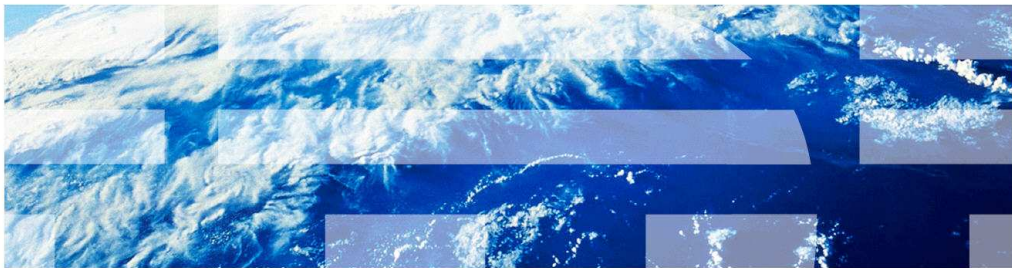


IBM WebSphere Application Server V8

Application deployment using a monitored directory



This presentation describes the simplified application deployment capability in IBM WebSphere Application Server V8.

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This presentation provides an overview of the new monitored directory deployment capability added in IBM WebSphere Application Server version 8.

What is monitored directory deployment?

- A simple and fast way to install, update, and uninstall applications without:
 - the administrative console
 - Rational® Application Developer
 - wsadmin
 - a specially configured environment
- Tasks are performed by moving archive files in or out of a monitored directory

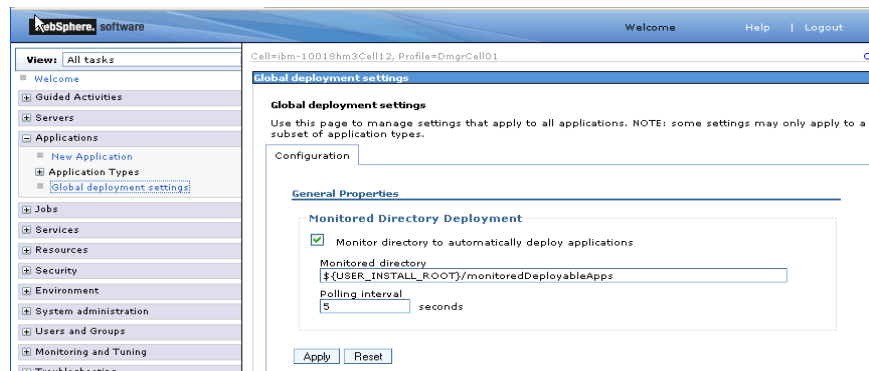
What is monitored directory application deployment?

A new, simple and fast way for administrators and developers to install, update, and uninstall applications by moving archive files in or out of a monitored directory.

A user who has prepackaged an application file with all required bindings specified can quickly deploy that application without having to resort to any tools other than a running application server, or, in a network deployment environment, a deployment manager.

Enabling managed directory application deployment

- Disabled by default in both base and network deployment editions
- Enable in the administrative console before using



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Before using monitored directory deployment, it must be enabled. This can be done from the administrative console under Applications > Global deployment setting. In addition to enabling the service, the global deployment panel allows configuration of the root path to the monitored directories and the polling interval at which the monitored directories are checked for changes.

Enabling the service needs to be done only once.

The deployment manager or base server must be restarted to register any changes to global deployment settings.

Supported application deployment tasks

- To install – place an archive file into the monitored directory
- To uninstall – remove an archive file from the monitored directory
- To update – move or copy a new archive file with the same name as an existing archive file in the monitored directory
- To manage user authorization for deployment tasks
 - Use the operating system's directory user and group permission settings
- Tasks can be performed using:
 - Graphical desktop capabilities such as drag-and-drop
 - Shell commands such as cp, copy, and so forth

To install an application copy or move its archive file into a monitored directory using an operating system file management tool such as a graphical file manager or the command line.

Deleting a file from a monitored directory will result in the corresponding application being uninstalled.

To perform a full replacement update of a deployed application, move or copy an updated archive file with the same application name into a monitored directory. The application name is determined by the archive file name or in case of an ear archive by the display name if one is specified in the archive.

Users can be authorized to or prohibited from performing these tasks by appropriate user and group permissions on the monitored directory.

Supported application archive types

- EAR (Enterprise Archive)
- WAR (Web Application Archive)
- JAR (Java™ Archive)
- SAR (SIP Application Resource)

Monitored directory application deployment can be performed with applications packaged as Enterprise Archives (or EARs), web Application Archives (or WARs), Java Archives (or JARs), or as SIP Application Resources (or SARs).

In addition to these archive files, an application can be deployed by using a property file. Property files are different than the other file types in that they describe an application and its installation parameters. Monitored directory deployment with property files relies on the property file based configuration feature introduced in WebSphere Application Server version 7. Using a property file can allow a higher degree of control over the deployment, than with a plain archive.

Monitored directory application deployment with property file based configuration is discussed in more detail in a separate presentation.

