Oracle® Fusion Middleware

Installation Guide for Oracle Team Productivity Center Server

11*g* Release 2 (11.1.2.0.0)

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This document provides information on:

- Section 1, "Oracle Team Productivity Center Server System Requirements"

- Section 2, "Installing the Oracle Team Productivity Center Server"

- Section 3, "Installing an Oracle Team Productivity Center Connector"

- Section 4, "Installing Oracle Team Productivity Center Server on a Production Oracle WebLogic Server"

- Section 5, "Installing and Running CruiseControl Test Collection"

- Section 6, "Documentation Accessibility"

1 Oracle Team Productivity Center Server System Requirements

For the most current system requirements, please refer to the *Oracle Fusion Middleware Installation Guide for Oracle JDeveloper*.

2 Installing the Oracle Team Productivity Center Server

The installation software for Oracle Team Productivity Center Server is distributed as a platform-independent JAR file. Download the Oracle Team Productivity Center Server installation JAR file from the Oracle Technology Network (OTN) web site: http://www.oracle.com/technetwork/developer-tools/tpc/downloads/index.html

The following sections describe how to install the Oracle Team Productivity Center Server:

- Section 2.1, "Before You Begin"

- Section 2.2, "Prerequisites for Installation"

- Section 2.4, "Installer Screens for Server Installation"

- Section 2.5, "Upgrading Oracle Team Productivity Center Server with Apache Tomcat 6.0.20"

You can choose to install the Oracle Team Productivity Center Server either as a new installation or as an update to an existing server. The installation software is the same, but there are slight differences in the procedure for installing the server depending on whether you are creating a new installation or upgrading an existing one. Instructions for installing a new server or updating an existing one are included in Section 2.4, "Installer Screens for Server Installation".

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Note that the Oracle Team Productivity Center Server uses a generic database schema. Development and testing was performed on Oracle 10g/MySQL on Windows and Linux platforms.

2.1 Before You Begin

Before installing the Oracle Team Productivity Center Server, take note of the following terms that will help manage the server during and after installation:

- **Client**—the set of features in Oracle JDeveloper that allow interaction with team members, selecting work items, and otherwise tracking project development.

- **Server**—the software that manages the connections between the team's TPC features in Oracle JDeveloper and data repositories (such as a bug database, feature wiki, or directory of product features and specifications).

- **Connector**—the element that defines the data structures and user interface between Oracle Team Productivity Center and a given data repository. For example, presenting a list of bugs from the bug tracking tool in Oracle JDeveloper requires a connector to the bug tracking tool. For more information on this, see the online help for developing a connector.

- **Plug-in**—Oracle Team Productivity Center uses a distinct plug-in for each automated build system. The plug-in is installed on the server for its automated build system, and sends data to Oracle Team Productivity Center.

The Oracle Team Productivity Center installation package can perform the following functions:

- to perform the initial installation of the server

- to install or update connectors that the existing server installation will be able to access (such as project tracking software, or a feature/specification repository)

- to install or update plug-ins to external servers (such as build, test, continuous integration servers) that the existing Oracle Team Productivity Center Server can access

It is possible to install the Oracle Team Productivity Center software without installing a connector at the same time. Installing a connector or plug-in can be performed at any time after the installation of the server software.

2.2 Prerequisites for Installation

Before you run the installer, ensure that the following prerequisites are satisfied:

- Installation requires entering a user ID and password for the database to which Oracle Team Productivity Center is to be connected. Make sure that you have all user privileges that you require for full access to this database before beginning installation. For example, if an Oracle database is used, please make sure the user has been granted Connect and Resource options.

- Make sure to download the Oracle Team Productivity Server installation package, available from the Oracle Technology Network (OTN) web site: http://www.oracle.com/technetwork/developer-tools/jdev/downloads/index.html

- If you are using WebLogic Server as the installation server, make sure you are using 11g Release 1 (10.3.4).

Make a note of the directory containing the downloaded installation file, called `tpcinstaller.jar`. Installation requires navigating to that directory and executing a command-line instruction to install Oracle Team Productivity Center.

