ORACLE®

Agile Product Lifecycle Management

Deploying EC-BPEL Services Guide

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What is included

The "ecs-bpel.zip" file contains the following directory structure when extracted to a folder called "bpel". From now on, this location will be referred to as <ec-bpel-root>.

Table 1: Directory structure of ecs-bpel.zip

```
□ 📁 bpel
   □ 📁 build
        📁 common
   □ 📁 src
        □ 📁 ECCreateUpdateThenRelate
             ⊞ 📁 bpel
               📁 public_html
        □ 📁 ECCreateUpdateThenReserve
             ⊞ 📁 bpel
               📁 public_html
        □ 📁 ECGetDesignItemPropertiesAndRights
             ⊞ 📁 bpel
               📁 public_html
        □ 📁 ECGetDesignPropertiesAndRights
             ⊞ 📁 bpel
               📁 public_html
        □ 📁 ECReserveThenCreateUpdate
             ⊞ 📁 bpel
               📁 public_html
        □ 📁 ECRetrieveDesignStructureAndMetadata
             ⊞ 📁 bpel
               📁 public_html
```
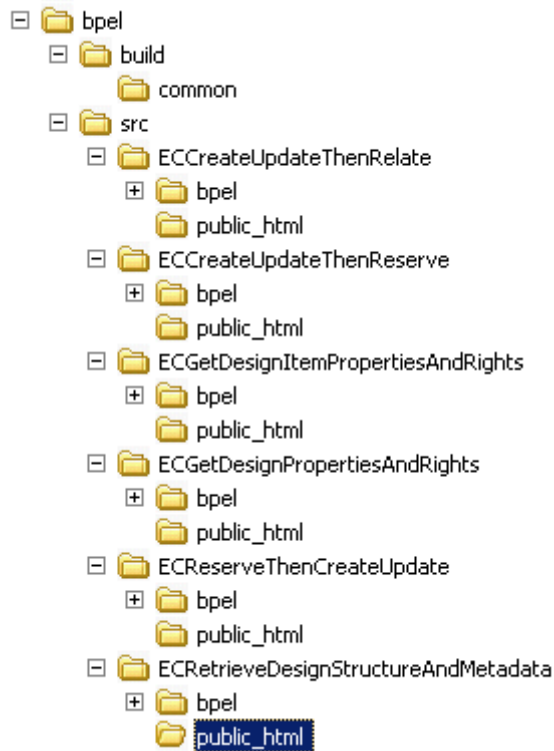
The "build" folder contains a "build.xml" and "build.properties" file. The "build.properties" file must be adapted before you can deploy the processes. The "build.xml" contains all the targets you need to perform the deployment. This will be further described in the following sections.

The BPEL processes are found under the "src" folder. Each bpel folder has a "build.xml" and "build.properties" file. These are artifacts from JDeveloper and are not used, however, they are included in case anyone wishes to use them.

The "public_html" folder under each process contains a sample file that shows a sample request for each of the processes. This can be directly pasted in BpelConsole to directly invoke each process.

Configurations

To compile or deploy BPEL processes, the following set of properties need to be defined in the "build.properties" file found under the "<ec-bpel-root>/build" directory.

Table 2: Properties for compilation/deployment and their function (BPEL Server on local machine)

List of properties (with actual/sample values)	Description
a9.server.hostname	The hostname of the machine where A93 is deployed.
a9.server.port	The port that A93 server uses.
core.service.virtual.path	The web context of Agile core web services. For example, the URL "http://agileserver:8888/**coreService**/services/BusinessObject" points to the A93 Business object services. The "**coreService**" is the web context for all these services.
todeploy.dir	The directory where compiled BPEL processes are placed when they are ready for deployment. This is done manually or via the deploy task included in the script.
bpel.home=I:/product/10.1.3.4/OracleAS_1/bpel	The location of the bpel directory in the OAS app server installation. (Required)
bpel.process.rev=1.0	The revision of all the processes. This is a must by the BPEL server. (Required)
bpel.domain=default	The domain to which the BPEL processes will get deployed. This is a must by the BPEL server. (Required)
bpel.http.hostname=localhost	This is required.
bpel.http.port=7777	This is required.
bpel.admin.user	This is only required for http mode installation. (Optional)
bpel.admin.encrypted.password	This is required for http deployment. This is decrypted at build time automatically using Oracle libraries. The value is set in the property "bpel.admin.password". If clear text password is set for "bpel.admin.password" already, then decryption is not done. One of these two properties must be set for successful deployment. This field can be found in "<bpel.home>/utilities/ant-orabpel.properties" file on the server install.
bpel.admin.password	This is used in http mode installation. This is not needed if "bpel.admin.encrypted.password" is supplied. It is recommended that you set "bpel.admin.encrypted.password" instead of "bpel.admin.password", but if you choose to set this property, it works during http mode deployment. (Optional)
bpel.verbose=true	BPEL process compilation and deployment verbose flag. (Optional)
dummy.bpel.home	This is a special property that is not required to be set. It is used to deploy from a machine that does not have the SOA suite installed locally on it. When set, it must point to the libraries needed to compile and deploy the processes. If "bpel.home" is left unspecified, these libraries will be used to compile/deploy the processes. See the section, "Configurations for a non-SOA suite machine," for more details on how to use this property.

