

Presentation Layer - the first layer of the SOA Stack

Adding Sun WebSpace Server 10 Portal Server functionality to the GlassFish ESB v2.1 Installation

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Introduction

The GlassFish ESB Suite can be used to develop and deploy Composite Applications, a cornerstone of SOA. It has the integration, connectivity and management functionality necessary to develop artifacts in the lower 3 of the 4 SOA Layers – SOA 2 (Business Process), SOA 3 (Business Service) and SOA 4 (Technical Service). To complete the stack, and provide artifacts in the SOA 1 (Presentation Layer) requires additional technologies. One assumes that a web-based user interface is what one would choose to develop a presentation layer of the composite application. One assumes further that the Composite Applications with the Web-based User Interface will be exposed through a standards-compliant Portal infrastructure as standards-compliant portlets, rather than stand-alone web applications.

While one would typically deploy a standard Portal independently of the ESB infrastructure, for resiliency and flexibility, this requires additional physical plant. It is possible, for development and experimentation, to add the WebSpace Server 10 Portal functionality to an existing GlassFish ESB v2.1 installation.

This document walks through the process of installing the Sun WebSpace Server 10 Portal to the GlassFish ESB v2.1 installation and addition of Portal Pack tooling to the NetBeans 6.5 tooling packaged with the GlassFish ESB v2.1. The complete environment will enable development of SOA Composite Applications that combine JBI-based web services and standards-compliant portlets.

Pre-requisites

In this paper we use the MySQL database as the store for portal-related metadata. Other databases can also be used.

Completion of the steps in this paper requires installation of MySQL 5.x Community Edition, Ant 1.7.x, GlassFish ESB v2.1 RC2 and WebSpace Server 10 Portal.

The following section discuss each in turn.

Install MySQL

Install MySQL Community Edition following instructions in “MySQL Community Server and GUI Tools - Getting, Installing and Configuring”

(http://blogs.sun.com/javacapsfieldtech/entry/mysql_community_server_and_gui)

Install GlassFish ESB v2.1 RC2

Install GlassFishESB v2.1 RC2 (<https://open-esb.dev.java.net/Downloads.html>) following standard installation steps detailed at the OpenESB site.

Install certain standard NetBeans plugins

I always find myself installing the JAX-RPC and SoapUI plugins. The latter because I work with web services extensively and find SoapUI lugin an excellent means of testing my services.

Install NetBeans JAX-RPC Plugin (plugins).

Download and install SoapUI NetBens 6.5 Plugin

(http://sourceforge.net/project/platformdownload.php?group_id=136013)

Install the Portal Pack NetBeans Plugins

NetBeans Portal Pack plugins will be used to develop and deploy portlets to the WebSpace Server.

Download and install Portal Pack 3.0.1 NetBeans plugin modules (All)

(<http://portalpack.netbeans.org/download.html>)

Install Ant 1.7.x

Apache Ant 1.7.x is required to install WebSpace Server 10 components.

Download and install Apache Ant 1.7, or later, from <http://ant.apache.org/>. The version of Ant bundled with the GlassFish does not work for the WebSpace Server 10. Follow Ant installation instructions.

Add WebSpace Server 10 to the GlassFishESB v2.1

To add WebSpace Server 10 Portal functionality to the existing GlassFish ESB v2.1 installation we will follow these steps:

1. Download WebSpace Server 10 GlassFish v2.1
(<https://webspace.dev.java.net/releases/webspace-10.1-cb1/download-instructions.html> - choose Option 3 - for deployment to existing GlassFish installation)
2. Create a couple of password files the WebSpace Server 10 addon installer requires
3. Run the addon installation
4. Create MySQL Database and user used by the portal
5. Start the modified GlassFish Application Server instance

The addon installation assumes that passwords for the MySQL and the GlassFish installations are stored in text files and asks for the location of these text files. Create one file for each. Each file will contain just the password.

Unzip the WebSpace Server archive to a convenient location.

During installation of the WebSpace Server 10 you will be prompted for the location of the GlassFish installation directory, location of the GlassFish domain directory, location of the MySQL root password file and the location of the GlassFish admin password file. You will also be prompted for the GlassFish admin port and the MySQL port. Ensure you have this information at hand before you start the installation process. Make sure that the GlassFish Application Server is running.

