Oracle® Business Intelligence Publisher

Deploying Oracle Business Intelligence Publisher in J2EE Application Servers

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Introduction

Oracle BI Publisher offers you the most efficient, scalable reporting solution available for complex, distributed environments. It provides a central architecture for generating and delivering information to employees, customers, and suppliers—both securely and in the right format. Oracle BI Publisher reduces the high costs associated with the development, customization and maintenance of business documents; while increasing the efficiency of reports management.

This document contains instructions for deploying BI Publisher manually on a J2EE application server. The Oracle Business Intelligence Enterprise Edition install disc contains the following BI Publisher components:

- BI Publisher Enterprise server application

- BI Publisher runtime libraries

- BI Publisher fonts

- Documentation: User's Guide, Javadocs, demos, and samples

These items can be found on the Oracle BI EE installation disc under the top level directory: `Server_Ancillary\Oracle_Business_Intelligence_Publisher`

Individual components are located as follows:

Component	Directory
Fonts directory	fonts
Template Builder for Word Add-in	BI_Publisher_Desktop
xmlpserver.war for non-oc4j application servers	generic

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Component	Directory
Javadoc	doc
xmlpserver.ear for oc4j	oc4j
XMLP repository	XMLP

> **Note:** The application uses **Apache Axis** and the **OpenSymphony Quartz Scheduler** open-source software packages. The Apache license agreement for Axis is included on the install disc under Server_Ancillary\Oracle_Business_Intelligence_Publisher\doc\ApacheLicen se.txt and can also be obtained from http://www.apache.org/licenses/LICENSE-2.0.

For the most current information please check:

Oracle BI Publisher Web Page:

http://www.oracle.com/technology/products/applications/publishing/index.html

BI Publisher/XML Publisher Forum:

http://forums.oracle.com/forums/forum.jspa?forumID=245

System Requirements

The following are prerequisites to run Oracle BI Publisher:

- Java Runtime Environment (JRE) / Java Development Kit (JDK) version 1.4 or later

- Any J2EE-based application server, such as:

  - Oracle OC4J 10.1.3

  - Oracle Application Server 10.1.3.2

  - Apache Tomcat 5.5

  - IBM WebSphere 6.0

- Database, such as (optional, but required for the scheduler database):

  - Oracle Database 9i or 10g

  - Microsoft SQL Server

  - IBM DB2 UDB

- Sybase Adaptive Server

- MySQL

- Web Browser
  - Microsoft Internet Explorer 6.0

  - Mozilla Firefox 1.5 or later

BI Publisher Server Application Installation Process Overview

The server application allows you to create, manage and schedule reports. You must perform the following steps as described in this document to deploy Oracle BI Publisher manually:

1. Deploy BI Publisher on the application server.

2. Create the BI Publisher schema on the database server (required to send and schedule reports).

3. Configure the BI Publisher application.

4. Set up the BI Publisher Demo Reports.

Deploying the Application Server

BI Publisher is a pure J2EE application and has been extensively tested on:

- Oracle AS 10.1.3

- OC4J Standalone 10.1.3

- Apache Tomcat 5.5

- IBM WebSphere 6.0

Oracle AS 10.1.3 and OC4J 10.1.3 Deployment

> **Important:** If you are using a non-Oracle database, you must set up your database before setting up the application server. See Installing and Configuring the Scheduler on the Database, page 1-8.

Follow the steps below to deploy BI Publisher on Oracle AS 10.1.3 or OC4J 10.1.3. These steps assume familiarity with the Oracle Enterprise Manager and the Application Server Control (ASC) interface:

1. Open the Application Server Control screen (typically: `http://localhost:8888/em`)

in your browser and log in as `oc4jadmin`.

2. Select the **Applications** tab and select the **Deploy** button.

3. For the **Archive Location**, browse for
   `Server_Ancillary\Oracle_Business_Intelligence_Publisher\oc4j\xmlps
   erver.ear` on the Oracle BI EE install disc and select the **Next** button.

