of zero is false; any other value is true.

Note: When creating the opens dependency in the GUI, the table is listed under the file text box, and the column and data are listed as qualifiers in the qualifiers text box

For example:

opens /PSSERVERSTAT

results in the following SQL command:

select count(*) from PSSERVERSTAT;

This returns a count of the rows in PSSERVERSTAT. A result of zero is false; any other value is true.

Another example is:

opens /PSSERVERSTAT ("SERVERNAME = 'PSNT' AND SERVERSTATUS = 3")
Setting up Opens Dependencies

results in the following SQL command:

```sql
select count(*) from PSSERVERSTAT where SERVERNAME = 'PSNT' AND SERVERSTATUS = 3;
```

This returns a count of the rows in PSSERVERSTAT for the server PSNT where the status is 3 (running).

To set up an opens dependency on a job:

1. Edit the job stream you want to add a opens dependency to in the command line mode.

2. Add the following command string to the job:

   ```
   cpu#job opens /table("column = 'data'")
   ```

   where:
   - `table` Specifies the name of the PeopleSoft table you want to open.
   - `column` Specifies the name of the column you are looking for.
   - `data` Specifies the data within that column that matches your search.

3. Save the changes you have made and close the schedule.

   **Note:** The table data you are searching for must be enclosed in double quotes.

**Example Opens Dependencies**

The following job streams have examples of opens dependencies.

**Example Job Stream with Opens Dependency**

```plaintext
SCHEDULE PS_CPU#TEST01
   ON EVERYDAY
   :
   PS_CPU#XRFWIN1
   PS_CPU#XRFAPF1
   PS_CPU#XRFPNP1 FOLLOWS XRFAPF1
   PS_CPU#SYSAUDT1 FOLLOWS XRFWIN1
   PS_CPU#PTPTEDT1 OPENS /PSPRCSRQST ("PRCSTYPE = 'SQR Report' AND \ RUNSTATUS = 9")
```
Setting up Opens Dependencies

```plaintext
PS_CPU#XRFILD1  FOLLOWS XRFPNP1,PTPTEDT1
PS_CPU#DDDAUDT1  FOLLOWS PTPTEDT1,TEST02.0
PS_CPU#TLS7011  FOLLOWS TEST02.0,DDDAUDT1
END
```

Example Job Stream with Opens Dependency

```plaintext
SCHEDULE PS_CPU#TEST02
   ON EVERYDAY
   AT 1330:
   PS_CPU#XRFWIN2  OPENS /PSSERVERSTAT ("SERVERNAME = 'PSNT' AND \ 
   SERVERSTATUS = 3")
   PS_CPU#XRFAPF2  FOLLOWS TEST01.XRFAPF1
   PS_CPU#XRFPNP2  FOLLOWS XRFAPF2
   PS_CPU#SYSAUDT2  FOLLOWS XRFWIN2
   PS_CPU#PTPTEDT2  OPENS /PSPRCSRQST ("PRCSTYPE = 'SQR Report' AND \ 
   RUNSTATUS = 9 AND PRCSNAME = 'DDDAUDIT'")
   PS_CPU#XRFILD2  FOLLOWS XRFPNP2,PTPTEDT2
   PS_CPU#DDDAUDT2
END
```

TWS and PeopleSoft Job Status Mapping

When an PeopleSoft job is launched by TWS, you can monitor its progress with TWS’s Console Manager. The state transitions in TWS and the corresponding PeopleSoft states are listed below.

<table>
<thead>
<tr>
<th>PeopleSoft Status</th>
<th>TWS Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CANCEL</td>
<td>CANCEL/ABEND</td>
<td>Either a PeopleSoft operator or the method has marked the process request for cancellation. The method will do this in response to a TJ task.</td>
</tr>
<tr>
<td>DELETE</td>
<td>CANCEL</td>
<td>A PeopleSoft operator has marked the process request for deletion.</td>
</tr>
<tr>
<td>ERROR</td>
<td>FAIL</td>
<td>The attempt to launch failed for some reason. In this case the process request never actually started execution.</td>
</tr>
<tr>
<td>HOLD</td>
<td>HOLD</td>
<td>The process is ineligible for launching. This may be due to unsatisfied dependencies.</td>
</tr>
<tr>
<td>QUEUED</td>
<td>READY</td>
<td>Ready to launch.</td>
</tr>
<tr>
<td>INITIATED</td>
<td>INIT</td>
<td>Attempting to launch.</td>
</tr>
</tbody>
</table>
TWS and PeopleSoft Job Status Mapping

<table>
<thead>
<tr>
<th>PeopleSoft Status</th>
<th>TWS Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROCESSING</td>
<td>EXEC</td>
<td>Process is executing.</td>
</tr>
<tr>
<td>CANCELLED</td>
<td>CANCEL/ABEND*</td>
<td>Process cancelled.</td>
</tr>
<tr>
<td>SUCCESSFUL</td>
<td>SUCC</td>
<td>Successful execution.</td>
</tr>
<tr>
<td>NOT SUCCESSFUL</td>
<td>ABEND</td>
<td>Execution failed.</td>
</tr>
</tbody>
</table>

**Note:** Processes that are cancelled in PeopleSoft will be aborted if they are already executing. The TWS status mapping must reflect this. A process cancelled that has never been initiated should be CANCEL in TWS. A process that has been initiated should be ABEND.

**Note:** A process request marked for deletion in the process scheduler can never be eligible to launch. The record is cleared out of the table during a regular maintenance process. For purposes of JNEXTDAY processing, such requests should be considered non-existent.

### Uninstalling the Extended Agent

PeopleSoftTo uninstall the Extended Agent for PeopleSoft from your host workstation, you should run the install executable provided with the program.

To uninstall the Extended Agent for PeopleSoft workstation:

1. Run the uninstall executable as administrator.
   
   ```
   TWShome\PeopleSoft\uninstall.exe
   ```
2. This program will guide you through the uninstall process.
3. The uninstall program does not delete the files that were replaced in your PeopleSoft installation. If you have multiple Extended Agents accessing the PeopleSoft database these files are still necessary. If you are completely uninstalling the Extended Agent for PeopleSoft make sure that you restore the default PeopleSoft files that were modified for the installation. These include the files `PTPUPRCS.exe` and `PTPUPRCS.gnt`. 
Uninstalling the Extended Agent
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