# GlassFish v3 Application Server Quick Start Guide

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◆ ◆ ◆ CHAPTER 1

# Application Server Overview

The *GlassFish Application Server 10TP2 Quick Start Guide* provides basic instructions for quickly getting up and running with GlassFish Application Server 10TP2 software. This guide provides basic instructions for the most common Application Server tasks, including starting and configuring the Application Server, deploying applications, and getting started with using NetBeans™, JRuby, and Eclipse technologies.

This chapter provides a basic introduction to GlassFish Application Server core concepts, features, and components.

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**Note –** This document does not provide comprehensive reference information or advanced procedures for working with GlassFish Application Server. Refer to the other documents listed in on the Application Server Documentation Home Page for more comprehensive information and instructions.

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This chapter includes the following topics:


- "Installing Application Server Software" on page 6
- "Application Server Core Concepts" on page 6
- "For More Information" on page 8


For information about conventions used in this document, see the Documentation Conventions page.

# Installing Application Server Software

Install the GlassFish Application Server software before continuing with this document. See the Application Server Installation Guide for complete Application Server installation instructions.

GlassFish Application Server 10TP2 software is available from Application Server — V3 Technology Preview page.

# Application Server Core Concepts

The GlassFish Application Server is an open source, plugin-based, Java EE 5 application server that provides enterprise class features such as advanced administration and monitoring, clustering, high availability database (HADB) and load balancing support, and a bundled Java DB database engine.

Application Server implements the newest features of the Java EE 5 platform, including JavaServer Pages (JSP) 2.1, JavaServer Faces (JSF) 1.2, Servlet 2.5, and Java Architecture for XML Binding (JAXB) 2.1, among others.

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**Note –** Java API for Web Services (JAX-WS) 2.1/Metro is available as a separate download from the "Application Server Update Center" on page 7.

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In addition to implementing the core Java 5 EE technologies, this 10TP2 supports jRugy scripting, NetBeans plugins, downloadable extensions such as Metro, JRuby runtime, and Jersey, and Web container technologies such as Servlet 2.5, JSP 2.1, JSF 1.2, jMaki 1.*x*, and Comet/Cometd.


- "Application Server Components" on page 6
- "Application Server Administration Tools" on page 7
- "Application Server Domains" on page 7
- "Application Server Update Center" on page 7


## Application Server Components

For the purposes of this *Quick Start Guide* and your initial interactions with the Application Server, there are five Application Server components you will work with:

| | |
|---|---|
| **Server Engine** | Framework in which Web domains are hosted, and Web applications and services are deployed, monitored, and maintained |

| | |
|---|---|
| **Database Engine** | Back-end data store used by Web applications and services |
| **Admin Console GUI** | Browser-based tool for configuring, managing, deploying, and monitoring domains, database back end, Web applications, and Web services |
| **Admintool (CLI)** | Command—line interface for configuring, managing, deploying, and monitoring domains, database back end, Web applications, and Web services |
| **Server Plugins** | Web applications, services, and scripting components plugged into the server framework |

# Application Server Administration Tools

GlassFish Application Server provides three means for configuring, running, and managing the Application Server:

- A Web browser-based administration console (Admin Console GUI)
- A set of command—line tools, the centerpiece of which is `asadmin` (the Admintool CLI), incorporating all features of the browser-based administration console
- Programmatic Java Management Extensions (JMX™) APIs

For the purposes of this document, the only means of management discussed here are the two most commonly used interfaces: the browser-based administration console and the Admintool CLI.

# Application Server Domains

In the context of Application Server configuration, a *domain* is a collection of configuration data, deployed applications, and machines with a designated administrator. The domain definition is encoded in a simple XML text file, and describes and can control the operation of several applications, standalone Application Server instances and clusters, potentially spread over multiple machines. (Note that cluster configuration is not covered in this document.) By default, when you install Application Server, a default domain called *domain1* is created. This default domain is referenced throughout the remainder of this document.

# Application Server Update Center

The GlassFish Application Server Update Center is a convenient GUI-based tool for getting the latest versions of various Application Server plugins, extensions, and related applications. There is also a command-line interface for all Update Center functions.

The Update Center can be launched with the `updatetool` command in the Application Server *install-dir*`/updatecenter/bin` directory, or from the Application Server administration console GUI.