Change working directory to the location of the install-gfv2.xml and execute:

```
ant -f install-gfv2.xml
```

See trace of my installation at the end of this document.

Once installed, **before you start the GlassFish Application Server**, create the portal MySQL database (other databases are also supported – see <http://docs.sun.com/app/docs/doc/820-7053/girgq?a=view>):

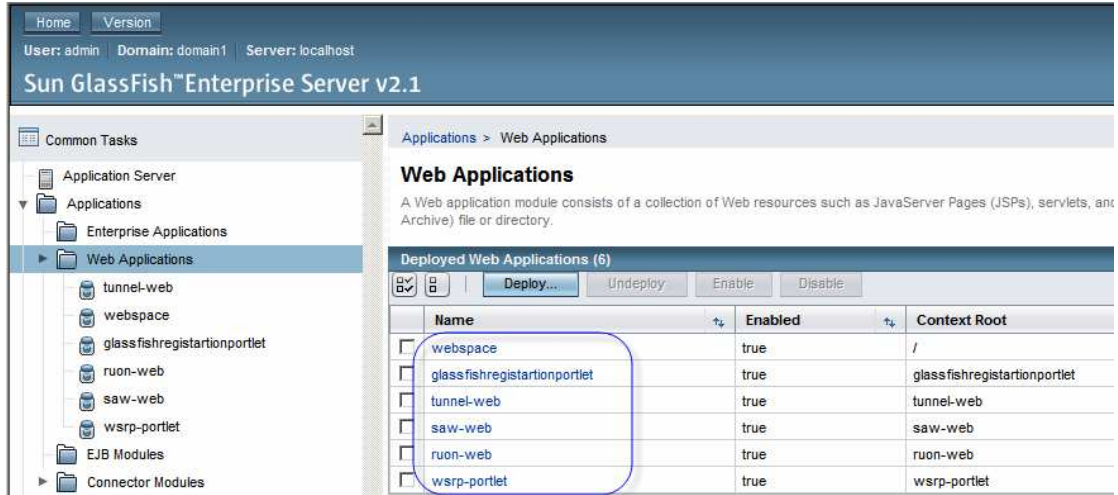
```
create database lportal default character set utf8;
use lportal;
create user lportal;
grant all privileges on *.* to 'lportal'@'localhost' identified by 'lportal';
set password for 'lportal'@'localhost' = password('lportal');
```

Now start the GlassFish instance.

During the initial startup the database will be populated with portal-related objects and metadata.

Test Installation

Start a browser and connect to <http://localhost:24848> (your default admin port is likely to be 4848 – mine is 24848) – this will give you the view into the GlassFish Application Server. Navigate to Applications -> Web Applications to see that portal-related web applications are present.

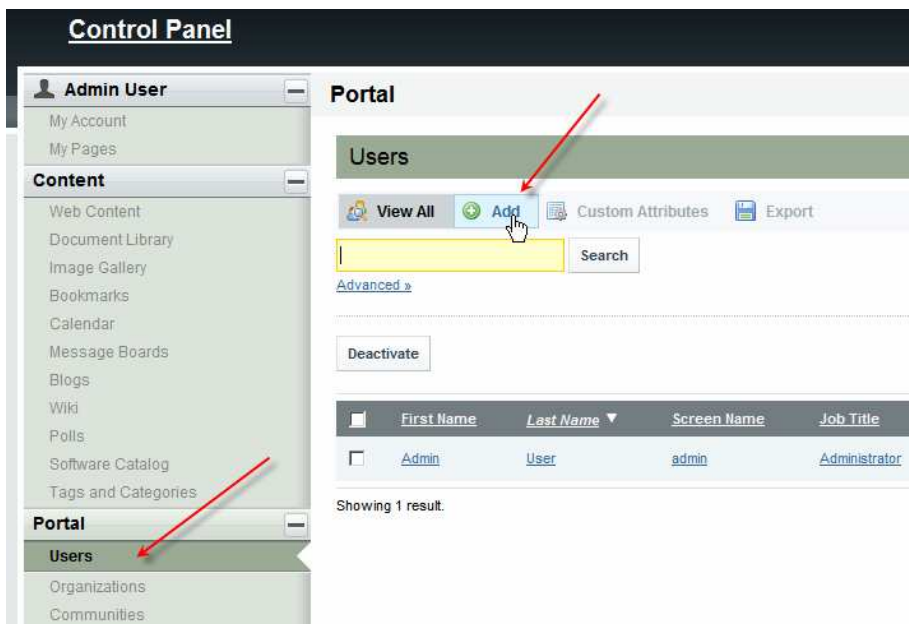


Start a web browser and connect to <http://localhost:28080/> (your default web container port is likely to be 8080 – mine is 28080) – this will give you the view into the WebSpace Server 10 Portal.