Configurations for a non-SOA suite machine

In general, you can only compile and deploy the BPEL processes from a machine that has the SOA suite installed locally. Alternatively, JDeveloper can be used to compile the BPEL suitcases and the BPEL console can be used to execute an HTTP deployment. It is sometimes convenient, however, to be able to deploy all the processes from Ant in one go without manually executing these steps.

To alleviate this problem, you need to copy several JAR files from your SOA server to your local machine. Your administrator can provide these files. These JAR files must be copied to the "lib" folder. You must then specify the "dummy.bpel.home" property to be the parent folder of this "lib" directory. The build script will then work transparently for you whether you have the SOA suite installed locally or not. Note that this is not a documented approach for the SOA server and is only provided here for convenience. The JAR files can be found under the "<SOA-suite-install-location>/bpel/lib" directory. The required JAR files are:

- orabpel.jar
- orabpel-ant.jar
- orabpel-boot.jar
- orabpel-common.jar
- orabpel-exts.jar
- orabpel-thirdparty.jar
- oracle_http_client.jar
- orawsdl.jar
- xmlparserv2.jar

Compilation/Deployment of Processes

The Oracle BPEL Server must be installed as part of the SOA Suite installation (version 10.1.3.4.0). You must have at least version 1.6.5 of Ant. The recommended version of Java is the same as what is used by SOA Suite (version 10.1.3.4). More details on this are available in the installation guides of the Oracle Application Server and are out-of-scope for this document.

The properties outlined in Table 2 must be filled with valid values. Once completed, open a command line prompt and go to the directory "<ec-bpel-root>/build". To deploy the BPEL processes, execute the following Ant command:

> ***ant deploy-bpel-processes***

To just compile and place the processes in the folder specified by property "todeploy.dir", execute the following command within the "<ec-bpel-root>/build" directory.

> ***ant compile-bpel-processes***

Setting up processes in JDeveloper

The properties outlined in Table 2 must be filled with valid values. Once completed, to develop or view the processes in Jdeveloper, execute the following Ant command:

> *ant init-bpel*

Version 10.1.3.4 was used in development of these processes and is the recommended IDE to be used with SOA Suite 10.1.3.4.

The next step is to open the processes in JDeveloper for development. You can do this in two ways:

Navigate to the directory "<ec-bpel-root>/src". Double click the "ECS-BPEL-V1.jws" file.
1. If this extension is associated with Jdeveloper, it will automatically open the projects in JDeveloper.
2. Alternatively if *.jws files are not associated with JDeveloper, you can use JDeveloper itself to open this file.
   - Click **File ->Open…**
   - Navigate to the "<ec-bpel-root>/src" directory.
   - Select the "ECS-BPEL-V1.jws" file in the dialog box.
     This creates the ECS-BPEL-V1 application for you with all the BPEL processes added to it.

Appendix A

Trouble Shooting

"get-wsdl" task failing

This is a core task for the complete script. Nothing will work as expected if this task fails. It uses the Ant "get" task to download the required WSDL files from the Agile 93 server. The following are possible reasons for failure:
- False Agile 93 server hostname / port - This translates to a wrong URL for downloading the WSDL files.
- False setting of the "core.service.virtual.path" property - This translates to a wrong URL for downloading the WSDL files.
- Agile 93 server is down.

Make sure that the URLs that are given in the "get" task of the "get-wsdls" target in the build script are valid and that you can access and download the WSDL files with a browser.

Another possible issue could be that you need to use a proxy server to get to the Agile 93 server. If this is the case, then please refer to the Ant "get" task manual. While using Ant 1.7 with Java 1.5 or later, the default proxy settings of OS are used. Otherwise, there is a <setproxy> task that you may need to write yourself.

Could not create task or type of type: validateTask

This is indicative of the fact that your "bpel.home" variable is not set properly. Please verify your SOA Suite installation directory and reset this variable to a valid value that points to the bpel folder in your SOA Suite installation directory.