# For More Information

The GlassFish Application Server is an open source community project for which numerous sources of additional information are available.

| | |
|---|---|
| GlassFish Application Server Project Page | Starting point for Application Server downloads, documentation, wikis, and forums |
| Application Server Documentation Home Page | Complete Application Server documentation |
| Application Server Wiki | Community site that includes a wide range of topics related to Application Server |
| Application Server FAQ | Several FAQs covering various Application Server topics |
| Application Server user forums | Provide community support and tips for working with Application Server |
| Application Server Screencasts | Rapidly growing collection of screencasts that demonstrate numerous features and examples for working with Application Server and related projects |
| Java EE 5 Tutorial | Provides extensive instructions, examples, and sample code for working with all Java platform core technologies |

◆ ◆ ◆ CHAPTER 2

# Using Application Server Software

This chapter explains how to get started with a basic set of Application Server tasks. The following topics are included in this chapter:


- "Starting and Stopping the Default Domain" on page 9
- "Starting and Stopping the Bundled Java DB Server" on page 10
- "Using the Administration Console GUI" on page 11
- "Deploying and Undeploying Applications" on page 12


**Note –** The instructions in this chapter use UNIX-standard forward slashes (/) for directory path separators in commands and file names. If you are running Application Server on a Microsoft Windows system, be sure to use backslashes (\) instead; for example:

- **UNIX:** *install-dir*`/bin/asadmin`
- **Windows:** *install-dir*`\bin\asadmin`

## Starting and Stopping the Default Domain

By default, when you install Application Server, a default domain named `domain1` is created.

### ▼ To Start the Default Domain

**Before You Begin** Make sure that you have installed Java JDK 6 Update 5 on the system on which Application Server is installed, and that the JDK `bin` directory is in your system `PATH`. See the Application Server Installation Guide for Application Server 10TP2 installation instructions.

- **Use the `asadmin start-domain` command.**

  *install-dir*`/bin/asadmin start-domain`

  - **Alternatively, you can enter the full command:**

    `java -jar` *install-dir*`/modules/admin-cli-10.0-SNAPSHOT.jar start-domain`

  - **As another alternative, you can run the `startserv` script.**

    *install-dir*`/bin/startserv`

    **Note –** The `startserv` script is deprecated, and may not be available in future versions of Application Server.

Any of these commands starts the default domain, `domain1`.

### ▼ To Stop the Default Domain

- **Use the `asadmin stop-domain` command.**

  *install-dir*`/bin/asadmin stop-domain`

  - **Alternatively, you can enter the full command:**

    `java -jar` *install-dir*`/modules/admin-cli-10.0-SNAPSHOT.jar stop-domain`

  - **As another alternative, you can run the `stopserv` script.**

    *install-dir*`/bin/stopserv`

    **Note –** The `stopserv` script is deprecated, and may not be available in future versions of Application Server.

Any of these commands stops the default domain, `domain1`.

## Starting and Stopping the Bundled Java DB Server

Application Server is bundled by default with a Java DB server implementation, although you can used any JDBC-compliant database engine. The database is not started by default when you start Application Server, so if you have applications need a database backend, you need to start the database server manually.

### ▼ To Start the Java DB Server

The instructions in this procedure describe how to start the Java DB server that is bundled with Application Server, but they apply for the most part to any database you want to use.

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**Note –** At least one Application Server domain must be started *before* starting the database server.

---

- **Use the `asadmin start-database` command.**

  The general form for the command is:

  *install-dir*`/bin/asadmin start-database --dbhome` *directory_path*

  By default, for the Java DB bundled with Application Server, you do not need to use the `--dbhome` option:

  *install-dir*`/bin/asadmin start-database`

  This starts the default Java DB located in *install-dir*`/glassfish/javadb`.

### ▼ To Stop the Java DB Server

- **Use the `asadmin stop-database` command.**

  *install-dir*`/bin/asadmin stop-database`

## Using the Administration Console GUI

The Application Server Administration Console GUI (hereafter referred to as the *Admin Console*) provides a graphical, browser-based means for configuring, maintaining, and monitoring the Application Server and your domains.

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**Note –** In the Application Server 10TP2 release, the Admin Console is not installed by default, but is instead installed when you invoke it for the first time after installing Application Server.

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### ▼ To Launch the Admin Console

**Before You Begin** Make sure at least one Application Server domain is started, as described in "To Start the Default Domain" on page 9.

