

GlassFish ESB v2.2 Field Notes

Installing GlassFish ESB on the Basic JeOS Appliance for LB and HA Testing

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Introduction

It seems frequently assumed that architecting and deploying Highly Available (HA) solutions requires Application Server and/or Operating System clustering. When it comes to SOA and Integration solutions this is not necessarily a correct assumption. Load Balanced (LB) and Highly Available (HA) SOA and Integration solutions may not require that degree of complexity and sophistication. Testing LB and HA solutions requires infrastructure consisting of multiple hosts and the ability to “crash” hosts at will. With virtualization technologies available now it is far easier to use multiple virtual machines than to use physical machines. It is also easier and potentially less destructive to “crash” virtual machines than it is to do so with physical machines.

This note walks through the process of installing a GlassFish ESB v2.2 runtime on the Base OpenSolaris-based VMware Virtual Appliance, discussed in the Blog Entry “GlassFish ESB v2.x Field Notes - Preparing Basic JeOS Appliance for GlassFish ESB LB and HA Testing” at

http://blogs.sun.com/javacapsfieldtech/entry/glassfish_esb_v2_x_field.

At the end of the Note we will have a GlassFish ESB VMware Appliance with GlassFish ESB Runtime infrastructure, ready to use for GlassFish ESB Load Balancing and High Availability testing, or any other purpose for which a GlassFish ESB runtime appliance might be appropriate.

Obtain GlassFish ESB v2.2

Download GlassFish ESB v2.2 Solaris x86 distribution from the OpenESB site, <https://open-esb.dev.java.net/Downloads.html>.

GlassFish ESB v2.1 (Released, June 2009)

This is the GlassFish ESB v2.1 release. It comes with a subset of the components of OpenESB. This build, including certified completely.

[Installation notes...](#) [Version info...](#)

Full install, 188 Mb: (includes GlassFish 2.1 and NetBeans 6.5.1)

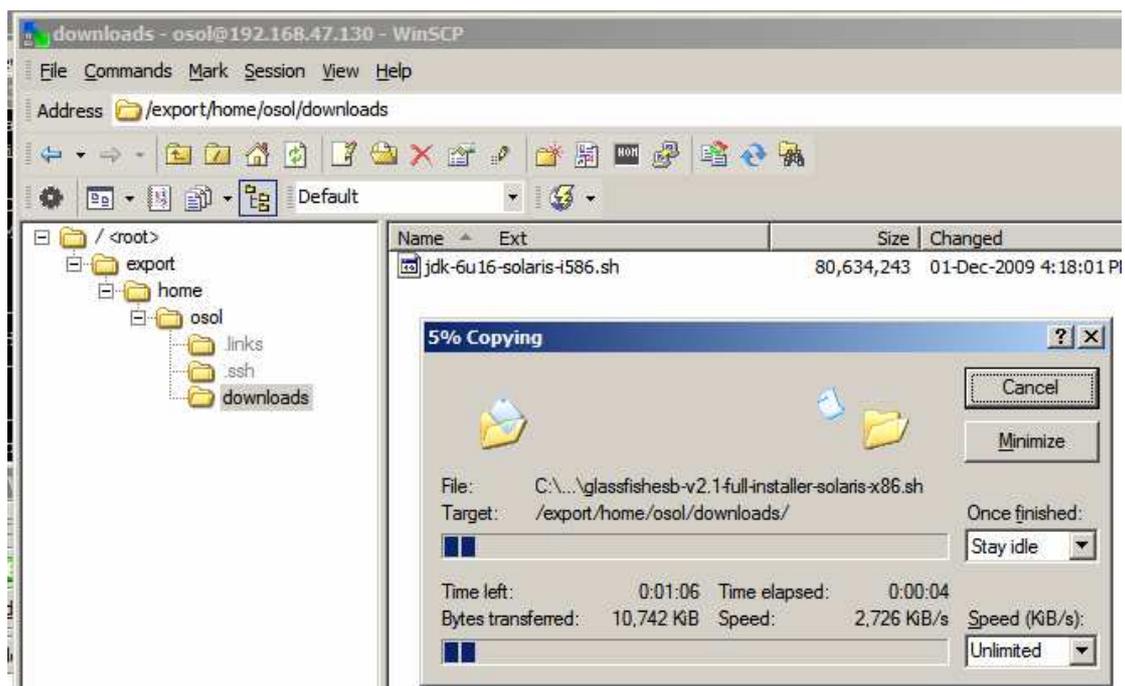
GlassFish ESB distribution should be available by the end of January 2010. If you are impatient you could try to use the v2.1 distribution.

