Jenkins Slave Configuration

IA DevOps

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Steps to configure Jenkins slave.

Here, Master Jenkins is hosted in Linux machine and Jenkins Slave will be configured in Windows virtual machine

Steps to configure slave Jenkins on Windows virtual machine.

Login to Windows Slave Jenkins. Open browser to login into Jenkins,

Master Jenkins URL : http://10.12.190.142/

                                https://pmt-hps-jenkins.honeywell.com/   (NEW)

User Credentials : <H\EID>

Password : <password>

Pre-Requisite:

1 . Install Java

   Download Link : Java Downloads | Oracle[1]

   Install JDK 11 or above version and set Environment variable

2 . Open Windows Powershell ISE with Administrator mode and run below command each at a time,

   • Set-ExecutionPolicy Bypass -Scope Process -Force;
     [System.Net.ServicePointManager]::SecurityProtocol =
     [System.Net.ServicePointManager]::SecurityProtocol -bor 3072; iex ((New-Object
     System.Net.WebClient).DownloadString('https://community.chocolatey.org/install.ps1'))[2]
   • choco install --package-parameters=/SSHServerFeature openssh -y

3 . Install .NET Framework 3.5 on build virtual machine
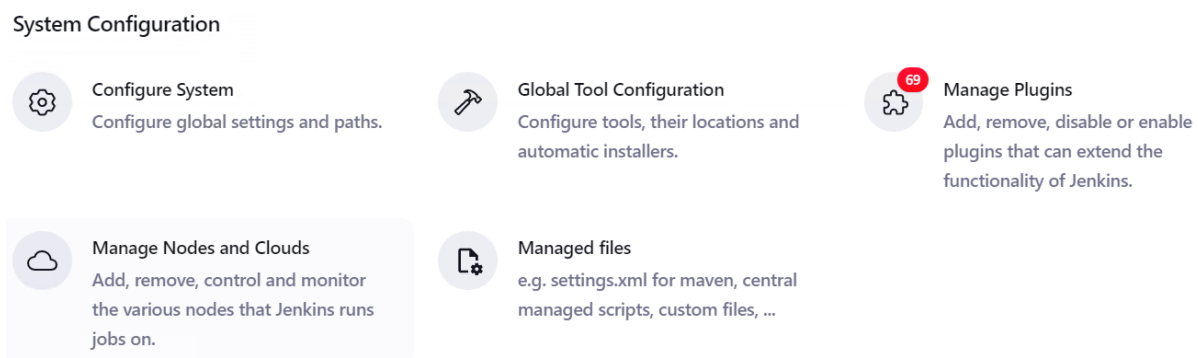
Jenkins Installation Steps:

1 . Login to Master Jenkins : http://10.12.190.142/ using user credentials. Click on Manage Jenkins

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1 https://www.oracle.com/java/technologies/downloads/#jdk22-windows
2 https://community.chocolatey.org/install.ps1%27))
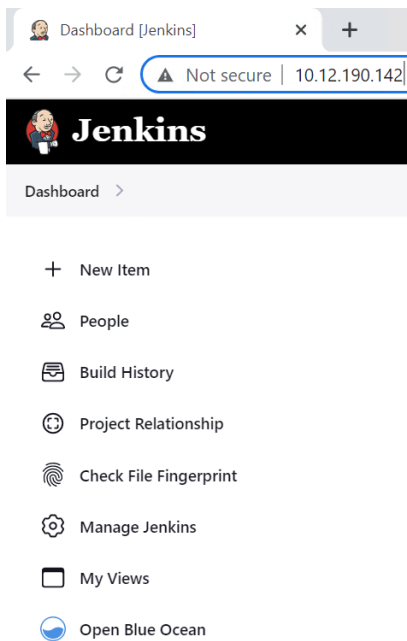
Select 'Manage Nodes and Clouds' under System configuration

System Configuration

Configure System
Configure global settings and paths.

Global Tool Configuration
Configure tools, their locations and automatic installers.