Make sure the system on which Oracle Team Productivity Server is to be installed is running the latest JDK, as required by the *Oracle Fusion Middleware Installation Guide for Oracle JDeveloper*.

2.3 Starting the Installer

The Oracle Team Productivity Center Server installation package is a JAR file. The package can be installed on Windows, Linux, or Mac OS X platforms that meet the Oracle JDeveloper standard requirements. The installation system must also be running a Java EE application server, on which the Oracle Team Productivity Center server will run when installed.

Installation begins from the command line; after launching the installer, it will continue with a sequence of installation screens containing selections as the installer proceeds with the installation.

To start the installer:

1. Navigate to the directory containing the Oracle Team Productivity Center installation file, `tpcinstaller.jar`.

2. From a command line (that is, a Linux or DOS command shell), type the following command, substituting the installation system's `JAVA_HOME` directory where indicated:

   `set JAVA_HOME=location of java_home`

   For example, on a Windows system with JDK 1.6.0_21 installed in the Program Files directory on the C:\ drive, the command would be:

   `set JAVA_HOME=C:\Program Files\Java\jdk1.6.0_21`

3. When the preceding command completes and the system command-line prompt is once again visible, type the following command:

   `set PATH=%JAVA_HOME%\bin;%PATH%`

4. When the preceding command completes and the system command-line prompt is once again visible, type the following command:

   `java -jar tpcinstaller.jar`

   This launches the Oracle Team Productivity Center installer, which proceeds with a number of screens as shown in the following section.

2.4 Installer Screens for Server Installation

The installer provides several screens, which specify various parameters for the installation. Depending on whether you are installing Oracle Team Productivity Center for the first time, or updating an existing installation, the responses you give to the screens may change.

Instructions for the server installation installer screens include the following:

- Welcome
- Installation Components
- Database Connection

1. **Welcome**

   On this screen, the Oracle Team Productivity Center installer shows the list of steps you can perform.

2. **Installation Components**

   Select the components of Oracle Team Productivity Center that you wish to install:

   - **Team Productivity Center Server**

     Select this option to install the Oracle Team Productivity Center Server framework and database schema.

   - **Connectors**

     Select this option to install connectors for information repositories you plan to use with Oracle Team Productivity Center. You will select the individual connectors, and the source from which you wish to install them, in a later step.

   - **Test/Build Plug-in**

     Select this option to install the test/build plug-ins into the test/build systems. These plug-ins add test and build summary information, required to integrate those systems into Oracle Team Productivity Center, such as the build dashboard and build summary screens.

   After entering all the selections, click **Next**. The Oracle Team Productivity Center Server installer will verify the connection before proceeding to the next step.

3. **Database Connection**

   Enter the following information for this installation's database connection:

   - **Connection type:**

     Connect using either generic JDBC or Oracle JDBC. Selecting generic JDBC causes the installer to prompt for the driver to use.

     For purposes of this installation, select **Oracle (JDBC)**

   - **JDBC URL:**

     Type the JDBC URL for the database connection used by this server. For example:

     ```
     jdbc:oracle:thin:@192.0.2.1:1521:orcl
     ```

   - **Username:**

     Type the selected username for the database to which you are connecting.

   - **Password:**

     Type the selected user's password.

- **Installation type:**

  Select whether you are performing a new installation or an upgrade.

After entering all the selections, click **Next**. The Oracle Team Productivity Center Server installer will verify the connection before proceeding to the next step.

You can install Oracle Team Productivity Center Server and connectors to a database other than an Oracle database. Using MySQL as an example, you would specify the values as follows:

- Connection Type: Generic JDBC

- Driver Library: `<JDEV_HOME>/oracle/wlserver_ 10.3/server/ext/jdbc/mysql/mysql-connector-java-commercial -5.0.3-bin.jar`

- Driver Class: `com.mysql.jdbc.Driver`

- JDBC URL: `jdbc:mysql://<host>:3306/<db_name>`

4. **Administrator Account (New Installation Only)**

    This step applies only to the initial installation of Oracle Team Productivity Center. If you are updating the Oracle Team Productivity Center server or connectors, use the administrator account information entered during the initial installation of Oracle Team Productivity Center.

