

Installing IBM Websphere Application Server 7 and 8 on OS4 Enterprise Linux

By the OS4 Documentation Team

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This whitepaper describes how to install and manage an IBM Websphere Application Server on a OS4 Enterprise Linux server. After the installation, we will also start an instance of the server in the profile we created.

We will be showing you how to do both the graphical install as well as the silent install on OS4 Enterprise Linux

Graphical Installation of IBM Websphere

Uncompressing the Binary files and starting the installation

```
cd /tmp/  
mkdir WAS_INSTALLABLES  
cd WAS_INSTALLABLES  
tar zxvf ../was_trial.base.opt.linux.ia64.tar.gz  
cd /tmp/WAS_INSTALLABLES/WAS  
sudo ./install
```

Step 1 Installation wizard welcome screen

You will be presented with the installation wizard welcome screen:
Clicking on Next will take you to the software license agreement screen.

Step 2 Software license agreement

It is required that you accept the license agreement; Click Next to move on to the prerequisites check.

Step 3 System prerequisites check

The installer will check to ensure that your copy of OS4 Enterprise Linux meets the required prerequisites. OS4 Enterprise Linux does meet the prerequisites of IBM Websphere 7 and 8

Step 4 Non root user warning

If you attempt to install as a non-root user you will get a warning so make sure you use the sudo command to install WebSphere

Step 5 Optional features

In this option we can install Sample Applications, Language Pack.

Step 6 Installation directory

We are doing this installation in /app/IBM directory.

Step 7 WebSphere Application Server environments

Depending on which installation scenario you chose, you will now have to select a type of installation. The type of installation chosen will determine whether a profile is created or not.

Management profile

A management profile includes an administrative agent server and services for managing multiple application server environments. An administrative agent manages application servers that are on the same machine.

Standalone application server

A standalone application server environment runs your enterprise applications. The application server is managed from its own administrative console and functions independently of all other application servers.

Base binaries

WebSphere Application Server version 7.0 requires at least one profile to be functional. Select this option only if one or more profiles will be created after installation completes successfully.

Step 8 Profile Warning

If you select the NONE profile it will give you an error. Click NEXT to ignore the error.

Step 9 Verifying Permission

In next screen select Verify my permission to perform the installation to avoid installation errors.

Step 10 Verifying Permission

In this screen you will get Success message for permission, click on NEXT to go ahead.

Step 11 Installation Complete

In case of successful installation you will see Success message on the screen.

Silent Install

Some prefer not to run servers with a GUI, or they administer a server via SSH or another network protocol. For those people you have to do what's called a silent install. For this tutorial we will be installing via Microsoft Windows 7

What we need in order to perform a silent installation is the following:

- IBM WAS 7 or 8 software package
- OS4 Enterprise Linux installation
- Putty
- A response file for silent installation
- root access to the OS4 Enterprise Linux server

At the end of the install, we will have created a profile called 'appsvr01' and a default server called 'server1' using default ports, when we use the following response file.

```
-OPT silentInstallLicenseAcceptance="true"  
-OPT disableOSPrereqChecking="true"  
-OPT installType="installNew"  
-OPT profileType="standAlone"  
-OPT feature="noFeature"  
-OPT PROF_enableAdminSecurity="true"  
-OPT PROF_adminUserName="wasadmin"  
-OPT PROF_adminPassword="password"  
-OPT PROF_profileName="appsvr01"  
-OPT PROF_defaultPorts="true"  
-OPT installLocation="/opt/IBM/WebSphere/AppServer"  
-OPT traceLevel="INFO"
```

The options are self-explanatory. The 'disableOSPrereqChecking="true"' is necessary.

It is not necessary to pre-create the installation directory. As long as the installation process has the privilege to create the folder, we are ok.