Manage Plugins
Add, remove, disable or enable plugins that can extend the functionality of Jenkins.

Manage Nodes and Clouds
Add, remove, control and monitor the various nodes that Jenkins runs jobs on.

Managed files
e.g. settings.xml for maven, central managed scripts, custom files, ...

Click on New Node

Here, **2 ways of Jenkins slave installation** is explained,

1 . Launch agent via SSH

2 . Launch agent by connecting it to the controller

1 . **Launch agent via SSH**

Name ?

> PMT-HPS-PAS-TM

Description ?

> Terminal Manager

Number of executors ?

> 1

Remote root directory ?

> C:\TM_JENKINS_HOME

Labels ?

> Win_TM

Usage ?

> Use this node as much as possible ⌄

Launch method ?

> Launch agents via SSH ⌄

> Host ?
>
> > DEV1BLD1-2.global.ds.honeywell.com
>
> Credentials ?
>
> > gnTerminalManager ⌄
>
> > + Add
>
> Host Key Verification Strategy ?
>
> > Non verifying Verification Strategy ⌄   ?
>
> 📝 Advanced...

Port ?

```
22
```

JavaPath ?

```
C:\Apps\jdk-18.0.2\bin\java
```

JVM Options ?

```

```

Prefix Start Agent Command ?

```

```

Suffix Start Agent Command ?

```

```

Connection Timeout in Seconds ?

```
60
```

Maximum Number of Retries ?

```
10
```

Seconds To Wait Between Retries ?

```
15
```

☑ Use TCP_NODELAY flag on the SSH connection ?

Remoting Work directory ?

```
C:\TM_JENKINS_HOME
```

Availability ?

```
Keep this agent online as much as possible          ∨
```
?

Node Properties

☐ Disable deferred wipeout on this node ?

☐ Environment variables

☐ Tool Locations

Save

2 . **Launch agent by connecting it to the controller**

(a) Raise FWRR to open firewall port : 8080, 5000 (reference ticket : 28422)

#28422 | Open port:8080,5000

* Subject:	Open port:8080,5000
Priority:	Normal
Request is required until:	**Sat, 23 Mar 2024** Select ⓘ
Attachments:	---
Notification Group:	None

* Business justification   ⓘ

Open 2 way port for PAS programs to access CI/CD tools.
Please open port: 8080, 5000 of 10.12.190.132,10.12.190.142,10.12.190.133 machine to requested VMs

Firewall rule   ⓘ

	Source	Destination	Service/Application Identity	Action	Comment
✄ ~RSK ~DSR ~VER AR1	10.72.80.24/255.255.255.255	10.12.190.142/255.255.255.255 10.12.190.132/255.255.255.255 10.12.190.133/255.255.255.255	TCP 8080 TCP 5000	Accept	open port: 8080, 5000 of 10.12.190.132,10.12.190.142,10.12.190.133 machine to requested VMs. Open 2 way port for PAS programs to access CI/CD tools

Try to access http://10.12.190.132:8080/ and http://10.12.190.133:8080/ from 10.72.80.24.If not able to access then send mail to Firewall team (DL-CORPHGSSOCFirewall@Honeywell.com[3]) as below,

Note : Zicha, Karel <Karel.Zicha@Honeywell.com[4]> from Firewall team had fixed this issue

To: DL-CORP HGS SOC Firewall <DL-CORPHGSSOCFirewall@Honeywell.com>
Cc: Seelam, Siva <SivaSankar.Seelam@Honeywell.com>; Rao, Tejeshwar <Tejeshwar.Rao@Honeywell.com>
Subject: FWRR:28422 :: Open port 8080,5000

Hi Team,

We had raised request FWRR:28422 to open port 8080,5000. But still http://10.12.190.132:8080/ and http://10.12.190.133:8080/ is not accessible in 10.72.80.24. Could you please help.