    Installation requires creating an administrator account that will be used to seed the database with an Oracle Team Productivity Center user that has administrative privileges. The account name does not have to be the same as any existing name in the Oracle Team Productivity Center database. Be sure to follow safe, high-security password guidelines when creating your password.

    Enter the desired username, followed by the password for the account being created. Repeat the password to confirm, then click **Next**.

5. **Application Server Location**

    On this screen, you specify the application server type, then its location.

    To select the application server type, click on the correct button for your application server, selecting from the list labeled **Select the application server type**. Choose the appropriate server type from the list.

    To specify the location, enter a fully qualified path to the location on the Java EE application server selected to run the Oracle Team Productivity Center Server. It is possible to type the path, copy and paste it from another location screen, or click **Browse** to search for the path in the local file system. Note that the default port number is 61616; be sure to change the port number to the correct value for your application server.

    For example, on a Windows system running the Oracle WebLogic server, enter the following application server location:

    `C:\<WebLogic_Server_Home>\user_projects\domains\<Your_ Domain>\autodeploy`

    where `<fields>` represent the specific path information on the installation system.

    As another example, on a Windows system running the Apache Tomcat application server version 6.0.16 from the top level of its C:\ drive, enter the following application server location:

```
C:\apache-tomcat-6.0.16\webapps
```

If you are updating an existing installation of Oracle Team Productivity Center, be sure to use the same path used for the previous installation. The file `otpc.war` from the previous installation must be present in order to update successfully.

6. **Connector Source**

   On this screen, specify the location of the source file for the connector. Options are to search the Oracle JDeveloper Update Centers for connectors, or to install from a local file.

   To search the Oracle JDeveloper Update Centers:

   - Select **Search Update Centers**.

   - Select one or more of the Update Centers displayed on the screen.

   - Click **Next**.

   You can also add to, edit, or remove the update centers displayed on this screen. To add an update center, click **Add**, then enter the URL for the location from which you wish to install the connector source.

   To install from a local file:

   - Select **Install From Local File**, and then browse to the location of the file from which you wish to install.

   - Enter the pathname of the connector ZIP file in the local file system. For example: `C:\tpc-connector-msprojectserver_bundle.zip`

   - Click **Next**.

7. **Connectors**

   On this screen, choose the connectors you wish to install from the list at the connector source specified in the previous step. You can select connectors individually, or choose Select All to install all connectors at the specified connector source.

   To proceed with the installation, click **Next**.

8. **Plug-ins**

   On this screen, choose from the available plug-ins for any selected build and test systems that allow these systems to communicate back to Oracle Team Productivity Center. Before you can complete this screen, you will need to provide information which the Oracle Team Productivity Center Server will use to send the test results. Make sure you have the following information to enter into the installer:

   - The URL for the Oracle Team Productivity Center Server

   - The port used by the Oracle Team Productivity Center Server

   - If your server uses a secure socket layer (SSL) connection, select the checkbox labeled **SSL**

   - Your username and password for the Oracle Team Productivity Center Server

   - The location (the fully qualified path) to the installed location of the plug-in's server

   To proceed with the installation, click **Next**.

9. **Installation Summary**

    The final screen of the installation wizard displays the key information about the installation:

    - Application server location

    - Database details

    - Selected connectors

    - Selected plug-ins, with the path to the installed tool location

    To complete the installation, click **Install**. The wizard then displays the installation progress.

10. **Installation Result**

    On completion of the installation, the Oracle Team Productivity Center Server installer displays the result of the installation process. If there are any problems in the installation, repeat the process, being careful to make sure you have all path information, account or username details, passwords, and any other data you will be required to use when installing Oracle Team Productivity Center Server.

11. **Post-Installation Instructions**

    After installation is complete, start Oracle JDeveloper, download and install the Oracle Team Productivity Center client extension. To download the extension in Oracle JDeveloper, click the Help menu, and then select **Check for Updates**. The online Help for Oracle Team Productivity Center contains instructions for the administrator on how to set up Oracle Team Productivity Center inside Oracle JDeveloper.