4. Enter `xmlpserver` as the **Application Name** and select the **Next** button.

5. If you are setting up the scheduler on a non-Oracle Database, perform the following:

   • On the **Deployment Settings** page, select the **Configure Class Loading** task.

   • From the **Configure Class Loading** page, select the shared library you created
     (dbc.datadirect) and deselect "oracle.toplink". Select OK.

6. On the **Deployment Settings** page, click **Deploy**.

7. Copy the fonts in the
   `Server_Ancillary\Oracle_Business_Intelligence_Publisher\fonts`
   directory on the BI EE install disc to the fonts directory of your Java Runtime
   Environment (`JAVA_HOME\lib\fonts`).

   For example: `C:\Program Files\Java\jdk1.5.0_06\jre\lib\fonts`

8. Start or restart OC4J.

9. Open your browser `http://hostname:port/xmlpserver` to see the login page.

   For example: `http://localhost:8888/xmlpserver`

10. If you see the login page, continue under Configuring the BI Publisher Application., page
    1-6

Apache Tomcat 5.5 Deployment

Follow the steps below to deploy BI Publisher on Apache Tomcat 5.5:

> **Important:** Apache Tomcat deployments of BI Publisher require that folder
> and file names use ASCII characters only. Any non-ASCII character will be
> displayed incorrectly.

1. Open the Tomcat home page.

2. Select **Tomcat Manager**.

3. From the **Tomcat Web Application Manager** page, under the **Deploy** region, browse for
   and select the
   `Server_Ancillary\Oracle_Business_Intelligence_Publisher\generic\xm`

`lpserver.war` from the BI EE install disc. Select the **Deploy** button.

4. Ensure the xmlpserver application successfully deployed. If successful, /xmlpserver will appear on the **Tomcat Web Application Manager** page under the list of Applications.

5. Copy the fonts from `Server_Ancillary\Oracle_Business_Intelligence_Publisher\fonts` on the install disc to the fonts directory of your Java Runtime Environment (`JAVA_HOME\lib\fonts`). For example: `C:\Program Files\Java\jre1.5.0_07\lib\fonts`

6. Start or restart Tomcat 5.5 (typically from services).

7. Open your browser, `http://hostname:port/xmlpserver` to see the demo page.

   For example: `http://localhost:8080/xmlpserver`

8. If you see the login page, continue under Configuring the BI Publisher Application., page 1-6

WebSphere 6.0 Deployment

1. Access the WebSphere Administrative Console, select **Install New Application**.

2. Choose the xmlpserver.ear file.

3. Select the **Generate Default Bindings** checkbox and click **Next**.

4. On the **Select installation options** page, select the **Distribute application** checkbox and the **Create MBeans for resources** checkbox.

5. On the **Map modules to servers** page, select xmlpserver.war.

6. On the **Map virtual hosts for Web modules** page select xmlpserver.war.

7. On the Summary screen, review your selections, and select **Finish**.

8. You will see the deployment status on the screen. Once you see the success message, select the **Save to Master Configuration** link.

9. Copy the font files from `Server_Ancillary\Oracle_Business_Intelligence_Publisher\fonts` to the Java VM that comes with WebSphere:

   `<WebSphere installation dir>/AppServer/java/jre/lib/fonts`

10. Restart BI Publisher.

    From the WebSphere Administration Console, select the **Enterprise Applications** link, choose "xmlpserver" and click the **Stop** button. Once stopped, choose "xmlpserver" and click the **Start** button.

11. Open your browser, `http://hostname:port/xmlpserver` to see the demo page.

   For example: `http://localhost:8080/xmlpserver`

12. If you see the login page, continue under Configuring the BI Publisher Application., page 1-6

Configuring the BI Publisher Application

Follow the steps below to configure BI Publisher Enterprise.

Define the BI Publisher Repository

The BI Publisher repository must be initialized with the XMLP directory located on your installation disc. Copy this directory to a location on your server and edit the configuration file to point to it, as follows:

1. Copy the XMLP repository directory from:
   `Server_Ancillary\Oracle_Business_Intelligence_Publisher\XMLP` to your server.