Login as admin@example.com with password of admin, choose Control Panel widget:



Add a user mytest.



Portal

Users

View All Add Custom Attributes Export

Details

Title	Birthday
<input type="text"/>	January 1 1970
Screen Name	Gender
mytest	Male
Email Address	Job Title
mytest@example.com	<input type="text"/>
First Name	
mytest	
Middle Name	
Last Name	
mytest	

User Information

Details (Modified)

Organizations

Save Cancel

Set password as mytest

Portal [Back](#)

Users

✔ Your request processed successfully.

View All Add Custom Attributes Export

Password

mytest mytest

User Information

Details

Password (Modified)

Organizations

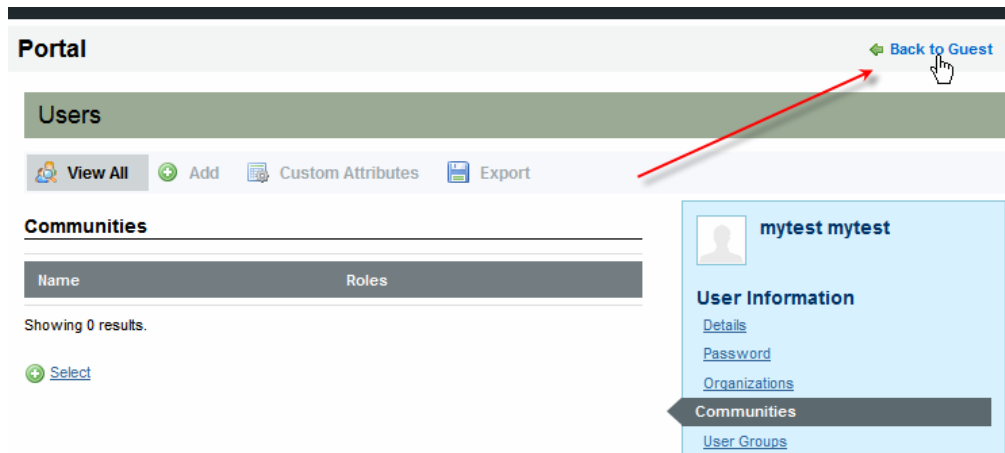
Communities

User Groups

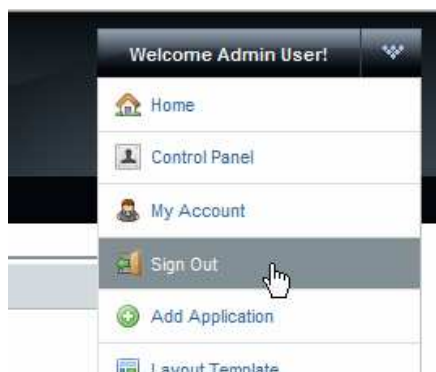
Roles

Categorization

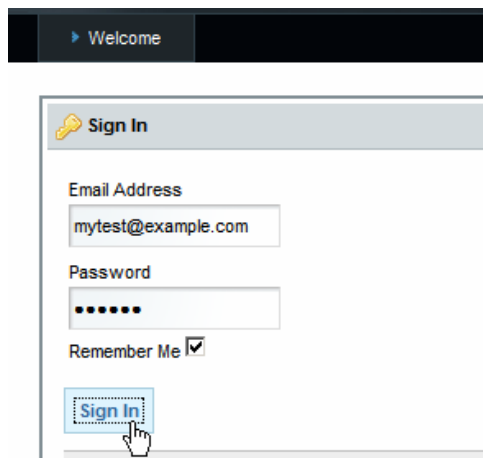
Close the wizard



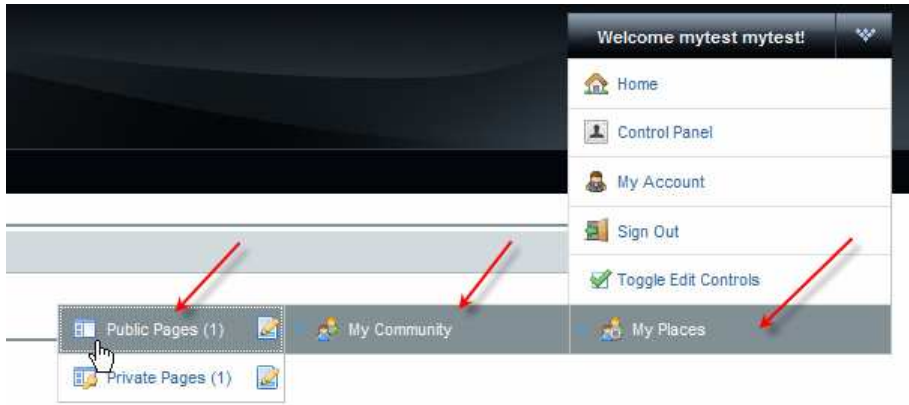
