GlassFish v3 Application Server Quick Start Guide

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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.

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.

This chapter includes the following topics:

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 like advanced administration and monitoring, clustering, high availability database (HADB) and load balancing support, and a bundled Java DB database engine.

Application Server Features

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, Java Architecture for XML Binding (JAXB) 2.1, Web Services Metadata for the Java Platform 1.0, among others.

Note – Java API for Web Services (JAX-WS) 2.1/Metro is available as a separate download from the Update Center.

In addition to implementing the core Java 5 EE technologies, this 10TP2 release provides the following features:

GlassFish Nucleus

- HK2
- Grizzly
- Logging
- Configuration
- Security

Web Container

- Servlet 2.5
- JSP 2.1
- JSF 1.2
- jMaki 1.x

Security
- SSL infrastructure
- File and JDBC realms
- Container Authentication and Authorization
- SPIs to support Metro

Scripting
- PHP support
- jRuby support

NetBeans Plugin
- Development and deployment support for Web, PHP, jRuby applications

Eclipse Plugin
- Development and deployment support for Web, PHP, and jRuby applications

Downloadable Components
- Metro
- Jersey
- PHP runtime
- jRuby runtime

Business Tier
- Java Persistence API 1.0 Support
- Java Transaction API
- JDBC Connection Pooling
- Java Connector Architecture 1.5

Management
- Deployment of Web modules, PHP, and jRuby
- Application Management
- Web Tier configuration (support for PHP/jRuby/CGI)
- Administration CLI and GUI support for deployment, HTTP service configuration, Web containers, JDBC
- Administration CLI internal support (CTS harness requirement to run TCKs for Servlet, JSP, JSF, JPA, JCA and JTA)
- Update Center
  - CLI support for downloading additional content
  - Easy-to-use GUI
- Standalone Installer based on IPS

Application Server Components

For the purposes of this *Quick Start Guide* and your initial interactions with the Application Server, there are six 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
Administration Console	Browser-based tool for configuring, managing, deploying, and monitoring domains, database back end, Web applications, and Web services
Command-line Interface (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

Sample Applications	Included with the Application Server distribution to demonstrate deployment, management, and other server features.

Application Server Update Center

The GlassFish Application Server Update Center is a convenient GUI-based for getting the latest versions of Application Server and various 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, so there are numerous sources of additional information available to you.

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

Application Server Administration Tools

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

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

These tools connect to a special Application Server instance called the *Domain Administration Server* (DAS). The DAS provides a single secure interface for validating and executing administrative commands regardless of which interface is used.

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.) When the DAS is installed, a default domain called *domain1* is always installed.

How To Proceed

After completing the basic procedures explained in this document, there are several topics in particular you may want to learn about next.

Configuring Clusters	***[Link TBD]
Deploying Applications	***[Link TBD]
Configuring High Availability (HADB)	***[Link TBD]
Configuring Load Balancers	***[Link TBD]
Configuring Monitoring	***[Link TBD]

◆ ◆ ◆ 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:

Note – The instructions in this chapter use UNIX/Linux-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/Linux	*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 domain1`

  - **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 that 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 domain1`

  - **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 that the `stopserv` script is deprecated, and may not be available in future versions of Application Server.

  Either 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.

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:

  install-dir`/bin/asadmin start-database --dbhome` *install-dir*`/glassfish/javadb`

▼ To Stop the Java DB Server

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

  The general form for the command is:

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

  For the Java DB bundled with Application Server:

  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.

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.

▼ 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 11.

1. **Open the admin console URL in a browser window.**

   The default URL for the admin console is:

   `http://localhost:4848/admin`

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 installation.**

3. **When the installation is complete, refresh the browser page to launch the admin console.**

4. **Log in to the console.**

   By default the user name is `admin` and the password is `adminadmin`. It is recommended that you change this as soon as possible. To change the default password:

   a. *****[TBD]**

5. **Refer to the ***[Link TBD] and to the online help for instructions on using the admin console.**

Deploying and Undeploying Applications

Application Server 10TP2 includes several sample applications that you can use to familiarize yourself with how Application Server works.

There are ***[TBD] sample applications included with Application Server:

- ***[TBD]
- ***[TBD]

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 with the `asadmin deploy` command
- From the admin console
- By placing the application in the *install-dir*`/domains/`*domain_name*`/autodeploy` directory

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

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

▼ To Deploy the ***[TBD] Application From the Command Line

- **Use the** `asadmin deploy` **command.**
  The general form for the command is:
  install-dir`/bin/asadmin deploy` *war_name*
  To deploy the ***[TBD] application, the command is:

  install-dir`/bin/asadmin deploy ***[TBD]`

▼ To List Deployed Applications From the Command Line

- **Use the** `asadmin list-applications` **command:**
  install-dir`/bin/asadmin list-applications`

▼ To Undeploy the ***[TBD] Application From the Command Line

- **Use the** `asadmin undeploy` **command.**
  The general form for the command is:
  install-dir`/bin/asadmin undeploy --name` *war_name*

▼ To Deploy the ***[TBD] Application From the Admin Console

- ***[TBD]**

▼ To View Deployed Applications in the Admin Console

- ***[TBD]**

▼ To Undeploy the ***[TBD] Application From the Admin Console

- *****[TBD]**

▼ To Deploy an Application Using Autodeploy

- **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

Configuring Container Technologies

In addition to Web applications packaged in JAR, WAR, and EAR formats, Application Server can be configured to work with NetBeans, jRuby, and Eclipse technologies. This chapter provides a brief introduction to configuring each of these technologies to work with Application Server

Working With NetBeans

***[TBD]

Working With jRuby

***[TBD]

Working With Eclipse

***[TBD]