Before we start, there is this little subtlety that we need to address. If you execute the command "ls -al `which sh`" you will see that the /bin.sh is actually pointing to a binary called 'bash'.

```
~# ls -al `which sh`  
lrwxrwxrwx 1 root root 4 Jun  7 20:49 /bin/sh -> bash
```

We need to re-link the /bin/sh to /bin/bash as the default symbolic link of sh in OS4 Enterprise Linux is pointing to bash.

```
cd /bin  
unlink sh  
ln -s /bin/bash sh
```

Installation Steps

1) Untar the IBM Websphere Application Server archive.

2) Create a response file for silent installation

```
# cat > response.text << EOF
-OPT silentInstallLicenseAcceptance="true"
-OPT disableOSPrereqChecking="true"
-OPT installType="installNew"
-OPT profileType="standAlone"
-OPT feature="noFeature"
-OPT PROF_enableAdminSecurity="true"
-OPT PROF_adminUserName="wasadmin"
-OPT PROF_adminPassword="password"
-OPT PROF_profileName="appsvr01"
-OPT PROF_defaultPorts="true"
-OPT installLocation="/opt/IBM/WebSphere/AppServer"
-OPT traceLevel="INFO"
EOF
```

It is also worth noting that in the WAS directory in the expanded installation archive, there is a sample response file named "responsefile.base.txt". Have a look at this file, it should give you a good idea of what options are supported without needing to read through thousands of pages of documents.

3) cd to WAS directory and execute the install.sh with the following arguments

```
# ./install -is:javaconsole -options response.text -silent
```

Or

```
# install -options response.text -silent -log # !/root/was_install_log.txt @ALL
```

to log all installation messages.

The "-is:javaconsole" argument tells the installer to print the output to stdout. Unfortunately, on most default servers, this doesn't work as it gives this warning message and terminates the installation process

```
WARNING: could not write using log service: java.lang.IllegalStateException: proxy
has been closed
```

Remove the argument, clean the installation directory and re-run the installation for a successful outcome.

4) During the installation process, you could watch the progress by tailing the log file located in ~/waslogs directory. (In the first-time installation, a temporary log file directory is always created in the root directory

```
# tail -f ~/waslogs/log.txt
Process,
com.ibm.ws.install.ni.ismp.mediaspanning.InstallNIFMaintenanceMediaSpanning, msg1,
Installing component: wccm.services.pme, percent complete: 89%
```

```
Process,
com.ibm.ws.install.ni.ismp.mediaspanning.InstallNIFMaintenanceMediaSpanning, msg1,
Installing component: webcontainer, percent complete: 89%
Process,
com.ibm.ws.install.ni.ismp.mediaspanning.InstallNIFMaintenanceMediaSpanning, msg1,
Installing component: webservices, percent complete: 89%
Process,
com.ibm.ws.install.ni.ismp.mediaspanning.InstallNIFMaintenanceMediaSpanning, msg1,
Installing component: websvcs.admin.impl, percent complete: 89%
Process,
com.ibm.ws.install.ni.ismp.mediaspanning.InstallNIFMaintenanceMediaSpanning, msg1,
Installing component: websvcs.admin, percent complete: 89%
Process,
com.ibm.ws.install.ni.ismp.mediaspanning.InstallNIFMaintenanceMediaSpanning, msg1,
Installing component: websvcs, percent complete: 89%
Process,
com.ibm.ws.install.ni.ismp.mediaspanning.InstallNIFMaintenanceMediaSpanning, msg1,
Installing component: webui.webservices.admin, percent complete: 90%
Process,
com.ibm.ws.install.ni.ismp.mediaspanning.InstallNIFMaintenanceMediaSpanning, msg1,
Installing component: webui.webservices.policyset, percent complete: 90%
Process,
com.ibm.ws.install.ni.ismp.mediaspanning.InstallNIFMaintenanceMediaSpanning, msg1,
Installing component: webui.webservices.trust, percent complete: 90%
Process,
com.ibm.ws.install.ni.ismp.mediaspanning.InstallNIFMaintenanceMediaSpanning, msg1,
Installing component: webui, percent complete: 90%
```

5) Take note of the the last line of the installation log, you should see an exitcode = 0.

```
Process, com.ibm.ws.install.ni.ismp.actions.SetExitCodeAction, msg1, CWUPI0000I:
EXITCODE=0
```

The installation takes about 10 minutes to complete

By now, the installation has been completed successfully. Lets examine the installation. First, start the default server 'server1' of our profile appsvr01.

