Installing Oracle® Java CAPS Domains and Runtime Components

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Java CAPS Domain and Runtime Installation

This topic provides instructions on how to create a new Java CAPS domain and how to install the runtime components on new Java Composite Application Platform Suite (Java CAPS) domains.

What You Need to Know

The following topic provides a brief overview of the installation process:

- "Overview of New Domain Installation" on page 5

What You Need to Do

Perform these steps in the order given to create a new GlassFish domain for Java CAPS:

- "Creating a New Java CAPS Domain" on page 6
- "Installing a Java CAPS Runtime on a New Domain" on page 7
- "Adding the New Domain to NetBeans" on page 8
- "Installing Java CAPS JBI Components on a New Domain" on page 10
- "Finalizing the New Domain Installation" on page 15

Overview of New Domain Installation

The Java CAPS runtime pieces are automatically installed with a complete Java CAPS installation. During this installation, a domain named `domain1` is automatically created with its own runtime. You can create additional domains in GlassFish, but these domains will not include the Java CAPS runtime components. You need to install the runtime pieces for new domains manually.

The steps required to create a complete Java CAPS domain include creating the physical domain using asadmin commands and then installing the Java CAPS runtime framework. You also need to add the new domain to NetBeans so you can work with and configure the components from the IDE, and install the Java CAPS JBI components on the new domain. To

finalize the installation, you need to configure the JVM options for the new domain, and you can optionally install the ETL Monitor to monitor Data Integrator projects. The JBI components can be installed from the command line, GlassFish Admin Console, or NetBeans IDE; all three methods are documented here.

Creating a New Java CAPS Domain

You can create a new Java CAPS domain by running an asadmin command. The instructions below provide an example of a very simple command with few parameters, but you can specify additional information such as the location for the domain files, a password file, and so on. For a complete list of options, type `asadmin create-domain` at the command line.

Note – Do not abbreviate the following instructions by running `asadmin` and then entering all command at the asadmin prompt. Run each command separately as noted below to avoid any loss of information.

▼ To Create a New Java CAPS Domain

1 **Do one of the following:**

- **Add the following path to your PATH environment variable:** *appserver*`/bin`**, where** *appserver* **is the path to your GlassFish home directory for Java CAPS.**
- **Navigate to** *appserver*`/bin`**.**

2 **Run the following command:**

`asadmin create-domain --portbase` *PortBaseNumber* `--savemasterpassword=true --savelogin=true` *DomainName*

where *PortBaseNumber* is the port number with which port assignment starts and *DomainName* is the name you want to give the new domain.

Note – Use the `--savemasterpassword` option to encrypt and save the master password so you do not need to enter it for asadmin commands. Use the `--savelogin` option to encrypt and save the admin password in *UserHomeDirectory*`/.asadminpass`. This enables the Access Manager to configure itself after the domain is first started.

---

3 **Enter the administrator login credentials when prompted.**

4 **(Optional) If you need STCMS (Java CAPS JMS) support in the new domain, run the following command:**

`asadmin create-stcms --domainname` *DomainName* `--stcmsport` *PortNumber* *STCMSName*

where:

- *DomainName* is the name you assigned to the new domain above
- *PortNumber* is the port number for STCMS (typically the base port number plus seven)
- *STCMSName* is a unique name for the message service

5 **Run the following command to start the new domain:**

`asadmin start-domain` *DomainName*

6 **Continue to "Installing a Java CAPS Runtime on a New Domain" on page 7.**

Installing a Java CAPS Runtime on a New Domain

Whenever you create a domain after the initial Java CAPS installation you need to add the runtime to the new domain in order to deploy any Java CAPS applications on it. This requires you to modify the `install.properties` files, which contains the domain configuration, and defines where to install and deploy components, as well as how to connect to the application server. You can also specify the new values for the domain name, port number, and username on the command line.

The installation files can be obtained in two ways: They are located in an existing Java CAPS installation of the application server and they are located in the file `runtime.zip` in the installation media.