2. Open the browser:

   `http://hostname:port/xmlpserver` to see the welcome page.

   For example: `http://localhost:8888/xmlpserver`

   > **Note:** Your xmlpserver.war or xmlpserver.ear file should now be unpacked.

3. Open the `xmlp-server-config.xml` file located in the

   `<application installation>/WEB-INF/` directory, where your application server unpacked the `war` or `ear` file.

   Example:

   In an AS/OC4J 10.1.3 deployment, the location is
   `(ORACLE_HOME)/j2ee/home/applications/xmlpserver/xmlpserver/WEB-INF/xmlp-server-config.xml`.

   The contents of the file are as follows:

   ```
   <?xml version="1.0" encoding="UTF-8"?>
   <xmlpConfig xmlns="http://xmlns.oracle.com/oxp/xmlp">
    <resource>
      <file path="%s_Reports_Path%"/>
    </resource>
   </xmlpConfig>
   ```

4. Enter the file path to where you copied the XMLP repository directory on your server.

   For example, if you copied the repository directory to `/home/repository`, update the

`xmlp-server-config.xml` file as follows:

```
<?xml version="1.0" encoding="UTF-8"?>
<xmlpConfig xmlns="http://xmlns.oracle.com/oxp/xmlp">
 <resource>
    <file path="/home/repository"/>
 </resource>
</xmlpConfig>
```

Configure the Server

1. Open your browser to the login page. For example:

2. Open your browser, `http://hostname:port/xmlpserver` to see the welcome page.

    For example: `http://localhost:8888/xmlpserver`

3. Enter the credentials: Administrator/Administrator.

    > **Important:** Please change the Administrator password on the **Account** tab under **Preferences**.

4. In the Oracle BI Publisher Enterprise screen, click the Admin tab.

    The Admin view contains the following sections and links:

Section	Links to Configuration Screens
Data Sources	• JDBC Connection • JNDI Connection • File
Security Center	• Security Configuration • Roles and Permissions
Delivery	Delivery Configuration
System Maintenance	• Server Configuration • Scheduler Configuration • Refresh Metadata

Section	Links to Configuration Screens
Runtime Configuration	• Properties • Font Mappings
Integration	Oracle BI Presentation Services

5. Set up Oracle BI as a data source.

   See the *Oracle Business Intelligence Infrastructure Installation and Configuration Guide* for information on the appropriate settings.

6. Set up integration with Oracle BI Presentation Services.

   • From Integration, select Oracle BI Presentation Services.

   • Enter the Admin Username and Admin Password administrator credentials for Oracle Business Intelligence.

   • Enter the URL suffix as `analytics/saw.dll`. When enabling SSO, change this URL to the application you define; for example: `analyticsSOAP/saw.dll`. For more information, see the *Oracle Business Intelligence Enterprise Edition Deployment Guide*.

7. Set other runtime properties as desired. From the **Admin** tab, under **Runtime Configuration**, select **Properties**. See the *Oracle Business Intelligence Publisher User's Guide* for information on the runtime properties.

8. Restart the application server.

Installing and Configuring the Scheduler on the Database

The database configuration is required to send or schedule reports. In this release, the following databases are supported:

• Oracle Database 9*i* or 10g

• Microsoft SQL Server

• IBM DB2 UDB

• Sybase Adaptive Server

• MySQL

The following scheduler setup options are described in detail in the following sections:

- Oracle Database with Oracle AS/OC4J 10.1.3 or Tomcat

- Sybase on Oracle AS/OC4J 10.1.3

- Microsoft SQL Server on Oracle AS/OC4J 10.1.3

- Microsoft SQL Server on Tomcat

Deploying the Scheduler on Oracle Database 10g Deployment with Oracle AS/OC4J 10.1.3 or Tomcat

Follow the steps below to configure Oracle Database 10g for BI Publisher:

1. Create a new database user where you want to store the BI Publisher scheduler schema.

   Note that when you create the user, you must set a quota, otherwise the quota will be 0 (zero).