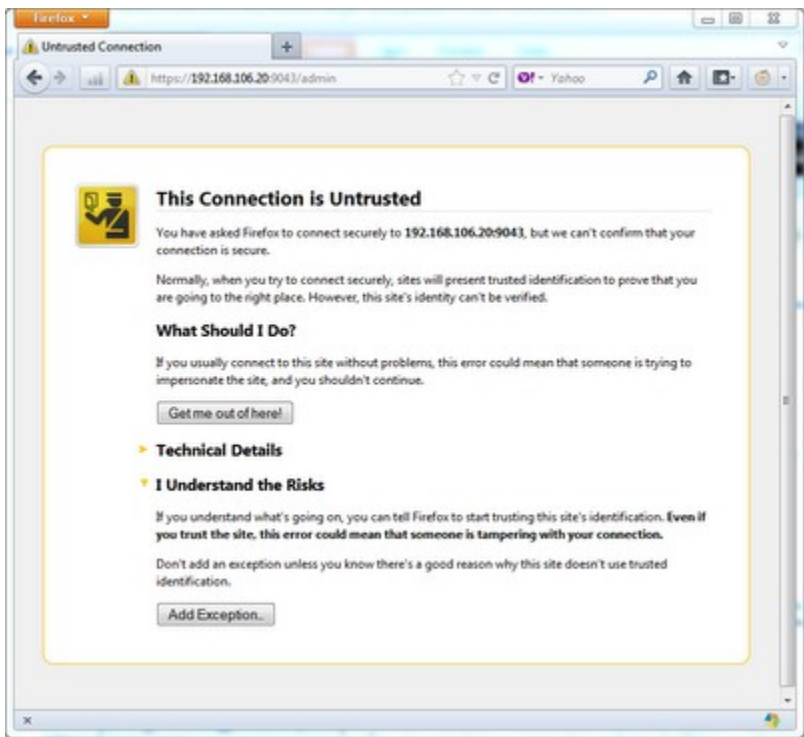
To start the server

- 1) cd to the [was_install_dir]/profile/appsvr01/bin
- 2) execute the startServer.sh script with "server1" as the argument. "server1" is the default server of a profile.