Install GlassFish ESB On the Appliance

In this Note the JeOS VMware Appliance named gfesbv22, built following the steps discussed in “GlassFish ESB v2.x Field Notes - Preparing Basic JeOS Appliance for GlassFish ESB LB and HA Testing”, will be used.

Start the gfesbv22 VMware Appliance.

Using the WinSCP (as I do) or another means of transferring files using SSH, copy the downloaded GlassFish ESB installer, `glassfishesb-v2.2-full-installer-solaris-x86.sh`, to the gfesbv22's `/export/home/osol/downloads` directory.



Start a SSH session on the gfesbv22, login as osol.

As root, create a directory GFESB22 as a subdirectory to /opt, owned by osol.

```
pfexec mkdir /opt/GFESB22
pfexec chown osol:staff /opt/GFESB22
```

Prepare the GlassFish ESB installer for execution.

```
chmod a+x /export/home/osol/downloads/glassfishesb-v2.2-full-
installer-solaris-x86.sh
```

Create a silent install options file, /export/home/osol/downloads/gfesb-
solaris-options_osol0x.xml.

```
cat > /export/home/osol/downloads/gfesb-solaris-options_osol0x.xml
<<-eof
<?xml version="1.0" encoding="UTF-8"?>
<state xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="state-file.xsd">
<components>
  <product platform="windows linux solaris-sparc solaris-x86 macosx-
ppc macosx-x86" status="to-be-installed" uid="nb-base">
    <properties>
      <property name="minimum.jdk.version">1.5.0.6</property>
      <property name="maximum.jdk.version">10.0.0</property>
      <property name="jdk.location">/jdk1.6.0_16</property>
      <property
name="installation.location">/opt/GFESB22/netbeans</property>
    </properties>
  </product>
  <product platform="windows linux solaris-sparc solaris-x86 macosx-
ppc macosx-x86" status="to-be-installed" uid="nb-soa">
    <properties>
      <property
name="installation.location">/opt/GFESB22/netbeans</property>
    </properties>
  </product>
  <product platform="windows linux solaris-sparc solaris-x86 macosx-
ppc macosx-x86" status="to-be-installed" uid="glassfish">
    <properties>
      <property name="jdk.location">/jdk1.6.0_16</property>
      <property name="minimum.jdk.version">1.5.0</property>
      <property name="maximum.jdk.version">1.6.99</property>
      <property name="vendor.jdk.allowed.pattern">Sun
Microsystems.*</property>
      <property name="username">admin</property>
      <property name="password">adminadmin</property>
      <property name="http.port">8080</property>
      <property name="https.port">8181</property>
      <property
name="preferred.jdk.version.macosx">1.5.0.13.0</property>
      <property name="admin.port">4848</property>
      <property name="iiop.port">3100</property>
      <property
name="vendor.jdk.allowed.pattern.aix">IBM.*</property>
      <property name="iiop.mutualauth.port">3920</property>
      <property name="iiop.ssl.port">3820</property>
      <property name="jmx.admin.port">8086</property>
      <property name="jms.port">8076</property>
      <property
name="installation.location">/opt/GFESB22/glassfish</property>
    </properties>
  </product>
  <product platform="windows linux solaris-sparc solaris-x86 macosx-
ppc macosx-x86" status="to-be-installed" uid="openesb">
    <properties>
      <property
name="installation.location">/opt/GFESB22/glassfish/addons/jbi-
components</property>
    </properties>
  </product>
  <product platform="windows linux solaris-sparc solaris-x86 macosx-
ppc macosx-x86" status="to-be-installed" uid="jbi-components">
    <properties>
```

```

                <property
name="installation.location">/opt/GFESB22/glassfish/addons/jbi-
components</property>
                </properties>
            </product>
        </components>
    </state>
eof