   The following example shows the creation of "bipuser":

```
SQL> CREATE USER bipublisher
  2   IDENTIFIED BY welcome
  3   DEFAULT TABLESPACE USERS
  4   TEMPORARY TABLESPACE TEMP
  5   QUOTA 100M ON USERS
  6   QUOTA 1M ON TEMP;
 User created.

 SQL> GRANT CREATE SESSION TO bipublisher; -- (or "GRANT CONNECT TO
bipuser;", it's the same thing.)

 Grant succeeded.

 SQL> grant create table to bipublisher;

 Grant succeeded.
```

   Refer the *Oracle Database Security Guide* for more detail on setting up users.

2. Set up the connection to the Oracle Database in the BI Publisher application:

   - Log in to BI Publisher and select the **Admin** tab.

   - Under **System Maintenance**, select **Scheduler Configuration**.

   - Enter the database connection information for the target Oracle database.

     Database Type: 10g

     Connection String: jdbc:oracle:thin://<hostname>:<port#>:<oracle SID>

     Username/Password for the database user

     Database Driver Class : oracle.jdbc.driver.OracleDriver

   - Click the **Test Connection** to make sure the connection info is valid.

   - Click **Install Schema** button to install the scheduler tables.

3. Continue under Running the BI Publisher Demo Reports, page 1-13.

Deploying the Scheduler on Microsoft SQL Server 2000 with Oracle AS/OC4J 10.1.3

1. Install SQL Server 2000. Make sure you set the "Mixed" authentication mode.

2. Open SQL Server Enterprise Manager.

3. Choose **New Database**.

4. Set the database name. For example: bipublisher

5. Select **New login** to create a new user.

6. Set the username. Choose "SQL Server Authentication" and set the password. Set the default database to the database that you created.

7. Click the **Database Access** tab and select the database that you created above. Select the "db_owner" role in the lower window (the user must be able to access the tables owned by "db"'). Click OK to create the user.

8. Register the DataDirect JDBC Driver on OC4J.

   Oracle provides a JDBC driver for non-Oracle databases called Oracle DataDirect. This document refers to Oracle DataDirect version 3.4. Please refer to the following links for more information. Note that Oracle DataDirect works with OC4J only.

   • DataDirect Download:
     http://www.oracle.com/technology/software/products/ias/htdocs/utilsoft.html

   • Set up DataDirect on OC4J:

     See the *Oracle Containers for J2EE Services Guide*
     [http://download-west.oracle.com/docs/cd/B25221_03/web.1013/b14427/datasrc.htm].

9. Register DataDirect JDBC Driver on OC4J.

   • Open OC4J Application Server Control (ASC).

   • Choose the **Administration** tab and click **Shared Libraries.**

   • On the **Shared Libraries** page, click **Create.**

   • Enter the **Shared Library Name** (example: jdbc.datadirect) and **Shared Library Version** (example: 1.0).

   • Upload JDBC driver files and click OK:

     • YMbase.jar

- YMresource.jar

- YMulti.jar

- YMdb2.jar

- YMsybase.jar

- YMsqlserver.jar

- On the Import Shared Libraries page, select "oracle.xml" and "oracle.toplink". Click **Finish**.

10. Redeploy the application.

   - From the Enterprise Manager Application Server Control page, select the **Applications** tab, then click **Deploy**.

   - On the **Select Archive** step, in the **Archive Location** field, browse for and select the xmlpserver.ear file. Select Next.

   - Enter the Application Attributes.

     Example:

     Application Name: xmlpserver

     Parent Application: default

     Bind Web Module to Site: default-web-site

     Context Root: xmplserver

     Select **Next**.

   - On the **Deployment Settings** step, click the Configure Class Loading task icon.

   - On the **Configure Class Loading** page select the shared library you created ("jdbc.datadirect") and deselect "oracle.toplink", then click OK.

   - From the Deployment Settings page, click **Deploy** to deploy the application.

   - Restart the application.