    For Oracle WebLogic Server, the MySQL JDBC driver is installed in the folder `<WL_HOME>/server/lib` through `weblogic.jar`. It will be loaded when the server starts. Therefore, you do not need to do anything for this driver. If you plan to use a JDBC driver other than Oracle and MySQL, specifically one that is not installed with the Oracle WebLogic Server folder, see "Third-Party JDBC Drivers Installed with WebLogic Server."

    > **Note:** If you use a WebLogic Server domain for TPC server installation, copy the driver to your `<JDEV_HOME>/user_projects/domains/<domain>/lib` folder instead.
    >
    > If you are using Oracle JDeveloper Studio, the MySQL JDBC driver is shipped in `<JDEV_HOME>/oracle/wlserver_10.3/server/ext/jdbc/mysql/mysql-connector-java-commercial-5.0.3-bin.jar`.

2.5 Upgrading Oracle Team Productivity Center Server with Apache Tomcat 6.0.20

When the Oracle Team Productivity Center installer is used to update an Oracle Team Productivity Center Server running on Apache Tomcat version 6.0.20, any new or updated Oracle Team Productivity Center web service classes cannot be auto-deployed correctly by the server. This causes an Oracle Team Productivity Center login issue, as observed in the server's log file. Upgrading the Oracle Team Productivity Center Server running on other versions of Apache Tomcat does not have this problem.

This is due to an issue with Apache Tomcat 6.0.20. When using this version of Apache Tomcat, updates to Oracle Team Productivity Center web service classes are not properly re-deployed, even with `autoDeploy` set to "true" in the Tomcat server.xml file.

To resolve this issue:

1. Complete the Oracle Team Productivity Center update, as described in Section 2.3, "Starting the Installer" and Section 2.4, "Installer Screens for Server Installation".

2. If the Tomcat server is running, shut it down.

3. Delete the folder `<tomcat_install_folder>\webapps\otpc`.

4. Restart the Tomcat server.

If you are using MySQL with Tomcat, download the driver from your provider, then copy the driver to your `<TOMCAT_HOME>/lib` folder.

If you are using Oracle JDeveloper Studio Edition, the MySQL JDBC driver is shipped in `<JDEV_HOME>/oracle/wlserver_ 10.3/server/ext/jdbc/mysql/mysql-connector-java-commercial-5.0.3 -bin.jar`.

3 Installing an Oracle Team Productivity Center Connector

Installing a connector begins by launching the Oracle Team Productivity Center installer, as described in Section 2.3, "Starting the Installer". When you launch the installer, select the information from the installer screens as described below.

Note that you can also use the installer to update an Oracle Team Productivity Center connector. If you install a later version of the same connector as one that has already been installed, the installer will overwrite the earlier version and install the later version in its place.

The following sections describe how to install an Oracle Team Productivity Center connector:

■ Section 3.1, "Installer Screens for Connector Installation"

■ Section 3.2, "Setting Up Repositories for Default Connectors"

3.1 Installer Screens for Connector Installation

The installer provides several screens that specify various parameters for the installation:

1. **Welcome**

   On this screen, the Oracle Team Productivity Center installer shows the list of steps you can perform.

2. **Installation Components**

   This screen presents the option of installing the server alone, one or more connectors alone, or both the server and connectors. Select at least one of these installation elements before the installer will continue.

   For the purpose of this instruction, select the checkbox labeled **Connectors**, then click **Next**.

For information on installing an Oracle Team Productivity Center server, see Section 2.4, "Installer Screens for Server Installation".

3. **Installation Type and Database Connection**

   Enter the following information for this installation's database connection:

   - **Installation type:**

     Select whether you are performing a new installation or an upgrade.

   - **Connection type:**

     Connect using either generic JDBC or Oracle JDBC. Selecting generic JDBC causes the installer to prompt for the driver to use.

     For purposes of this installation, select **Oracle (JDBC)**

   - **JDBC URL:**

     Type the JDBC URL for the database connection used by this server. For example:

     ```
     jdbc:oracle:thin:@192.0.2.1:1521:orcl
     ```

   - **Username:**

     Type the selected username for the database to which you are connecting.