Sign out



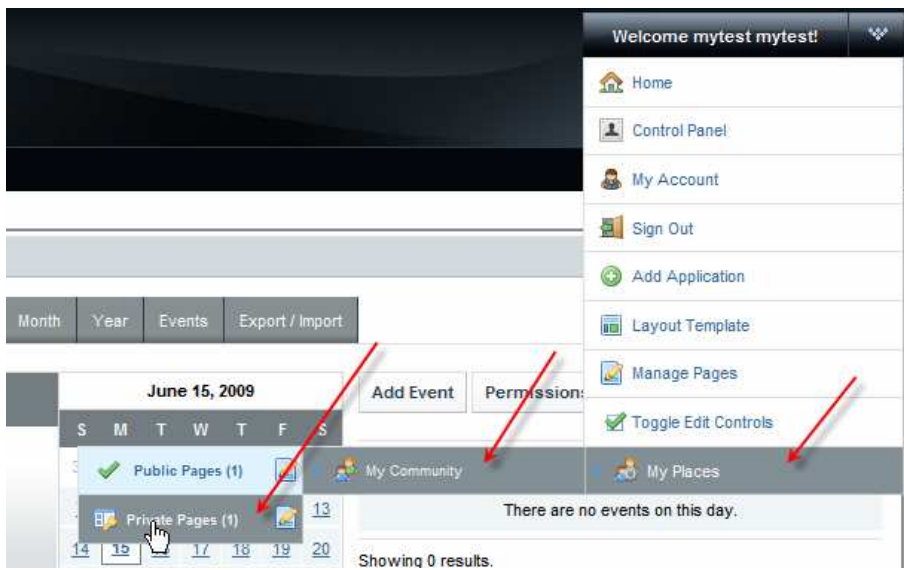
Sign in as new user mytest



Navigate to the community's public page



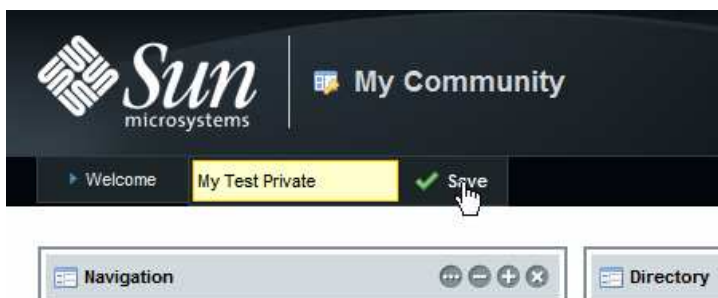
Navigate to community's private page



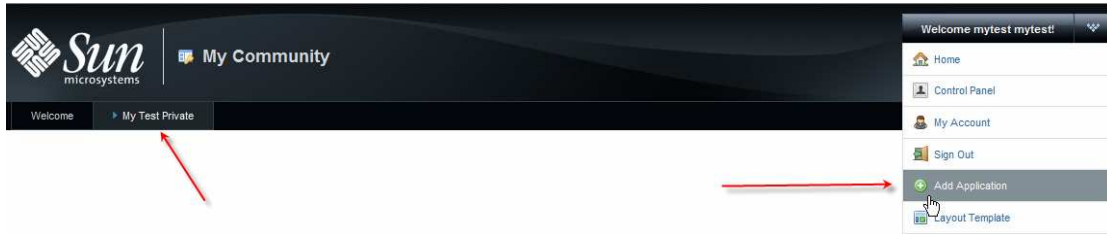
Add a private page



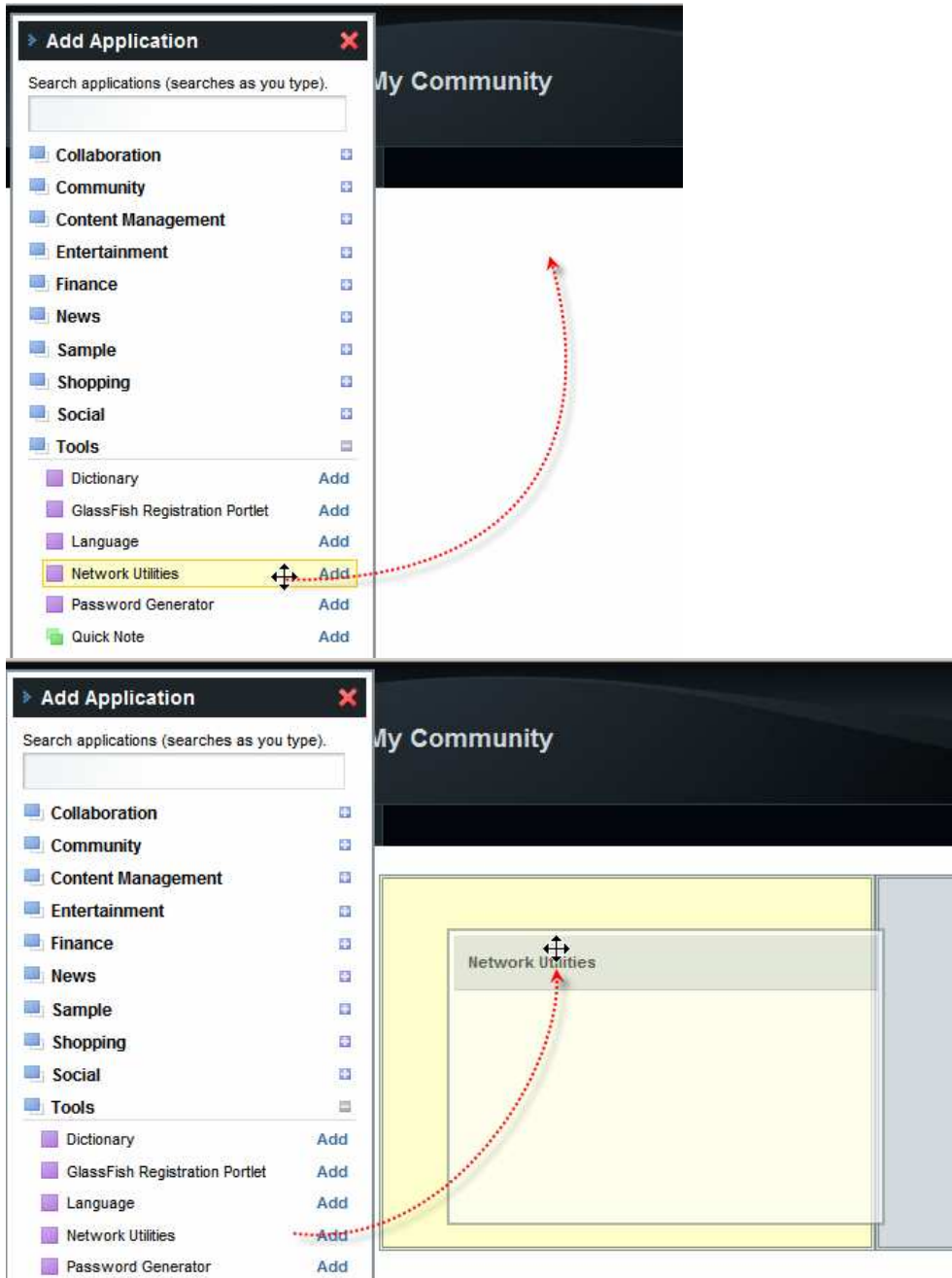
Name it My Test Private and Save



Click the new page tab and choose Add Application from the drop down menu.