▼ To Install Runtime Components on a New Domain

Before You Begin Complete the steps under "Creating a New Java CAPS Domain" on page 6.

1 **If you have not already installed a Java CAPS instance of the application server, download the `runtime.zip` file from the `core/appserver/runtime` folder in your installation media. Extract it to the following location (where *appserver* is your GlassFish home directory):**

appserver`/addons/caps/`

2 **Open the file `install.properties` in a text editor.**

This file is located at *appserver*`/addons/caps/`, either in the GlassFish instance where you extracted `runtime.zip` or in the Java CAPS application server instance.

3 **Modify the properties in the file to match the properties of the new domain.**

Tip – You will likely need to change the following properties:

- `caps.domain.name`.
- `caps.admin.port`. This is typically your base port plus 48. You can look the value up in `domains/`*DomainName*`/config/domain.xml`. It is the port number for the admin-listener.
- `caps.admin.user`, if you changed the default administrator user name.
- `AS_ADMIN_PASSWORD` and `AS_ADMIN_MASTERPASSWORD`.

In addition, you need to enable the UDDI installation if you require UDDI support, and enable the STCMS installation and specify an operating system if you required STCMS support.

---

4 **From a command line, navigate to the** *appserver*`/bin` **directory.**

5 **Run the following command:**

```
asant -f ../addons/caps/install.xml
```

6 **Restart the domain.**

7 **Continue to "Adding the New Domain to NetBeans" on page 8.**

Adding the New Domain to NetBeans

After you create a new domain, you can add it to the Servers list on the NetBeans Services window so you can work with the new domain from NetBeans.

There are multiple options for registering the domain, including registering a remote domain, registering a local domain that is not located in the default `appserver/domain` directory, or registering a local domain that is located in the default directory. The following instructions describe how to add a local default domain. Selecting one of the other options will add another step to the wizard. Click the Help button to determine which option to use.

▼ To Add the New Domain to NetBeans

Before You Begin Complete the steps listed under "Installing a Java CAPS Runtime on a New Domain" on page 7.

1 **In NetBeans, open the Services window.**

2 **Right-click on Servers, and select Add Server.**

The Add Server Instance Wizard appears.

3. **Select GlassFish V2 and enter a unique name for the domain.**
4. **Click Next.**
   The Platform Folder Location window appears.
5. **In the Platform Location field, enter the path to the application server home directory.**
6. **Select Register Local Default Domain, and select the domain you just created.**
7. **Click Next.**
   The Domain Admin Login Info window appears.
8. **Enter the admin username and password, and then click Finish.**
   The new domain appears in the Servers list.
9. **Do one of the following:**
   a. **If you are installing on a new domain in a stand-alone GlassFish server, continue to "Installing Java CAPS JBI Runtime Components on a Stand-Alone GlassFish Instance" on page 9.**
   b. **If you are installing on a new domain in the Java CAPS GlassFish server, skip to "Installing Java CAPS JBI Components on a New Domain" on page 10.**

Installing Java CAPS JBI Runtime Components on a Stand-Alone GlassFish Instance

If you are installing Java CAPS components on a stand-alone version of GlassFish (that is, an instance that was installed using a GlassFish installer rather than the Java CAPS installer), you need to install the runtime components. If you are installing Java CAPS on a new domain for the GlassFish server that was installed with Java CAPS, you can skip this step.

▼ To Install JBI Runtime Components on a Stand-Alone GlassFish Server

1. **Complete the steps under "Adding the New Domain to NetBeans" on page 8.**
2. **Stop the new domain.**
3. **From a command prompt, navigate to** *JavaCAPS_Home*`/appserver/addons/jbi-components`**.**

4. **Run the following command:**

   ```
   java -jar jbi-core-installer.jar GlassFish_Home install
   ```

   Where *GlassFish_Home* is the home directory of the GlassFish server on which you are installing the JBI runtime components.