```

Perform headless installation. Because this is a headless installation any issues there are, as might be the case if the silent installer options file is invalid, will not be reported. The installer will “complete” without installing anything or providing any feedback. This lack of feedback is a know bug. Because there is no feedback this is the most fragile part of this walkthrough and there is no way I can help if you can’t get it to work. To avoid the most obvious pitfalls, make sure your Java executable is in the PATH and that the target directory exists and has the correct ownership (osol:staff).

```

pfexec mkdir /opt/GFESB22
pfexec chown osol:staff /opt/GFESB22
chmod a+x /export/home/osol/downloads/glassfishesb-v2.2-full-
installer-solaris-x86.sh
export PATH=$PATH:/jdk1.6.0_16/bin
/export/home/osol/downloads/glassfishesb-v2.2-full-installer-solaris-
x86.sh --silent --state /export/home/osol/downloads/gfesb-solaris-
options_osol0x.xml

```

Once the installation completes, and does so successfully, remove unnecessary and unusable netbeans directory.

```

cd /opt/GFESB22
rm -R netbeans
rm start_netbeans

```

To allow the GlassFish Application Server to be automatically started at boot time, and automatically shut down at shutdown time, we need to create a file containing authentication credentials and use the GlassFish Application Server Command Line Console’s built-in facility to add GlassFish to the OpenSolaris’ Service Management Facility.

Create a text file, /opt/GFESB22/passwd

```

cat > /opt/GFESB22/passwd <<-eof
AS_ADMIN_USER=admin
AS_ADMIN_ADMINPASSWORD=adminadmin
AS_ADMIN_PASSWORD=adminadmin
AS_ADMIN_MASTERPASSWORD=changeit
eof

```

Change directory to GlassFish’s bin and run the appropriate asadmin command:

```

cd /opt/GFESB22/glassfish/bin
pfexec ./asadmin create-service --passwordfile=/opt/GFESB22/passwd
/opt/GFESB22/glassfish/domains/domain1

```

Successful execution of this command will show something along the lines of:

```
The Service was created successfully. Here are the details:
Name of the service:application/SUNWappserver/domain1
Type of the service:Domain
Configuration location of the service:/opt/GFESB22/glassfish/domains
Manifest file location on the
system:/var/svc/manifest/application/SUNWappserver/domain1_opt_GFESB22_glassfish_do
mains/Domain-service-smf.xml.
The service could be enabled using svcadm command.
Command create-service executed successfully.
```

To enable this service execute the following command:

```
pfexec svccfg -s domain1 setprop start/user = astring: osol
pfexec svccfg -s domain1 setprop start/group = astring: staff
pfexec svcadm enable domain1
```

