



# Application Instrumentation - GlassFish

Java

Virsec Security Platform 2.6

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## About this Document

This document provides VSP application **auto-instrumentation** steps for GlassFish Application Server (Java) and provides steps to determine the values of Deployment Folder and Start-up Script path required during Application configuration on CMS.



### NOTE:

Variables `%Glassfish_Home%` and `$Glassfish_Home` used throughout this document refer to the root directory where the GlassFish Application Server is installed in Windows and Linux operating systems respectively. Some sample values are provided below:

- `%Glassfish_Home%` - `D:\glassfish-5.0-server\glassfish5`
- `$Glassfish_Home` - `/opt/glassfish-5.0-server/glassfish5`

# 1.Windows

## 1.1.Auto-Instrumentation

**Supported Windows Version:** The configuration described in this section is tested on **Windows 2016** Operating System. To configure **Glassfish Server** with **VSP** for auto-Instrumentation, follow the steps below:

### 1. Application Deployment Folder

- a. Log in to the Virtual Machine where GlassFish is installed
- b. Utilize the path below as **Application Deployment Folder**  
`%Glassfish_Home%\domains\domain1\applications`
- c. **Example:** `D:\glassfish-5.0-server\glassfish5\domains\domain1\applications`

### 2. Startup Script File Path

- a. Provide the path below as Startup Script File Path  
`%Glassfish_Home%\bin\asadmin.bat`
- b. **Example:** `D:\glassfish-5.0-server\bin\asadmin.bat`

## 1.2.Manual Instrumentation

1. Navigate to the directory `%Glassfish_Home%\bin` where the startup script is located  
 Example: `D:\glassfish-5.0-server\glassfish5\bin`

### Method 1:

2. Stop the GlassFish server if it is already running
  - a. `asadmin.bat stop-domain`
3. Take a backup of the file `asadmin.bat`
4. Append the content below to the file `asadmin.bat` and save it

```
@echo off
ECHO.%JAVA_TOOL_OPTIONS%| FIND /I "instrumentation.jar">Nul || (
    set JAVA_TOOL_OPTIONS=%JAVA_TOOL_OPTIONS% -javaagent:"%VSP_HOME%\iae-
java\instrumentation.jar -Dvirsec_appcontextpath=<AppCollectiveID>
)
```



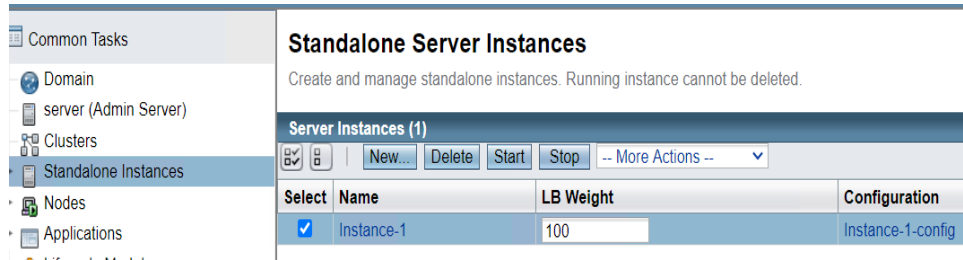
### NOTE:

Ensure that `<AppCollectiveID>` mentioned above is replaced with the App Collective ID in the CMS Application Configuration section

5. Start the GlassFish server
  - a. `asadmin.bat start-domain`

### Method 2:

1. Start the GlassFish admin server using the command:
  - a. `asadmin.bat start-domain`
2. Access the Glassfish admin-console URL: <http://<Server-IP>:4848/>
3. Stop the Glassfish Standalone instance



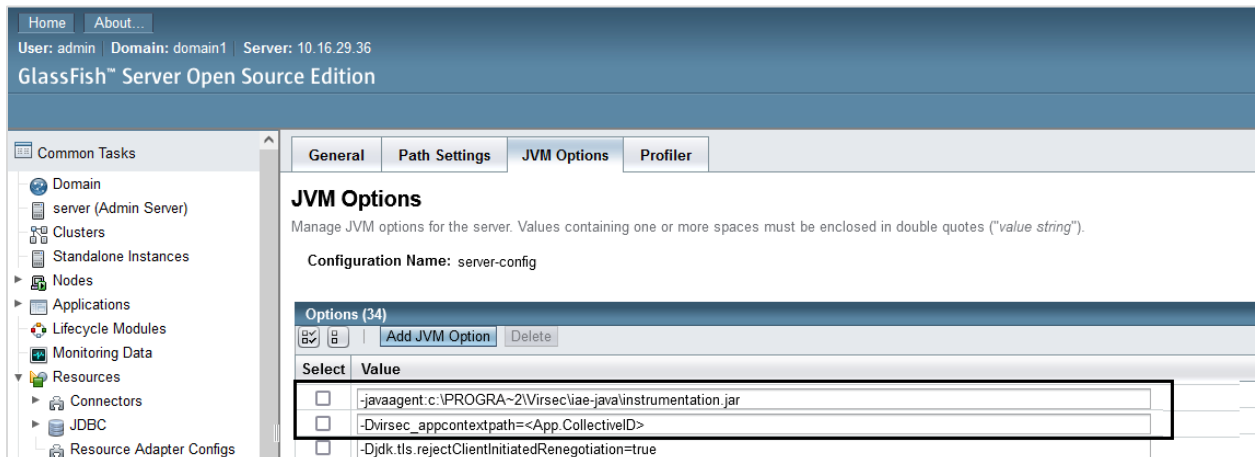
4. Add each VSP argument (in separate lines) under “**ADD JVM Option**” for the GlassFish instance

```
-javaagent:c:\PROGRA~2\Virsec\iae-java\instrumentation.jar
-Dvirsec_appcontextpath=<AppCollectiveID>
```