   - **Password:**

     Type the selected user's password.

   After entering all the selections, click **Next**. The Oracle Team Productivity Center Server installer will verify the connection before proceeding to the next step.

   You can install TPC server and connectors to a database other than an Oracle database. Using MySQL as an example, you would specify the values as follows:

   - Connection Type: Generic JDBC

   - Driver Library: `<JDEV_HOME>/oracle/wlserver_10.3/server/ext/jdbc/mysql/mysql-connector-java-commercial-5.0.3-bin.jar`

   - Driver Class: `com.mysql.jdbc.Driver`

   - JDBC URL: `jdbc:mysql://<host>:3306/<db_name>`

4. **Connector Source**

   On this screen, specify the location of the source file for the connector. Options are to search the Oracle JDeveloper Update Centers for connectors, or to install from a local file.

   To search the Oracle JDeveloper Update Centers:

   a. Select **Search Update Centers**.

   b. Select one or more of the update centers displayed on the screen.

   c. Click **Next**.

   To install from a local file:

   a. Select **Install From Local File**, and then click **Next**.

   b. Enter the pathname of the connector ZIP file in the local file system. For example:

```
C:\tpc-connector-msprojectserver_bundle.zip
```

After making the selection, click **Next**.

5. **Installation Summary**

   The summary screen of the installation wizard displays the key information about the installation:

   - Database connection information

   - Selected connectors, with the path to the ZIP or JAR file containing the connector components

   Once satisfied with the data, click **Finish** to proceed with the installation. The wizard then displays the installation progress.

The installer will unpack the compressed file and make connections to the database as required to configure this connector for use. When the installer indicates that it has completed the installation, connect to the data repository for the connector. Details for using the connector are in the Oracle JDeveloper on-line help for Oracle Team Productivity Center.

3.2 Setting Up Repositories for Default Connectors

The Atlassian JIRA, Microsoft Project, Rational Team Concert and Bugzilla connectors for Oracle Team Productivity Center require some initial setup before Oracle Team Productivity Center can interact with them. The following sections discuss initial setup for each of these connectors:

- Section 3.2.1, "Setting Up a JIRA Repository"

- Section 3.2.2, "Setting Up a Microsoft Project Repository"

- Section 3.2.3, "Setting Up a Rational Team Concert Repository"

- Section 3.2.4, "Setting Up a Bugzilla Repository With REST API Enabled"

3.2.1 Setting Up a JIRA Repository

In order for the JIRA connector to retrieve data from the server, the JIRA server's Remote API must be enabled.

To enable the JIRA Server's Remote API:

1. Log in to the JIRA server as administrator.

2. Select the Administration tab.

3. From the left pane, locate the **Global Settings** group, then select **General Configuration**.

   At the bottom of the page, select **Edit Configuration**.

4. In the **Options** section, locate the setting **Accept remote API calls** and select **ON**.

3.2.2 Setting Up a Microsoft Project Repository

Oracle Team Productivity Center's MS Project Server connector supports the two user authentications used by Project Server: windows and forms.

To configure forms authentication for Project Server 2007, please see the following article on MSDN:

http://technet.microsoft.com/en-us/library/cc197472(office.12).a
spx

3.2.3 Setting Up a Rational Team Concert Repository

Oracle Team Productivity Center's OSLC (Open Services Lifecycle Collaboration) connector for RTC (Rational Team Concert) supports the two user authentications used by the RTC server: basic and forms.

To configure forms authentication for RTC, please refer to the following article:

http://jazz.net/library/techtip/75

In case the host name of the RTC server is not accessible, you can connect to the server by its IP address.

