Installing and removing applications

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There are several alternatives available for installing and removing applications:

- Geronimo Administration Console
- #Deployer tool (command line)
- #Hot deployment (command line)

When you package your application you may include the deployment plan within the package or not. At deployment time, Geronimo will look for the **geroni mo-web.xml** and **web.xml** deployment plans (or **geronimo-application.xml** or **geronimo-application-client.xml** depending the type of application) in the **WEB-INF** directory within you packaged application. If Geronimo can not find those descriptors it will attempt to deploy the application using defaults. If using defaults fails you will have to provide a deployment plan either repackaged in the application or providing an external deployment plan, in the following sections we will discuss further these alternatives.

Geronimo Administration Console GAC

To install a new application via the Geronimo Administration Console the **Install New Applications** portlet is available by selecting **Deploy New** on the **Co nsole Navigation** menu on the left hand side. This portlet also allows you to start automatically the application right after it was deployed.

As mentioned before, for this example we will be using the simple JSP HelloWorld sample created in the Quick start - Apache Geronimo for the impatient section. In that section however we used the **--inPlace** deployment option, in other words we did not have the need to package the application into a **WAR** file. To create the WAR file type the following command from the **<app_home>** directory

```
jar -cvf HelloWorld.war *
```

This WAR already has included in the package the deployment plans.

Back in the Geronimo Administration Console, from the **Install New Applications** portlet click on **Browse** to specify the path to the `HelloWorld.war` in the **Archive:** section. Make sure the **Start app after install** checkbox is selected (by default is checked) and then click on **Install**.

You should see the "`The application was successfully deployed.`" and "`The application was successfully started.`" confirmation messages on the top of the portlet.

Another way to verify that the application has been successfully installed and started is by checking the **Installed Web Applications** portlet which is available by selecting **Web App WARs** on the **Console Navigation** menu on the left hand side. You should see the application listed as **hello** and with the status **running**.

Since the application we installed is HelloWold.**WAR** we use this portlet, when you install an EAR you would check the status using the **Installed Application EARs** portlet available by selecting **Application EARs** on the **Console Navigation** menu on the left hand side. The installation procedure is the same for both WAR and EAR applications.

To remove the applications through the Geronimo Administration Console you would use these two portlets, either the **Installed Web Applications** or the **I nstalled Application EARs** portlets depending on the application to uninstall.

For our example, access the Installed Web Applications portlet and click on **Uninstall** for the **Component Name** listing `sample.applications` `/HelloWorldApp/2.0/war`. This will stop the application first and then uninstall it. The confirmation message "`Uninstalled application`" should be listed at the bottom of the portlet.

These are the basic steps for installing and uninstalling applications via the Geronimo Administration Console, the following two sections will focus on the command line options.

Deployer tool

The deployer tool will allow you, among other things, install and uninstall applications via a command line. In this section we will focus on just these two tasks for the sample application, the remaining functionality is fully covered in the Deployer tool section.

To deploy the HelloWorld.war sample application using the Deployer tool open a command line window and type the following command from the <geronimo_home>\bin directory:

`deploy --user system --password manager deploy <app_home>\HelloWorld.war`

If your application does not include the Geronimo specific deployment plan in the **WEB-INF** directory you can still, just like with the Geronimo Administration Console, specify it externally. You just need to add to the previous command the path and file name of the deployment plan.

`deploy --user system --password manager deploy <app_home>\HelloWorld.war <deployment_plan_home>\plan.xml`

Note that when specifying the deployment plan externally you can use any file name to identify that plan, there is no need to use the `geronimo-XYZ.xml` form. In our example we do not need to specify any additional deployment plans as we have the Geronimo specific ones already included in the package.

Once deployed you should see a confirmation message similar to this one:

As a difference from the deployment via the Geronimo Administration Console, using the command line tool you receive more information in the confirmation message. For instance you receive the **Component Name** (a.k.a. moduleId) and you also receive the context root and port where the application was deployed. This is very useful when installing, testing and uninstalling several different applications where it would be hard to remember all these values.

Alternatively, if you have not yet packaged your application you could use the **--inPlace** option for deploying your application directly from the directory you are actually developing the application. This option is used to deploy this sample application in the [Quick start - Apache Geronimo for the impatient] section.

In this case you would use this command from the <geronimo_home>\bin directory:

`deploy --user system --password manager deploy --inplace <app_home>`

The Deployer tool can also be used to list all the installed applications. The **list-modules** command allows you to list all the applications, it also lets you narrow down the query by asking for just the **started** or **stopped** applications. The **list-modules** command without additional parameter will list by default all the started applications.

To uninstall an application you may want to list it first to get the right Component Name (or moduleId). Run the following command from the <geronimo_home>\bin directory:

`deploy --user system --password manager list-modules`

You will receive a list similar as the one shown in the following example.

Look for the **sample.applications/HelloWorldApp/2.0/war** entry, that is the value you will have to use when trying to uninstall the application.

To uninstall the application run the following command from the <geronimo_home>\bin directory using the Component Name you identified while listing the modules.

```
deploy --user system --password manager undeploy sample.applications/HelloWorldApp/2.0/war
```

This command will first stop the running application and then uninstall it. You should see a confirmation message similar to this:

In this example you have used the same tool with three different commands:

- **deploy**
- **list-modules**
- **undeploy**

These are not the only options and commands available for this tool, please visit the Tools and commands section for additional details.

Hot deployment

Apache Geronimo has support for **Hot Deployment**. This means that you can copy an application JAR file into the **<geronimo_home>/deploy** directory and the application will be deployed automatically. This will also work for uninstalling or refreshing applications previously deployed via this method. Alternatively, you may also copy the **directory** (unpacked) for the application module instead of copying a single JAR file.

Note that with this deployment method you have to include the **deployment plan** in the application package, this method does not support external deployment plans. Also note that applications deployed via the Deployer tool or the Geronimo Administration Console will not be listed in the **<geronimo_home>/deploy** directory.

When you copy an application in the **deploy** directory, let's say HelloWorld.war, you will see a confirmation message in the console where Geronimo is running stating the application was deployed and the context to access that application.

To remove the application, just delete the WAR or EAR file from the **deploy** directory. When the application has been removed you should see a confirmation message in the console where Geronimo is running stating the application was undeployed.

Summary

In this section we has discussed three different methods for installing and uninstalling applications, one graphical, one command line and for the hot deployment you can choose command line or the GUI of your choice.
Visit the Tools and commands section for further details on the available options and parameters.