1. **Open the Admin Console URL in a browser window.**

   The default URL for the Admin Console is:

   `http://localhost:4848/admingui/index.jsf`

   You are prompted to install the Admin Console.

2. **Enter a proxy host and proxy port, if necessary, and then click *OK* to start the Admin Console installation.**

3. **When the installation is complete, refresh the browser page to launch the Admin Console.**

4. **Enter a user name and password.**

   By default:

   - **User Name:** `admin`
   - **Password:** `adminadmin`

5. **Refer to the *GlassFish v3 Application Server Administration Guide* and to the Admin Console online help for instructions on using the Admin Console.**

# Deploying and Undeploying Applications

The process of configuring and enabling an application to run within the Application Server framework is referred to as *deployment*. You can deploy applications in three ways:

- From the command line (Admin Console CLI) with the `asadmin deploy` command
- From the Admin Console GUI
- By placing the application in the *install-dir*`/domains/`*domain_name*`/autodeploy` directory

---

**Note –** In the Application Server 10TP2 release, applications can be packaged for deployment in Web Archive (WAR) format only.

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The remainder of this chapter explains how to deploy, list, and undeploy applications.

The instructions in this section use the `hello.war` sample file available at `http://glassfish.dev.java.net/downloads/quickstart/hello.war`.


- "To Get the Sample Application Used in This Section" on page 13
- "To Deploy an Application From the Admin Console CLI" on page 13
- "To List Deployed Applications From the Admin Console CLI" on page 13
- "To Undeploy an Application From the Admin Console CLI" on page 14
- "To Deploy an Application From the Admin Console GUI" on page 14
- "To View Deployed Applications in the Admin Console GUI" on page 15

- "To Undeploy an Application From the Admin Console GUI" on page 15
- "To Deploy an Application Using Autodeploy" on page 15
- "To Undeploy an Autodeployed Application" on page 15


## To Get the Sample Application Used in This Section

- **Download the `hello.war` sample from `http://glassfish.dev.java.net/downloads/quickstart/hello.war` and save it in the directory of your choice.**

  The procedures in the remainder of this chapter use this `hello.war` sample.

## To Deploy an Application From the Admin Console CLI

1. **Use the `asadmin deploy` command.**

   The general form for the command is:

   *install-dir*`/bin/asadmin deploy` *war_name*

   To deploy the `hello.war` sample, the command is:

   *install-dir*`/bin/asadmin deploy` *sample_dir*`/hello.war`

2. **Access the `hello` application by entering the following URL in a browser window:**

   `http://localhost:8080/hello`

   The application's start page is displayed, and you are prompted to fill in your name.

   ```
   Hi, my name is Duke. What's yours?
   ```

3. **Type your name and click *Submit*.**

   The application displays a customized response, giving you a personal `Hello`.

## To List Deployed Applications From the Admin Console CLI

- **Use the `asadmin list-applications` command:**

  *install-dir*`/bin/asadmin list-applications`

## ▼ To Undeploy an Application From the Admin Console CLI

- **Use the `asadmin undeploy` command.**

  The general form for the command is:

  *install-dir*`/bin/asadmin undeploy --name` *war_name*

  For the `hello.war` example, the command is:

  *install-dir*`/bin/asadmin undeploy --name hello.war`

## ▼ To Deploy an Application From the Admin Console GUI

1. **Open the Admin Console GUI by entering the following URL in a browser window:**

   `http://localhost:8080/admingui/`

2. **Click the *Web Applications* node in the tree on the left.**

   The Web Applications page is displayed.

3. **Click *Deploy*.**

   The Deploy Enterprise Applications/Modules page is displayed.

4. **Select "Packaged file to be uploaded to the server," if it is not already selected, and then click *Browse*.**

5. **Navigate to the location in which you saved the `hello.war` sample, and then click *Open*.**

   ---

   **Note –** If running Application Server on Windows, be sure to remove the drive letter and colon (for example, `C:`) from the file name path.

   ---

   You are returned to the Deploy Enterprise Applications/Modules page.

6. **Enter a description in the Description field; for example, `hello`.**

7. **Accept the other default settings, and click *OK*.**

   You are returned to Web Applications page.

8. **Display the sample application by entering the following URL in a browser window:**

   `http://localhost:8080/hello/`

## To View Deployed Applications in the Admin Console GUI

1. **Open the Admin Console GUI by entering the following URL in a browser window:**
   `http://localhost:8080/admingui/`
2. **Click the *Web Applications* node in the tree on the left.**
   The list of deployed Web applications is displayed in the page is displayed in the Deployed Web Applications table on the Web Applications page.

