Post Install Configurations

Connected Utilities DevOps

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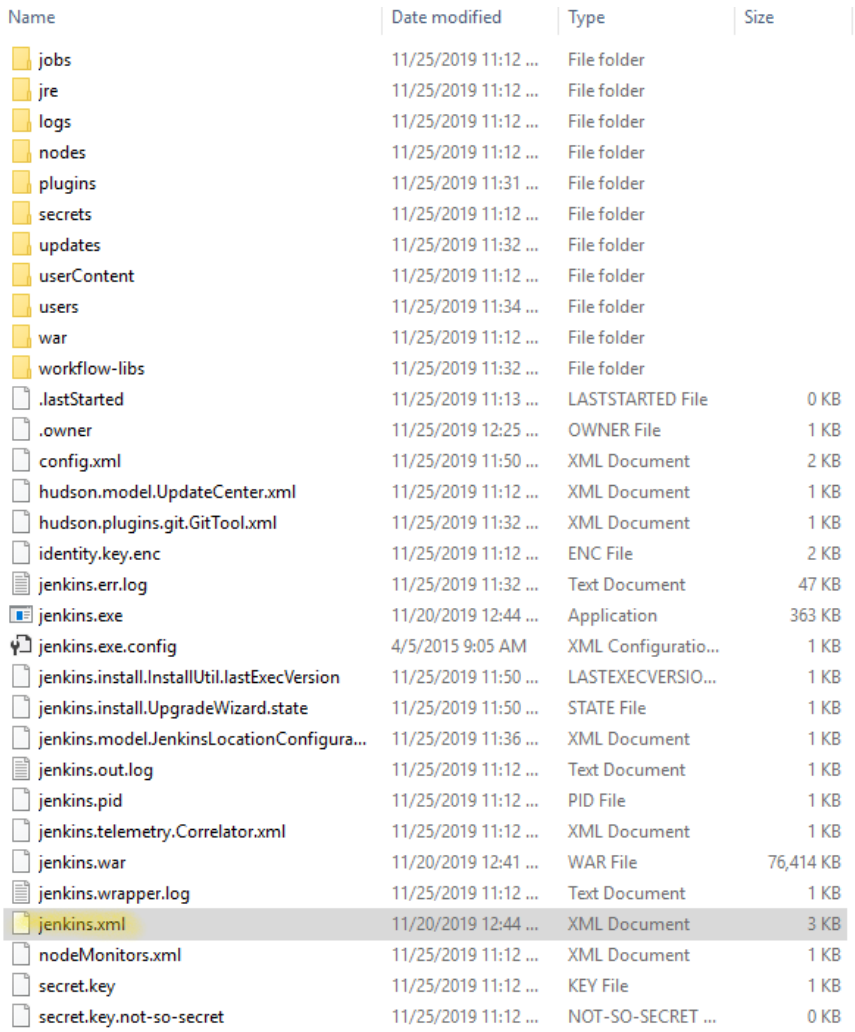
After Jenkins Installation and initial configuration(s), there are some settings and best practices, that needs to be taken care and implemented.

1 Boot Configurations and Service

- By default, Jenkins runs at http://localhost:8080/. This can be changed by editing Jenkins.xml file, located in our installation directory. The same file could be used to change other boot configurations like HTTPS setup, memory heap, JVM options etc.



Name	Date modified	Type	Size
jobs	11/25/2019 11:12 ...	File folder	
jre	11/25/2019 11:12 ...	File folder	
logs	11/25/2019 11:12 ...	File folder	
nodes	11/25/2019 11:12 ...	File folder	
plugins	11/25/2019 11:31 ...	File folder	
secrets	11/25/2019 11:12 ...	File folder	
updates	11/25/2019 11:32 ...	File folder	
userContent	11/25/2019 11:12 ...	File folder	
users	11/25/2019 11:34 ...	File folder	
war	11/25/2019 11:12 ...	File folder	
workflow-libs	11/25/2019 11:32 ...	File folder	
.lastStarted	11/25/2019 11:13 ...	LASTSTARTED File	0 KB
.owner	11/25/2019 12:25 ...	OWNER File	1 KB
config.xml	11/25/2019 11:50 ...	XML Document	2 KB
hudson.model.UpdateCenter.xml	11/25/2019 11:12 ...	XML Document	1 KB
hudson.plugins.git.GitTool.xml	11/25/2019 11:32 ...	XML Document	1 KB
identity.key.enc	11/25/2019 11:12 ...	ENC File	2 KB
jenkins.err.log	11/25/2019 11:32 ...	Text Document	47 KB
jenkins.exe	11/20/2019 12:44 ...	Application	363 KB
jenkins.exe.config	4/5/2015 9:05 AM	XML Configuratio...	1 KB
jenkins.install.InstallUtil.lastExecVersion	11/25/2019 11:50 ...	LASTEXECVERSIO...	1 KB
jenkins.install.UpgradeWizard.state	11/25/2019 11:50 ...	STATE File	1 KB
jenkins.model.JenkinsLocationConfigura...	11/25/2019 11:36 ...	XML Document	1 KB
jenkins.out.log	11/25/2019 11:12 ...	Text Document	1 KB
jenkins.pid	11/25/2019 11:12 ...	PID File	1 KB
jenkins.telemetry.Correlator.xml	11/25/2019 11:12 ...	XML Document	1 KB
jenkins.war	11/20/2019 12:41 ...	WAR File	76,414 KB
jenkins.wrapper.log	11/25/2019 11:12 ...	Text Document	1 KB
jenkins.xml	11/20/2019 12:44 ...	XML Document	3 KB
nodeMonitors.xml	11/25/2019 11:12 ...	XML Document	1 KB
secret.key	11/25/2019 11:12 ...	KEY File	1 KB
secret.key.not-so-secret	11/25/2019 11:12 ...	NOT-SO-SECRET ...	0 KB

- Jenkins is installed as a Windows Service, and it is configured to start automatically upon booting process. It is recommend to keep this service running to ensure maximum availability. However, service startup could also be changed to manual and start/stop could be handled exclusively by Administrators for security reasons.