#### NOTE:

Ensure that `<AppCollectiveID>` mentioned above is replaced with the App Collective ID in the CMS Application Configuration section



## 5. Start the GlassFish server Standalone instance

Select	Name	LB Weight	Configuration
<input checked="" type="checkbox"/>	Instance-1	100	Instance-1-config

# 2. Linux

## 2.1. Auto-Instrumentation

**Supported Linux Version:** The configuration described in this section is tested on **RHEL7** Operating System. To configure **Glassfish Server** with **VSP** for auto-Instrumentation, follow the steps below:

### 1. Application Deployment Folder

- a. Log in to the Virtual Machine where GlassFish is installed
- b. Use the path below as **Application Deployment Folder**  
`$Glassfish_Home/domains/domain1/applications`
- c. **Example:** `/opt/glassfish-5.0-server/glassfish5/domains/domain1/applications`

### 2. Startup Script File Path

- a. Provide the path below as Startup Script File Path  
`$Glassfish_Home/bin/asadmin`
- b. **Example:** `/opt/glassfish-5.0-server/bin/asadmin`

## 2.2. Manual Instrumentation

1. Navigate to the directory `$Glassfish_Home/bin` where the startup script is located  
**Example:** `/opt/glassfish-5.0-server/glassfish5/bin`

### Method 1:

2. Stop the GlassFish server if it is already running
  - a. `asadmin stop-domain`
3. Take a backup of the file `asadmin`

4. Append the content below to the file `asadmin` and save it

```
export JAVA_TOOL_OPTIONS="$JAVA_TOOL_OPTIONS -javaagent:/opt/virsec/iae-java/instrumentation.jar -DVSP_HOME=/opt/virsec -Dvirsec_appcontextpath=<AppCollectiveID>"
```


**NOTE:**

Ensure that `<AppCollectiveID>` mentioned above is replaced with the App Collective ID in the CMS Application Configuration section

5. Start the GlassFish server
  - a. `asadmin start-domain`

**Method-2:**

1. Start the GlassFish admin server using the command:
  - a. `asadmin start-domain`
2. Access the Glassfish admin-console URL: <http://<Server-IP>:4848/>
3. Stop the Glassfish Standalone instance

The screenshot shows the 'Standalone Server Instances' page in the GlassFish Admin Console. The left sidebar shows a tree view with 'Standalone Instances' selected. The main content area has a title 'Standalone Server Instances' and a subtitle 'Create and manage standalone instances. Running instance cannot be deleted.' Below this is a table titled 'Server Instances (1)'. The table has columns for 'Select', 'Name', 'LB Weight', and 'Configuration'. There is one row with 'Instance-1' and a weight of '100'. Above the table are buttons for 'New...', 'Delete', 'Start', 'Stop', and a dropdown menu for 'More Actions'.

Select	Name	LB Weight	Configuration
<input checked="" type="checkbox"/>	Instance-1	100	Instance-1-config

4. Add each VSP argument (in separate lines) under “**ADD JVM Option**” for the GlassFish instance

```
-javaagent:/opt/virsec/iae-java/instrumentation.jar
-Dvirsec_appcontextpath=<AppCollectiveID>
```


**NOTE:**

Ensure that `<AppCollectiveID>` mentioned above is replaced with the App Collective ID in the CMS Application Configuration section

Home About...  
User: admin Domain: domain1 Server: 10.16.29.36  
GlassFish™ Server Open Source Edition

Common Tasks

- Domain
  - server (Admin Server)
- Clusters
- Standalone Instances
- Nodes
- Applications
- Lifecycle Modules
- Monitoring Data
- Resources
  - Connectors
  - JDBC
  - Resource Adapter Configs

General Path Settings **JVM Options** Profiler

### JVM Options

Manage JVM options for the server. Values containing one or more spaces must be enclosed in double quotes ("*value string*").

Configuration Name: server-config

Options (34)

Add JVM Option Delete

Select	Value
<input type="checkbox"/>	-javaagent:/opt/virsec/iae-java/instrumentation.jar
<input type="checkbox"/>	-Dvirsec_appcontextpath=<App.CollectiveID>
<input type="checkbox"/>	-Djdk.tls.rejectClientInitiatedRenegotiation=true

## 5. Start the GlassFish server Standalone instance

Common Tasks

- Domain
  - server (Admin Server)
- Clusters
- Standalone Instances**
- Nodes
- Applications

### Standalone Server Instances

Create and manage standalone instances. Running instance cannot be deleted.

Server Instances (1)

New... Delete Start Stop -- More Actions --

Select	Name	LB Weight	Configuration
<input checked="" type="checkbox"/>	Instance-1	100	Instance-1-config

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