Select Network Utilities portlet from the Tools list and drag it onto the page



Dismiss Add Application popup

Have a play with the Network Utilities Portlet.



Summary

With a standard MySQL and GlassFish ESB installation, supplemented by the WebSpace Server 10 Portal Server functionality, one can develop SOA Composite Applications that span all the 4 layers of the SOA Stack.

This document discussed what it takes to install the Web Space Server 10 Portal Server as an addon to the regular GlassFish ESB distribution, add a user, create a private page and add a pre-built portlet to the page.

With this infrastructure in place we will be in a position to develop and deploy our own portlets.

WebSpace Server 10 Install trace:

```
G:\GlassFishESB_v2.1RC2_Distro\web-space-for-glassfish\web-space\application>ant -f
install-gfv2.xml
Buildfile: install-gfv2.xml

check-ant:

check-last-install:

set-last-install:

show-user-warning:
    [input] JAVA_HOME must be set to JDK 1.5 or greater and java must be available in
the execution path. GlassFish must be running. [RETURN to continue or CONTROL-C to
stop]

set-glassfish-properties:
    [input] Enter GlassFish Directory [G:/GlassFishESBv21/glassfish]

    [input] Enter GlassFish Domain (include full path to domain)
[G:/GlassFishESBv21/glassfish/domains/domain1]

    [input] Enter GlassFish Target [server]

    [input] Enter GlassFish Administrator [admin]

    [input] Enter GlassFish Administrator Password File (include full path to file)
[C:/CAPS52/passfile/passfile_OpenESB.txt]
C:\CAPS52\passfile\passfile_GlassFishESB_WebSpaceInstall.txt
    [input] Enter GlassFish Administration Port [24848]

    [input] Can installer deploy wars? [true]

    [input] Perform JVM tuning? [true]

set-database-properties:
    [input] Use builtin HSQL or MySQL database [MySQL]

set-hsql-properties:

set-mssql-properties:

set-mysql-properties:
    [input] Enter Database User Name [root]

    [input] Enter Database User Password File (include full path to file)
[C:/CAPS52/passfile/mysql_db_pass.txt]
C:\CAPS52\passfile\passfile_mysql_db_WebSpaceInstall.txt
    [input] Enter Database Host [localhost]

    [input] Enter Database Port [3306]

    [input] Enter Database Name [lportal]

set-oracle-properties:

install:
    [mkdir] Created dir: C:\DOCUME~1\mczapski\LOCALS~1\Temp\mczapski\web-spaceinstall

undeploy-existing-wars:
    [exec] Nothing to list.
    [exec] Command list-components executed successfully.

undeploy-web-space:

undeploy-tunnel-web:

undeploy-ruon-web:
```

```
undeploy-saw-web:

undeploy-glassfishregistartionportlet:

undeploy-wsrp-portlet:

update-jvm:
  [exec] Command delete-jvm-options executed successfully.
  [exec] Command create-jvm-options executed successfully.

update-glassfish:
  [exec] server.http-service.connection-pool.receive-buffer-size-in-bytes = 8192
  [exec] server.log-service.module-log-
levels.property.debug.com.sun.portal.portletcontainer = WARNING
  [echo] Stopping GlassFish. Ignore error messages if GlassFish is already stopped.
  [echo] Execute G:/GlassFishESBv21/glassfish/bin/asadmin stop-domain if install
hangs.
  [exec] Domain domain1 stopped.
  [copy] Copying 1 file to G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space
  [copy] Copying 1 file to G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace
  [copy] Copying 1 file to G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace

sync-and-process-web-space-war:
  [delete] Deleting directory G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\sources\web-space
  [copy] Copying 3768 files to G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\sources\web-space
  [copy] Copied 553 empty directories to 4 empty directories under
G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-glassfish\var\web-space\war-
workspace\sources\web-space
  [unjar] Expanding: G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\sources\web-space\WEB-INF\lib\enterprise.jar into
C:\DOCUME~1\mczapski\LOCALS~1\Temp\mczapski\web-spaceinstall\enterprisejar

add-jsr88:
  [jar] Updating jar: G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\sources\web-space\WEB-INF\lib\enterprise.jar
  [copy] Copying 3768 files to