To connect to the RTC server by its IP address:

1. Log in to the Rational Team Concert server as Administrator.

2. Locate the Server link on top of the navigation bar.

3. On the left pane, select **Configuration > Advanced Properties**.

4. Locate the entry for
   `com.ibm.team.repository.servlet.internal.ServletConfiguration Service`

5. Double-click **Host Name**.

6. Enter the IP address of the server in the edit box.

3.2.4 Setting Up a Bugzilla Repository With REST API Enabled

Oracle Team Productivity Center's Bugzilla connector supports access to Bugzilla repository with REST API enabled. For more information on how to connect to Bugzilla with REST API enabled, refer to the following article:

https://wiki.mozilla.org/Bugzilla:REST_API

4 Installing Oracle Team Productivity Center Server on a Production Oracle WebLogic Server

Installing Oracle Team Productivity Center Server on a production Oracle WebLogic Server requires specific steps, to be performed in the sequence shown in the following sections:

- Section 4.1, "Installing Oracle Team Productivity Center For Use With a Production WebLogic Server"

- Section 4.2, "Installing a WebLogic Server Production Server"

- Section 4.3, "Deploying otpc.war to Production WebLogic Server Domain"

4.1 Installing Oracle Team Productivity Center For Use With a Production WebLogic Server

1. **Install Oracle Team Productivity Center server.**

   For information on installing an Oracle Team Productivity Center server, see Section 2.3, "Starting the Installer".

2. **Move the WebLogic Server file otpc.war**

Locate the file `otpc.war` that you deployed on your Web Logic Server autodeploy folder. Move it to another location in order to perform manual deployment successfully. Note the new location, as you will use it in the following section.

4.2 Installing a WebLogic Server Production Server

Installing Oracle Team Productivity Center on a production WebLogic Server database involves creation of a WebLogic Server production domain, using the Fusion Middleware Configuration Wizard.

1. Select **Create a new WebLogic Domain**, and then click **Next**.

2. Select **Default**, and then click **Next** on the Select Domain Source window.

3. Enter domain name and domain location, and then click **Next**.

4. Specify WebLogic Server Administrator username and password, and then click **Next**.

5. Select **Production Mode**, and then click **Next, Next, Create**.

You can now bring up the newly created production domain yourself, or follow these steps:

1. Select **Start Admin Server**, and then click **Done**.

2. Type in your WebLogic Server Administrator username and password at the `startWebLogic.cmd` prompt.

4.3 Deploying otpc.war to Production WebLogic Server Domain

1. **Log in to WebLogic Server administration console**

Once the domain server is running, log in to its Administrator Server Console using your WebLogic Server Administrator username and password. You can log in either from the Fusion Middleware Start menu or from the server login page, located at `http://<hostname>:<port>/console/login/LoginForm.jsp`

2. Select **Deployments** from the Domain Structure panel.

3. Click the **Lock & Edit** button from the Change Center panel to edit the Deployments page.

4. On the Deployments page, click **Install**. Specify the path to which you copied your `otpc.war` file, and then click **Next**.

5. Verify the options shown on the Install Application Assistant page, and then click **Next**.

6. Verify the optional settings, and then click **Next**.

7. Click **Finish** when you are done with verifying or changing settings in the Install Application Assistant.

8. Click **Save** on the Settings for OTPC page. Wait until you get the confirmation message, *Settings updated successfully from WebLogic Server.*

9. Click **Activate Changes** from the Change Center panel to activate deployment changes. Wait until you see the message *All changes have been activated*. No restarts are necessary.

10. Select **Deployments** from the Domain Structure panel.

11. Select the checkbox next to **otpc Deployment** on the Deployments list, then click **Start**. Select **Service all requests**, and then click **Yes** on the Start Deployments page.

12. Wait for the message, *otpc application has Active state*. It may be necessary to refresh the WebLogic Server console before you can login to Oracle Team Productivity Center.

5 Installing and Running CruiseControl Test Collection

You can use the CruiseControl continuous integration tool to collect test results and make them available to Oracle Team Productivity Center Server. If you do not already have the CruiseControl zip file, you need to download it prior to installation.

To download CruiseControl:

■ Download the CruiseControl zip file from `http://sourceforge.net/projects/cruisecontrol/files/CruiseControl/2.8.4` (or other version) and unzip to your local folder. Alternatively, you can launch the executable file (contained in the zip file) to install and run it as a Windows service.

Once downloaded, you can install and run the CruiseControl plug-in.