5. **After the installation completes, verify that there is a jbi subdirectory in your GlassFish home directory.**

6. **Continue to "Installing Java CAPS JBI Components on a New Domain" on page 10.**

Installing Java CAPS JBI Components on a New Domain

After you install the Java CAPS runtime on your new domain, you can install the JBI components, which includes shared libraries, Service Engines, Binding Components, and so on. These components are all installed individually. The components to install are located in *appserver*`/addons/jbi-components`. Install the shared libraries first.

You can install the JBI components using any one or a combination of the following methods:

- "To Install JBI Components on a New Domain From the Admin Console" on page 10
- "To Install JBI Components on a New Domain From NetBeans" on page 12
- "To Install JBI Components on a New Domain From the Command Line" on page 14

▼ To Install JBI Components on a New Domain From the Admin Console

Before You Begin Complete the steps under "Adding the New Domain to NetBeans" on page 8 and optionally, "Installing Java CAPS JBI Runtime Components on a Stand-Alone GlassFish Instance" on page 9.

1. **Launch the GlassFish Admin Console.**

2. **In the navigation panel on the left, expand JBI.**

3. **To install the shared libraries, do the following:**

   Note – Shared libraries must be installed first.

   a. **Under JBI, select Shared Libraries.**

   b. **In the JBI Shared Libraries table, click Install.**

c. **Browse to the location of the shared libraries (*JavaCAPSHome*/`appserver/addons/jbi-components`), and then select `encoderlib.jar`.**

d. **Click Next and then click Finish.**

e. **Repeat the above steps to install `wsdlextlib.jar`.**

4 **To install the Service Engines and Binding Components, do the following:**

a. **Under JBI on the Admin Console, select Components.**

b. **In the JBI Binding Components and Service Engines table, click Install.**

c. **Browse to the location of the components (*JavaCAPSHome*/`appserver/addons/jbi-components`), and then select `bpelserviceengine.jar`.**

d. **Click Next.**

e. **If needed, modify the configuration properties of the component.**

f. **Click Finish.**

g. **Repeat the above steps to install the following files:**

- `databasebc.jar`
- `emailbc.jar`
- `etlserviceengine.jar`
- `filebc.jar`
- `ftpbc.jar`
- `hl7bc.jar`
- `httpbc.jar`
- `iepserviceengine.jar`
- `jmsbc.jar`
- `ldapbc.jar`
- `pojose.jar`
- `rest.jar`
- `schedulerbc.jar`
- `worklistmanagerse.jar`
- `xsltserviceengine.jar`

Note – Installing Oracle Java CAPS Data Integrator (`etlserviceengine.jar`) on the Admin Console might throw an exception. If you run into this exception, install Data Integrator through NetBeans (described below).

5 **Continue to "Finalizing the New Domain Installation" on page 15.**

▼ To Install JBI Components on a New Domain From NetBeans

Before You Begin Complete the steps under "Adding the New Domain to NetBeans" on page 8 and optionally, "Installing Java CAPS JBI Runtime Components on a Stand-Alone GlassFish Instance" on page 9.

1 **Launch NetBeans and open the Services window.**

2 **Expand Servers, expand the new domain, and then expand JBI.**

3 **To install the shared libraries, do the following:**

Note – Shared libraries must be installed first.

a. **Right–click Shared Libraries and then select install.**

b. **Browse to the location of the shared libraries (*JavaCAPSHome*`/appserver/addons/jbi-components`), and then select `encoderlib.jar`.**

c. **Click Next and then click Finish.**

d. **Repeat the above steps to install `wsdlextlib.jar`.**

4 **To install the Service Engines, do the following:**

a. **Right-click Service Engines, and then select Install.**

b. **Browse to the location of the components (*JavaCAPSHome*`/appserver/addons/jbi-components`), and then select `bpelserviceengine.jar`.**

The Installation Configuration window appears.

c. **If needed, modify the configuration properties of the component.**

d. **Click Install.**

e. **Repeat the above steps to install the following files:**

- `etlserviceengine.jar`
- `iepserviceengine.jar`
- `pojose.jar`
- `worklistmanagerse.jar`
- `xsltserviceengine.jar`