11. Set up the connection to the Microsoft SQL Server database in BI Publisher.

   - Log in to BI Publisher Enterprise as Administrator, click the **Admin** tab then click **Scheduler Configuration**.

   - Enter the SQL Server information (see the following for detail) and click Apply to save it.

Database Type: Microsoft SQL Server

Connection String:
jdbc:oracle:sqlserver://<hostname>:<port#>;DatabaseName=<database
name>;selectMethod=cursor

Username and **Password** for the database user

Database Driver Class: com.oracle.ias.jdbc.sqlserver.SQLServerDriver

- Click the **Test Connection** button.

- If successful, click **Install Schema** to install the scheduler schema.

- Restart the application to make your changes effective.

Deploying the Scheduler on Microsoft SQL Server 2000 with Tomcat

1. Install SQL Server 2000. Make sure you set the "Mixed" authentication mode.

2. Open SQL Server Enterprise Manager.

3. Choose **New Database**.

4. Set the database name. For example: bipublisher

5. Choose **New login** to create a new user.

6. Set the username. Select "SQL Server Authentication" and set the password. Set the default database to the database that you created.

7. Select the **Database Access** tab and choose the database that you created. Select the "db_owner" role in the lower window (the user must have to access the tables owned by "dbo"). Click **OK** to create the user.

8. Register the JDBC Driver for Microsoft SQL Server 2000 on Tomcat.

   You can download the JDBC Driver for Microsoft SQL Server 2000 from the following location:

   http://www.microsoft.com/downloads/details.aspx?familyid=9f1874b6-f8e1-4bd6-947c-0fc5bf05bf71&displaylang=en

   - To register the JDBC driver for Microsoft SQL Server 2000:

     Add JDBC driver files under `$CATALINA_HOME/common/lib directory`.

   - Add the Microsoft JDBC driver for SQL Server 2000 files:

     msbase.jar

     mssqlserver.jar

msutil.jar

9. Set up the connection to the Microsoft SQL Server database in BI Publisher.

   - Log in to BI Publisher Enterprise as Administrator, click the **Admin** tab and then click **Scheduler Configuration**.

   - Enter the SQL Server information (see the following for detail) and click Apply to save it.

     Database Type: Microsoft SQL Server

     Connection String: jdbc:oracle:sqlserver://<hostname>:<port#>;DatabaseName=<database name>;selectMethod=cursor

     Username and **Password** for the database user

     Database Driver Class: com.oracle.ias.jdbc.sqlserver.SQLServerDriver

   - Click the **Test Connection** button.

   - If successful, click **Install Schema** to install the scheduler schema.

   - Restart the application to make your changes effective.

Running the BI Publisher Demo Reports

BI Publisher provides a set of demonstration reports for you to view and run as samples.

> **Note:** The data source demo must be connected to an Oracle Database with the sample schemas and users HR and OE unlocked.

The sample reports require the following general configuration steps:

- Configure the Demo File Data Source

- Configure the Demo JDBC Data Source

- Navigate to the Reports tab and view the demo reports.

Configuring the Demo File Data Source

This procedure is performed in the Oracle BI Publisher Enterprise screen Admin tab.

1. Open your browser http://hostname:port/xmlpserver to see the welcome page

   For example: `http://localhost:8888/xmlpserver`

   and log in with Administrator credentials.

2. Select the **Admin** tab.

3. In the **Data Sources** section, select **File**.

4. Select the data source with the name "demo files".

5. Change the path to the DemoFiles folder under the XMLP directory.

   For example: C:\OracleBI\xmlp\XMLP\DemoFiles

6. Click Apply to save the changes.

Configuring the Demo JDBC Data Source

1. Select the **Admin** tab.

2. In the **Data Sources** section, select the **JDBC Connection** link.

3. Select the select the data source with the name "demo".

4. In the **Update Data Source** screen, change the connection string to point to an Oracle 10g database with unlocked oe user.

5. Click the **Test Connection** button to confirm that BI Publisher can access the database.

6. Click **Apply** to save the changes.

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