C:\DOCUME~1\mczapski\LOCALS~1\Temp\mczapski\web-spaceinstall\web-space
  [copy] Copied 553 empty directories to 4 empty directories under
C:\DOCUME~1\mczapski\LOCALS~1\Temp\mczapski\web-spaceinstall\web-space
  [copy] Warning: G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\customs\web-space not found.
  [jar] Building jar: G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\finals\web-space.war

sync-and-process-war:
  [delete] Deleting directory G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\sources\tunnel-web
  [copy] Copying 14 files to G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\sources\tunnel-web
  [copy] Copying 14 files to
C:\DOCUME~1\mczapski\LOCALS~1\Temp\mczapski\web-spaceinstall\tunnel-web
  [copy] Warning: G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\customs\tunnel-web not found.
  [jar] Building jar: G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\finals\tunnel-web.war

sync-and-process-war:
  [delete] Deleting directory G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\sources\ruon-web
  [copy] Copying 37 files to G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\sources\ruon-web
  [copy] Copying 37 files to
C:\DOCUME~1\mczapski\LOCALS~1\Temp\mczapski\web-spaceinstall\ruon-web
  [copy] Warning: G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\customs\ruon-web not found.
  [jar] Building jar: G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\unprocessed\ruon-web.war

sync-and-process-war:
```

```
[delete] Deleting directory G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\sources\saw-web
[copy] Copying 61 files to G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\sources\saw-web
[copy] Copying 61 files to
C:\DOCUME~1\mczapski\LOCALS~1\Temp\mczapski\web-spaceinstall\saw-web
[copy] Warning: G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\customs\saw-web not found.
[jar] Building jar: G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\unprocessed\saw-web.war

sync-and-process-war:
[delete] Deleting directory G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\sources\glassfishregistartionportlet
[copy] Copying 18 files to G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\sources\glassfishregistartionportlet
[copy] Copying 18 files to
C:\DOCUME~1\mczapski\LOCALS~1\Temp\mczapski\web-spaceinstall\glassfishregistartionportl
et
[copy] Warning: G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\customs\glassfishregistartionportlet not found.
[jar] Building jar: G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\unprocessed\glassfishregistartionportlet.war

sync-and-process-war:
[delete] Deleting directory G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\sources\wsrp-portlet-5.2.2.1
[copy] Copying 132 files to G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\sources\wsrp-portlet-5.2.2.1
[copy] Copied 44 empty directories to 1 empty directory under
G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-glassfish\var\web-space\war-
workspace\sources\wsrp-portlet-5.2.2.1
[copy] Copying 132 files to
C:\DOCUME~1\mczapski\LOCALS~1\Temp\mczapski\web-spaceinstall\wsrp-portlet-5.2.2.1
[copy] Copied 44 empty directories to 1 empty directory under
C:\DOCUME~1\mczapski\LOCALS~1\Temp\mczapski\web-spaceinstall\wsrp-portlet-5.2.2.1
[copy] Warning: G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\customs\wsrp-portlet-5.2.2.1 not found.
[jar] Building jar: G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\war-workspace\unprocessed\wsrp-portlet-5.2.2.1.war
[copy] Copying 14 files to G:\GlassFishESBv21\glassfish\domains\domain1\lib
[copy] Copying 1 file to G:\GlassFishESBv21\glassfish\domains\domain1\lib

automatic-finalize:
[copy] Copying 2 files to G:\GlassFishESBv21\glassfish\domains\domain1\autodeploy
[copy] Copying 4 files to G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-
glassfish\var\web-space\deploy

manual-finalize:
[delete] Deleting directory
C:\DOCUME~1\mczapski\LOCALS~1\Temp\mczapski\web-spaceinstall
[echo]
[echo] Installation is complete. GlassFish has been stopped.

BUILD SUCCESSFUL
Total time: 3 minutes 45 seconds
G:\GlassFisgESB_v2.1RC2_Distro\web-space-for-glassfish\web-space\application>
```