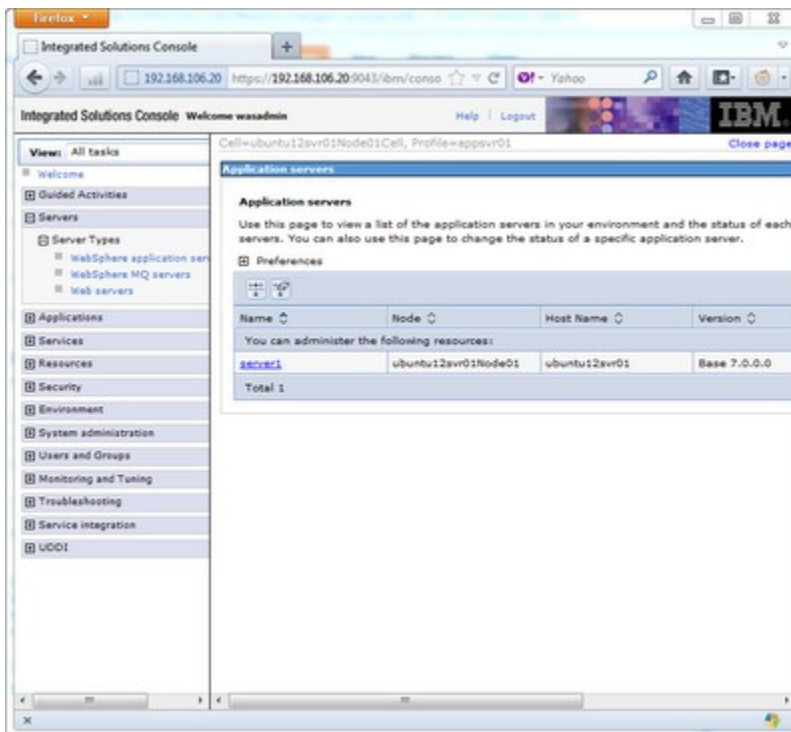
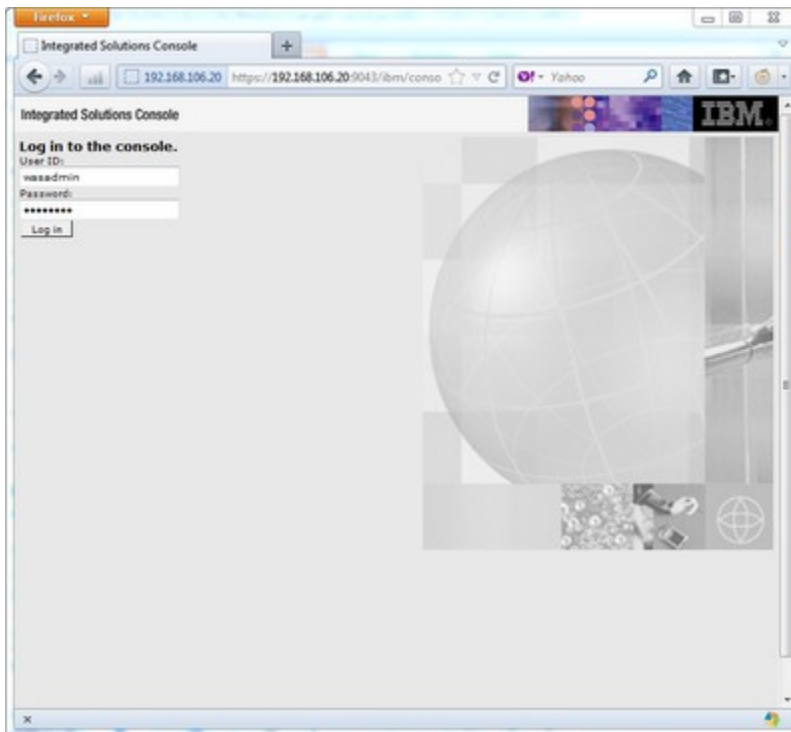
```
root@enterprise-home1:/opt/IBM/WebSphere/AppServer/profiles/appsvr01/bin#
./startServer.sh server1
ADMU0116I: Tool information is being logged in file
```

```
/opt/IBM/WebSphere/AppServer/profiles/appsvr01/logs/server1/startServer.log
ADMU0128I: Starting tool with the appsvr01 profile
ADMU3100I: Reading configuration for server: server1
ADMU3200I: Server launched. Waiting for initialization status.
ADMU3000I: Server server1 open for e-business; process id is 29695
```

The application server instance server1 is now started. The default secured listener port of this instance is 9043, try hitting `https://server-ip`



Just add the exception and tell the browser to connect to the server, the following log-in screen will be displayed.



Starting and Stopping IBM Websphere Application Server

There will be a time where you will have to start or stop the application server. Whether to install a new version, or to perform maintenance on your server. Here are the steps to start and stop Websphere manually.

- 1) Ensure that your database management system is started.
- 2) Open the terminal emulator

To start an application server, enter the following command:

```
./startServer.sh application_server_name
```

To stop an application server, enter the following command:

```
./stopServer.sh application_server_name
```

`application_server_name` is the name of the application server you want to start or stop.