The service will be started. The server.log will show the message to that effect.

```
tail -f /opt/GFESB22/glassfish/domains/domain1/logs/server.log
```

```
[#|2009-12-03T09:25:32.826+0000|INFO|sun-
appserver2.2|javax.enterprise.system.container.web|_ThreadID=10;_ThreadName=main;80
80;|WEB0712: Starting Sun-Java-System/Application-Server HTTP/1.1 on 8080|#]

[#|2009-12-03T09:25:32.911+0000|INFO|sun-
appserver2.2|javax.enterprise.system.container.web|_ThreadID=10;_ThreadName=main;81
81;|WEB0712: Starting Sun-Java-System/Application-Server HTTP/1.1 on 8181|#]

[#|2009-12-03T09:25:32.924+0000|INFO|sun-
appserver2.2|javax.enterprise.system.container.web|_ThreadID=10;_ThreadName=main;48
48;|WEB0712: Starting Sun-Java-System/Application-Server HTTP/1.1 on 4848|#]

[#|2009-12-03T09:25:34.147+0000|INFO|sun-
appserver2.2|javax.enterprise.system.core.selfmanagement|_ThreadID=10;_ThreadName=m
ain;|SMGT0007: Self Management Rules service is enabled|#]

[#|2009-12-03T09:25:34.171+0000|INFO|sun-
appserver2.2|javax.enterprise.system.core|_ThreadID=10;_ThreadName=main;|Applicatio
n server startup complete.|#]
```

To delete the service, if needs be, issue the following commands, bearing in mind that disabling the service will cause it to be shut down, which takes some time:

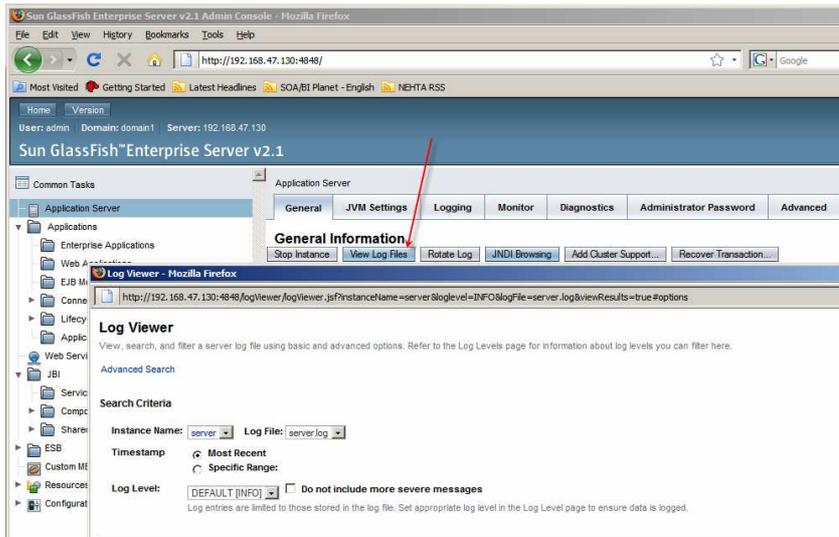
```
svcadm disable domain1
svccfg delete domain1
```

Once these commands are executed the service will no longer be started at boot.