Prerequisites for managed directory application deployment

- The application is packaged in an EAR, JAR, WAR, or SAR.
- For stand-alone WebSphere Application Servers
The monitored directory is present by default
`../app_server_root/profiles/profilename/monitoredDeployableApps/servername`
- For servers on Network Deployment federated nodes:
Create a monitored directory under the deployment manager profile:
`../profiles/dmgr_profile_name/monitoredDeployableApps/servers/servername`
- For servers with the same name on Network Deployment federated nodes:
Applications are deployed to all servers with the same name.
To enable deployment to specific servers with a shared name, create paths with node names:
`../profiles/dmgr_profile_name/monitoredDeployableApps/nodes/nodename/servers/servername`
- For clusters:
Create a clusters subdirectory and monitored directories named after clusters
`../profiles/deploymentdmgr_profile_name/monitoredDeployableApps/clusters/clustername`

The location of a monitored directory depends on the edition of WebSphere application server, and on what the target of the deployment will be.

If you are using a stand-alone application server then the only possible target is the server itself, and monitored directory is created if the service is enabled. For example, if the profile is called AppSrv01, and the server is named server1, the path can be

```
app_server_root/profiles/AppSrv01/monitoredDeployableApps/server1
```

If you are using a network deployment system it will be necessary to create monitored directories.

For application servers on a node federated with a deployment manager, you will need to create the monitored directories for servers under the deployment manager profile:

Starting at the Application Server root directory the path will be:

```
../profiles/dmgrprofilename/monitoredDeployableApps/servers/server_name.
```

If multiple servers on different nodes share the same name and you want only one of the servers to be a targeted, you can specify the node and server in the path to the monitored directory. Create a directory for the node using the node name, then servers and finally the server_name directory.

for example, starting at the Application Server root directory,

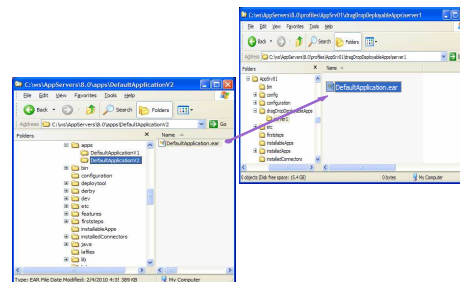
```
../profiles/dmgrprofilename/monitoredDeployableApps/nodes/node_name/servers/server_name.
```

For clusters, create a monitored directory under the deployment manager profile with the name of the cluster to be targeted. Starting at the Application Server root directory the path will be:

```
/profiles/dmgrprofilename/monitoredDeployableApps/clusters/cluster_name.
```

Deploying applications by moving them to a monitored directory

- Move the application archive into the monitored directory
- The system automatically deploys the application:
 - writes CWLDD messages to the SystemOut.log file about the deployment
 - starts the application



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The server scans a monitored directory for new applications no more frequently than the configured polling interval, which is five seconds by default.

When the deployment service detects a change in a monitored directory it will act on that change event to either install, update, or remove an application, depending on the nature of the change detected.

When a new application is copied to the monitored directory, the monitored directory deployment service will detect this file change and generate an application installation event. If the application is successfully installed, the monitored directory deployment service will then start it. In a cell environment, the installed application is deployed to the appropriate nodes (if the node agents are running) and will be started if the targeted servers are running.

If an application archive file is deleted, the steps are reversed. The application is stopped on any servers where it is running, and will be uninstalled from the nodes and from the master configuration repository.

If an application archive file with an application name matching an already installed application is copied into a monitored directory, a full update will be performed on that application. This is an application uninstallation followed by an installation of the new application image.

Each time a file change event is detected in a monitored directory, a unique event ID is generated. Actions taken as a result of that file change event will be logged to the "system out" log file as informational messages prefixed with the event ID that was generated. Any errors will also be logged to the "system out" log file.

Summary

This section provides a summary of what you have learned in this presentation.

Summary

- Monitored directory deployment is a simple and efficient way to deploy applications
- It enables applications to be deployed without the administrative console or wsadmin
- It does not require Rational Application Developer and setting up a rapid deployment environment
- It supports deployment of EARs, JARs, WARs, and SARs
- It is supported on
 - Standalone application servers
 - Network Deployment servers and clusters
 - Distributed operating systems
 - z/OS®

Monitored directory deployment is a simple and efficient way to deploy applications without the administrative console, Rational Application Developer or wsadmin

It currently supports the deployment of EARs, JARs, WARs, and SARs on all the distributed operating systems and z/OS.

Finally, monitored directory deployment is supported on stand-alone WebSphere Application Servers, and on Network Deployment servers and clusters.

References

- Installing enterprise application files by adding them to a monitored directory
http://www14.software.ibm.com/webapp/wsbroker/redirect?version=matt&product=was-nd-mp&topic=trun_app_install_dragdrop
- Uninstalling enterprise application files by dragging them from a monitored directory
http://www14.software.ibm.com/webapp/wsbroker/redirect?version=matt&product=was-nd-mp&topic=trun_app_uninst_dragdrop
- Installing enterprise application files by adding properties files to a monitored directory
http://www14.software.ibm.com/webapp/wsbroker/redirect?version=matt&product=was-nd-mp&topic=trun_app_install_dragdrop_prop
- Using properties file to manage system configuration
http://www14.software.ibm.com/webapp/wsbroker/redirect?version=compass&product=was-nd-mp&topic=txml_property_configuration

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