2 Changing the maximum heap size

- In Jenkins, there are some JVM parameters in jenkins.xml file, that are used to specify the memory boundaries for applications and mostly used to overcome **performance issues** and **out of memory** errors.

- In **Jenkins.xml** file in Installation directory, it is set to default 256 MB **(-Xmx256m)**. We should change this to 1 GB (**-Xmx1024m)** and **save the file.** Please see the example screenshot below.

```
<service>
  <id>Jenkins</id>
  <name>Jenkins</name>
  <description>This service runs Jenkins automation server.</
  <env name="JENKINS_HOME" value="%BASE%"/>
  <!--
    if you'd like to run Jenkins with a specific version of
    The following value assumes that you have java in your P
  -->
  <executable>%BASE%\jre\bin\java</executable>
  <arguments>-Xrs -Xmx1024m -Dhudson.lifecycle=hudson.lifecyc
  <!--
    interactive flag causes the empty black Java window to be
    I'm still debugging this.
  <interactive />
  -->
```

- Restart the Jenkins service in the service console, after doing this change.

3 Jenkins features control

Jenkins has several hidden features that can be enabled with system properties.

These system properties are defined by passing **-Dproperty=value** to the Java command line in the Jenkins.xml file, to start Jenkins.

If we want to pass these arguments, make sure to pass all these arguments before the **-jar** argument, otherwise they will be ignored.

- **hudson.slaves.WorkspaceList:** When concurrent builds are enabled, a unique workspace directory name is required for each concurrent build.
  To create this name, the default token '@' is placed between project name and unique id, by this system property.We change this to '_' in the Jenkins.xml file. Please see the example below. If this parameter is not added, please add this in the Jenkins.xml file before **-jar** command and **save the file.**

```
-->
<service>
  <id>Jenkins</id>
  <name>Jenkins</name>
  <description>This service runs Jenkins automation server.</description>
  <env name="JENKINS_HOME" value="%BASE%"/>
  <!--
    if you'd like to run Jenkins with a specific version of Java, specify a full path to java.exe.
    The following value assumes that you have java in your PATH.
  -->
  <executable>%BASE%\jre\bin\java</executable>
  <arguments>-Xrs -Xmx1024m -Dhudson.slaves.WorkspaceList=_ -Dhudson.lifecycle=hudson.lifecycle.WindowsServiceLifecycle -jar "%BASE%\jenkins.war" --httpPort=8080 --webroot="%BASE%\war"</arguments>
  <!--
    interactive flag causes the empty black Java window to be displayed.
    I'm still debugging this.
  <interactive />
  -->
  <logmode>rotate</logmode>

  <onfailure action="restart" />
```

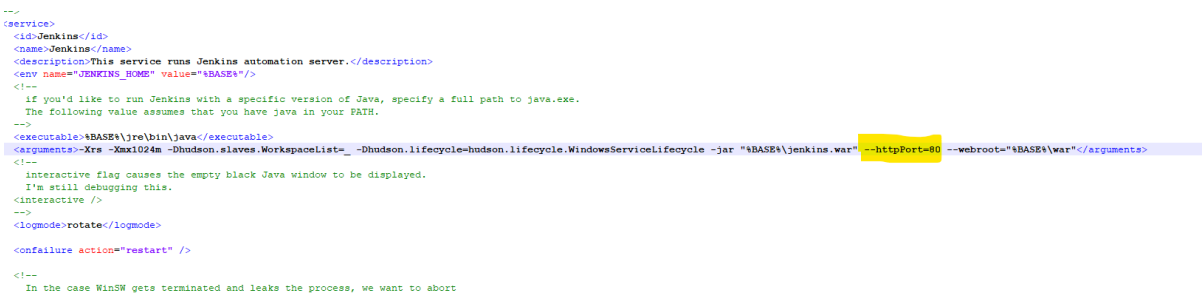
- Restart the Jenkins service in the service console, after doing this change.

4 Running Jenkins on a different port

There are scenarios where Tomcat is running on 8080, or any other application is running on 8080 port. In such cases, to avoid port conflicts we need to change the port.

- Go to Jenkins Installation directory, and open **Jenkins.xml** file.

- Find **--httpPort=8080** inside and replace the port number 8080 with the new port number and **save the file**. We prefer to use port **80**. Please see the example below.



- Restart the Jenkins service in the service console, after doing this change.

5 Increasing Jenkins login timeout

- Jenkins uses very less timeout in case of logged in user's inactivity.
  We can override this setting by explicitly adding parameter **--sessionTimeout=<minutes>** to the the file **<Jenkins_InstallDIR>\war\WEB-INF\web.xml.** Please see the example below.

```
<session-config>
  <cookie-config>
    <!-- See https://www.owasp.org/index.php/HttpOnly for the discussion of this topic in OWASP -->
    <http-only>true</http-only>
  </cookie-config>
  <!-- changing timeout of one hour -->
  <session-timeout>60</session-timeout>
</session-config>
</web-app>
```

- Restart the Jenkins service in the service console, after doing this change.

Please proceed to the next section Choosing the right build agents[1] for standard recommendations for selecting a build agents for projects.

1 https://confluence.honeywell.com/display/CUDEVOPS/Choosing+the+right+build+agents