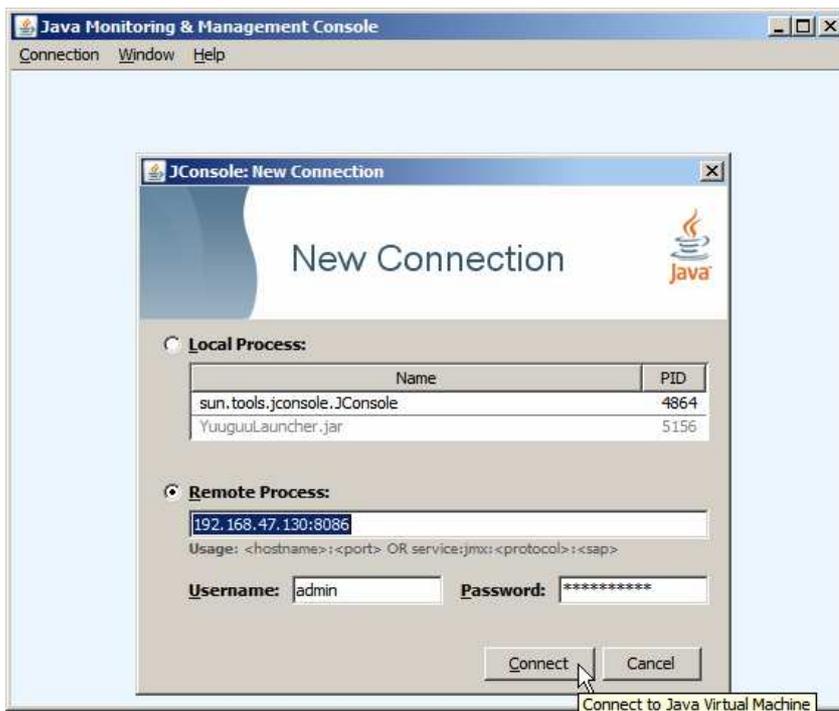
Manage the GlassFish Application Server

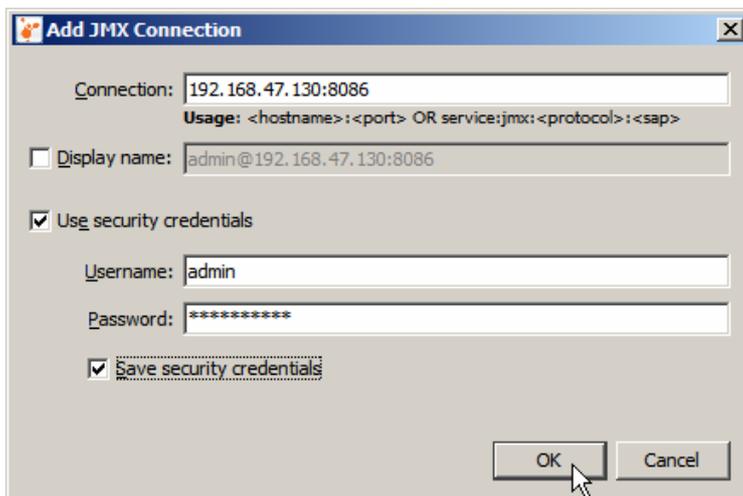
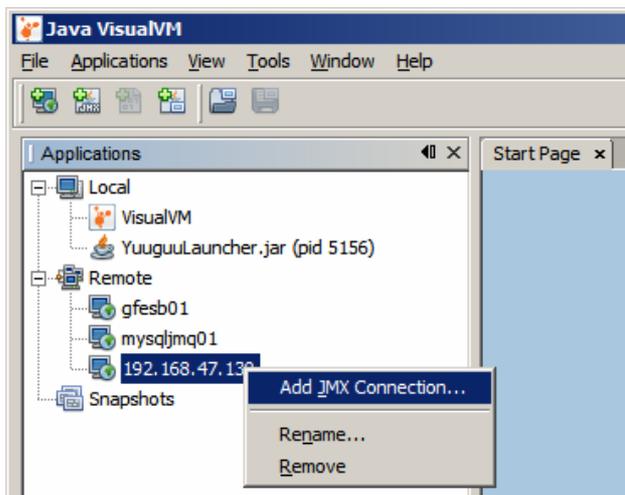
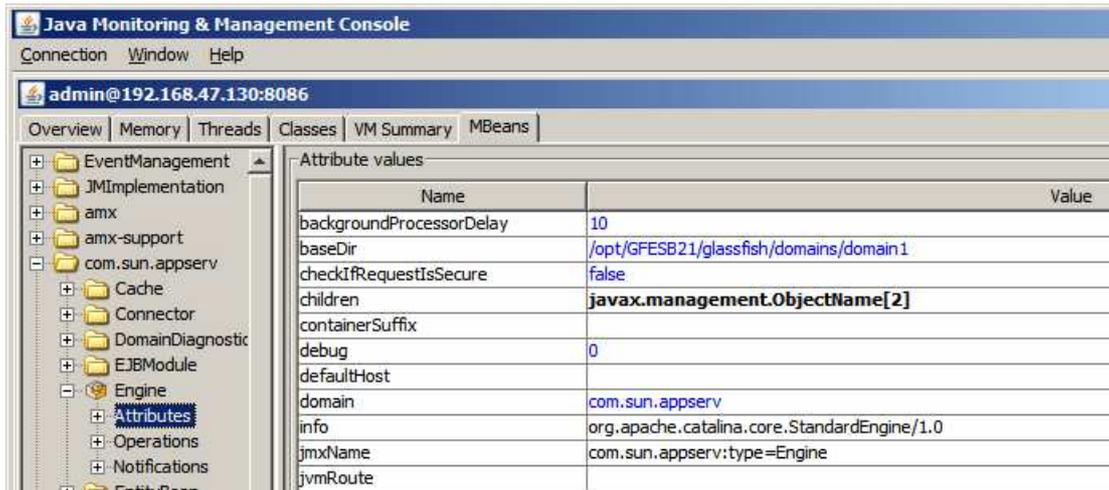
Use a web browser on the VMware Host, or another machine with a functioning modern web browser, to connect to the GlassFish Application Server Admin Console on gfesbv22:

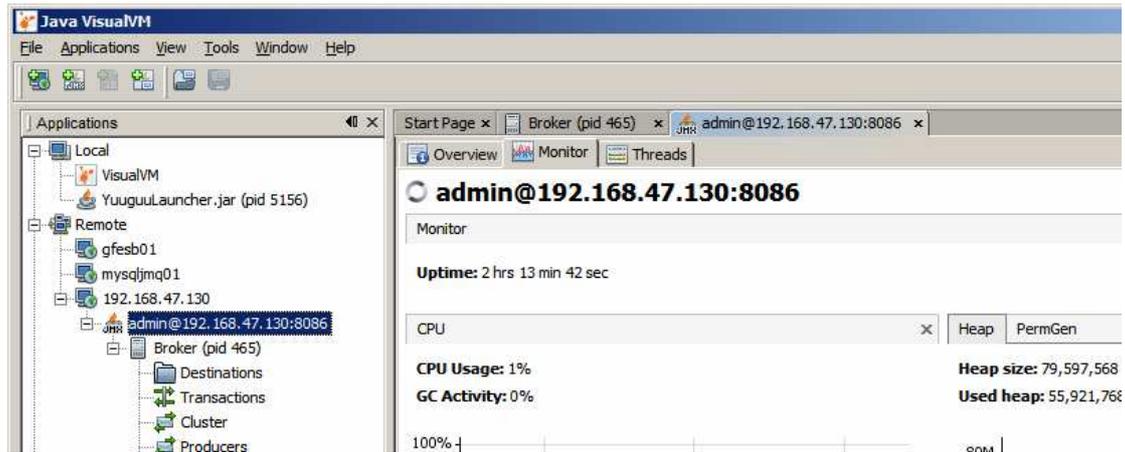
<http://192.168.47.130:4848>



If you have a JDK 1.6 on another machine you can exploit the JMX instrumentation to look at the GlassFish Application Server in the Appliance, using the jconsole and the jvisualvm.







The GlassFish ESB v2.2 Runtime Appliance is ready for use.

To develop solutions to be deployed to this runtime environment you will need a GlassFish ESB Design Time installation, with the NetBeans IDE. Do this installation to a machine that has a screen, keyboard and mouse ☺

If you only need to deploy existing Composite Application Service Assemblies you don't need the design time environment. All that is required is a modern web browser on a machine with a network connection to the appliance. GlassFish Application Server's command line tools on the appliance itself can also be used.

Summary

This note walked through the process of installing a GlassFish ESB v2.2 runtime on the Base OpenSolaris-based VMware Virtual Appliance, discussed in the Blog Entry "Preparing Basic JeOS Appliance for GlassFish ESB LB and HA Testing".

We now have a GlassFish ESB VMware Appliance with the GlassFish ESB Runtime, ready to use for GlassFish ESB Load Balancing and High Availability testing, or any other purpose for which a GalssFish ESB runtime appliance might be appropriate.