5 **To install the Binding Components, do the following:**

a. **Right-click Binding Components, and then select Install.**

b. **Browse to the location of the components (***JavaCAPSHome***`/appserver/addons/jbi-components`), and then select `databasebc.jar`.**

The Installation Configuration window appears.

c. **If needed, modify the configuration properties of the component.**

d. **Click Install.**

e. **Repeat the above steps to install the following files:**

- `emailbc.jar`
- `filebc.jar`
- `ftpbc.jar`
- `hl7bc.jar`
- `httpbc.jar`
- `jmsbc.jar`
- `ldapbc.jar`
- `rest.jar`
- `schedulerbc.jar`

6 **Continue to "Finalizing the New Domain Installation" on page 15.**

▼ To Install JBI Components on a New Domain From the Command Line

Tip – To expedite the process of installing components through the command line, create a password file containing the administrator and master password. Otherwise, you will be prompted for login information for each component to install. Enter the following text in the file:

`AS_ADMIN_PASSWORD=`*admin_password*

`AS_ADMIN_MASTERPASSWORD=`*master_password*

Where *admin_password* and *master_password* are the passwords specified during Java CAPS or GlassFish installation.

Before You Begin Complete the steps under "Adding the New Domain to NetBeans" on page 8 and optionally, "Installing Java CAPS JBI Runtime Components on a Stand-Alone GlassFish Instance" on page 9.

1. **Navigate to** *JavaCAPSHome*`/appserver/bin`**.**
2. **To install the shared libraries, do the following:**

   Note – Shared libraries must be installed first.

   a. **Run the following command:**

      `asadmin install-jbi-shared-library --port` *PortNumber* `--user` *AdminUser* `--passwordfile` *FileName* `../addons/jbi-components/encoderlib.jar`

      where:

      - *PortNumber* is the Admin Console port number.
      - *AdminUser* is the administrator username (admin, by default).
      - *FileName* is the name of the password file you created.

   b. **Repeat the previous step to install** `wsdlextlib.jar`**.**

3. **To install the Service Engines and Binding Components, do the following:**

   a. **Run the following command:**

      `asadmin install-jbi-component --port` *PortNumber* `--user` *AdminUser* `--passwordfile` *FileName* `../addons/jbi-components/bpelserviceengine.jar`

b. **Repeat the above steps to install the following files:**

- `databasebc.jar`
- `emailbc.jar`
- `etlserviceengine.jar`
- `filebc.jar`
- `ftpbc.jar`
- `hl7bc.jar`
- `httpbc.jar`
- `iepserviceengine.jar`
- `jmsbc.jar`
- `ldapbc.jar`
- `pojose.jar`
- `rest.jar`
- `schedulerbc.jar`
- `worklistmanagerse.jar`
- `xsltserviceengine.jar`

4 **Continue to "Finalizing the New Domain Installation" on page 15.**

Finalizing the New Domain Installation

Once you have everything installed on your new domain, you need to configure the JVM properties for the domain. You also have the option of installing the ETL Monitor, which is recommended if you plan to use the Data Integrator Service Engine.

▼ To Finalize the Installation

Before You Begin Complete the steps under "Installing Java CAPS JBI Components on a New Domain" on page 10.

1 **To modify the JVM properties, do the following:**

a. **Navigate to the new domain's home directory (***JavaCAPSHome***`/appserver/domains/`***DomainName***`/config`.**

b. **Open `domain.xml` in a text editor.**

c. **Remove the line `<jvm-options>-client</jvm-options>` under the `<java-config>` element.**

d. **Replace the above line with `<jvm-options>-Xms512m</jvm-options>`.**

e. **Save and close the file.**

2 **To install the ETL Monitor, copy the file `etlse-monitor.war` from** *JavaCAPSHome*`/appserver/bin` **to** *JavaCAPSHome*`/appserver/domains/`*DomainName*`/autodeploy`**.**