## To Undeploy an Application From the Admin Console GUI

1. **Open the Admin Console GUI by entering the following URL in a browser window:**
   `http://localhost:8080/admingui/`
2. **Click the *Web Applications* node in the tree on the left.**
   The Web Applications page is displayed.
3. **Select the checkbox next to the application(s) you want to undeploy, and then click *Undeploy*.**
   Alternatively, you can keep an application deployed, but disable it by clicking *Disable*.

## To Deploy an Application Using Autodeploy

1. **Create a directory named *install-dir*`/domains/`*domain_name*`/autodeploy`**
   *domain_name* is the name of the domain for which you want to configure autodeployment. For this example, use the default `domain1` domain:
   *install-dir*`/domains/domain1/autodeploy`
2. **Copy the application WAR file to the *install-dir*`/domains/`*domain_name*`/autodeploy` directory.**
   The application is automatically discovered and started by Application Server.

## To Undeploy an Autodeployed Application

- **Delete the application from the domain's `autodeploy` directory.**

◆ ◆ ◆ CHAPTER 3

# Using Other Technologies With Application Server

In addition to Web applications packaged in WAR format, Application Server can be configured to work with JRuby/Rails, NetBeans, and Eclipse technologies. This chapter provides a brief introduction to configuring each of these technologies to work with Application Server


- "Working With JRuby-on-Rails" on page 17
- "Working With NetBeans" on page 19
- "Working With Eclipse" on page 19


## Working With JRuby-on-Rails

*JRuby* is a Java implementation of the Ruby programming language, an interpreted language with a simple syntax that enables developers to create applications quickly and easily. *Rails* is a Web application framework that eliminates much of the repetition and configuration required in other programming environments. An application written in JRuby using the Rails framework is called a JRuby-on-Rails application. With JRuby-on-Rails, you get the simplicity and productivity offered by Ruby and Rails and the access to Java libraries offered by the Java platform.

### ▼ To Create and Deploy a JRuby-on-Rails Application in Application Server

This procedure illustrates how to create a simple "Hello World" application with JRuby-on-Rails in Application Server 10TP2.

These steps illustrate a directory-based deployment to Application Server. You can also package your JRuby-on-Rails application in a WAR file and deploy the WAR file to Application Server, as described earlier in this document. Alternatively, you can install a Application Server

instance in your JRuby VM and deploy your application to it. See the JRuby-on-Rails on Application Server Tutorial ***[Link TBD] for more information.

1. **Download and unpack `jruby1.1-bin.zip` from `http://dist.codehaus.org/jruby`.**

2. **Change to the directory in which you unpacked JRuby, and then install Rails.**

   ```
   dirname/bin/jruby -S gem install rails --no-ri --no-rdoc
   ```

3. **Change to the JRuby `samples` directory and create the `hello` application.**

   ```
   ../bin/jruby -S rails hello
   ```

4. **Change to the hello directory you created, and generate the controllers and views for the application:**

   ```
   ../../bin/jruby script/generate controller say hello
   ```

5. **Open the `hello/app/controllers/say_controller.rb` file in a text editor, and add a `String` variable to the `hello` method of the controller:**

   ```
   def hello
      @hello_string = "Welcome to JRuby on GlassFish"
   end
   ```

6. **Open the `hello/app/views/say/hello.html.erb` file in a text editor, and add the following to the end of the file:**

   ```
   <%= @hello_string %>
   ```

7. **Open the `hello/config/environment.rb` file in a text editor, and uncomment line 21 of the file by deleting the hash mark in front of it.**

   Line 21 should now read:

   ```
   config.frameworks -= [ :active_record, :active_resource, :action_mailer ]
   ```

8. **Start Application Server.**

9. **Change to the parent directory of your sample `hello` directory and deploy the `hello` application:**

   ```
   install-dir/bin/asadmin deploy --path hello
   ```

10. **Enter the following URL in your browser to run the sample:**

    ```
    http:localhost:8080/hello/say/hello
    ```

    You should now see the following message in your browser:

    ```
    Say#hello
    Find me in app/views/say/hello.html.erb
    Welcome to JRuby on GlassFish
    ```

# Working With NetBeans

***[TBD]

# Working With Eclipse

***[TBD]