To install and run the CruiseControl plug-in for Oracle Team Productivity Center Server:

1. Install the Test Plug-in for CruiseControl using the Oracle Team Productivity Center Server Installer.

   You can specify the deployment folder to be the same as your CruiseControl install directory (i.e., CCDIR), or the directory of your choice.

   The Installer generates `tpc-test-collector.xml`, `tpc/test.properties`, and `tpc-test-collector.jar`.

   `tpc-test-collector.xml` consists of a publish target which can be invoked as an ANT publisher (See step 2).

   `tpc/test.properties` consists of information on how to send test data to the Oracle Team Productivity Center Server you specified during the plug-in installation.

   > **Note:** For security reasons, only the Oracle Team Productivity Center Server Installer can modify or generate the encrypted password. You can modify any other properties in this file, should your server information change.

   `tpc-test-collector.jar` is the Test Collector program. Invoke this jar file using antpublisher via `tpc-test-collector.xml`.

2. Invoke TPC Test Collector as an ANT Publisher plug-in in your CruiseControl configuration file (`config.xml`).

   For example:

Example 1   ANT publisher plug-in for TPC Test Collector invocation

```
<antpublisher anthome="apache-ant-1.7.0" antworkingdir="."
buildfile="tpc-test-collector.xml" uselogger="false" usedebug="true"
usequiet="false" target="publish"/>
```

> **Note:** Different versions of CruiseControl may come with different
> versions of Apache ANT. CruiseControl version 2.8.4 in the above
> example uses apache-ant version 1.7.0. If you use a different version of
> CruiseControl, you may need to modify the anthome attribute to
> point to your apache-ant home.
>
> If you installed TPC Test Collector to a folder other than the
> CruiseControl install directory, you need to modify the buildfile
> attribute to point to your install folder, relative to the CruiseControl
> install directory.
>
> For example, if you installed the TPC Test Collector on Windows to
> %CCDIR%\myTPC folder, you would specify
> buildfile="myTPC\tpc-test-collector.xml".

3. Add the ANT Publisher you created on step #3 to the list of publishers for your
CruiseControl project in config.xml.

Using the connectfour sample project as an example, modify existing
publishers tag as shown in this example:

Example 2   Add ANT publisher to list of publishers

```
<publishers>
    <onsuccess>
        <artifactspublisher
         dest="artifacts/$project.name"
         file="projects/$project.name/target/$project.name.jar"/>
    </onsuccess>
    <antpublisher
     anthome="apache-ant-1.7.0"
     antworkingdir="."
     buildfile="tpc-test-collector.xml"
     uselogger="false"
     usedebug="true"
     usequiet="false"
     target="publish"/>
</publishers>
```

4. Specify to CruiseControl what kind of modification should trigger a build. You
can use filesystem or svn to trigger the project build.

The following examples illustrate both use cases:

Example 3   Trigger a build with filesystem

```
<modificationset quietperiod="30">
    <filesystem folder="projects/${project.name}"/>
</modificationset>
```

Example 4   Trigger a build with svn

```
<modificationset quietperiod="30">
      <svn localWorkingCopy="projects/${project.name}"/>
 </modificationset>
```

> **Note:**   If you use svn, make sure you configure your Subversion
> repository to point to the `projects/${project.name}` folder so
> that Subversion will trigger a build any time a checkin is performed.
> For other version control systems, see instructions at
> `http://cruisecontrol.sourceforge.net/main/configxml.`
> `html#modificationset.`

5. Schedule the build and test collection.

    Using ant builder as an example, the following schedule element builds the project
    and collects test data every 300 seconds:

Example 5   Schedule build with Apache ANT

```
<schedule interval="300">
      <ant anthome="apache-ant-17.0"
       buildfile="projects/${project.name}/build.xml"/>
</schedule>
```

For more information on the `config.xml` settings, see
`http://cruisecontrol.sourceforge.net/main/configxml.html`

6. Start CruiseControl using `%CCDIR%\cruisecontrol.bat`.

    If you installed CruiseControl as a service, you can use the windows service
    created to start the CruiseControl.

6 Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation
accessible to all users, including users that are disabled. To that end, our
documentation includes features that make information available to users of assistive
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facilitate access by the disabled community. Accessibility standards will continue to
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