#28422	Open port:8080,5000				Progress	99%

Firewall rule   ⓘ

	Source	Destination	Service/Application Identity	Action	Comment
✄ ~RSK ~DSR ~VER AR1	10.72.80.24/255.255.255.255	10.12.190.142/255.255.255.255 10.12.190.132/255.255.255.255 10.12.190.133/255.255.255.255	TCP 8080 TCP 5000	Accept	open port: 8080, 5000 of 10.12.190.132,10.12.190.142,10.12.190.133 machine to requested VMs. Open 2 way port for PAS programs to access CI/CD tools

(b) Follow below steps,

Reference for Jenkins slave configure : https://stackoverflow.com/questions/44751960/install-jenkins-slave-as-a-windows-service-in-command-line

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3 mailto:DL-CORPHGSSOCFirewall@Honeywell.com
4 http://Honeywell.com

Name ?

PMT-HPS-PAS-TMR

Description ?

Terminal Manager

Number of executors ?

4

Remote root directory ?

C:\TMR_JENKINS

Labels ?

TMR_WIN

Usage ?

Use this node as much as possible ⌄

Launch method ?

Launch agent by connecting it to the controller ⌄

☐ Disable WorkDir ?

Custom WorkDir path ?

C:\TMR_JENKINS

Internal data directory ?

remoting

☐ Fail if workspace is missing ?

☐ Use WebSocket ?

Tunnel connection through ?

Availability ?

Keep this agent online as much as possible ⌄ ?

Node Properties

☐ Disable deferred wipeout on this node ?

☐ Environment variables

☐ Tool Locations

Save

Click Save

Get the agent.jar to download and secret key once jenkins slave configuration is saved,

☒ **Agent test** (Terminal Manager)   **Mark this node temporarily offline**

Run from agent command line:

```
curl -sO http://10.12.190.132:8080/jnlpJars/agent.jar
java -jar agent.jar -jnlpUrl http://10.12.190.132:8080/manage/computer/test/jenkins-agent.jnlp -secret
b0274601647bfcfe61a75fabca29c836cbd4fde2f04c227e380531097e16912d -workDir "C:\Test_JENKINS"
```

Or run from agent command line, with the secret stored in a file:

```
echo b0274601647bfcfe61a75fabca29c836cbd4fde2f04c227e380531097e16912d > secret-file
curl -sO http://10.12.190.132:8080/jnlpJars/agent.jar
java -jar agent.jar -jnlpUrl http://10.12.190.132:8080/manage/computer/test/jenkins-agent.jnlp -secret @secret-file -workDir "C:\Test_JENKINS"
```

Note: PowerShell users must use curl.exe instead of curl because curl is a default PowerShell cmdlet alias for Invoke-WebRequest.

Jenkins home folder should have 1. agent.jar, 2 . jenkins-slave.xml , 3 . `winsw-2.x.0-bin.exe`

`Follow below steps for copying the above mentioned files to C:\JENKINS,`

- Create a Jenkins home folder on build virtual machine ie., C:\JENKINS
- Download the agent.jar
- Copy agent.jar to C:\JENKINS
- Rename agent.jar as slave.jar
- Copy the jenkins-slave.xml to C:\JENKINS and change it accordingly (note: Got this XML from Siva. **Have attached the jenkins-slave.xml in this confluence page :** https://confluence.honeywell.com/download/attachments/872313460/jenkins-slave.xml?api=v2)

Change the highlighted, according to your project

```xml
<service>
  <id>jenkinsslave-C__TMR_JENKINS</id>
  <name>Jenkins agent (jenkinsslave-C__TMR_JENKINS)</name>
  <description>This service runs an agent for Jenkins automation server.</description>
  <!--
    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>C:\Program Files\Java\jdk-18.0.2.1\bin\java.exe</executable>
  <arguments>-Xrs -jar "%BASE%\slave.jar" -jnlpUrl http://10.12.190.132:8080/manage/computer/PMT%2DHPS%2DPAS%2DTMR/jenkins-agent.jnlp -secret 16238e47218dc0b0034b19e549e0d8a8d0b5844a5b0980bea0fe05365969051b</arguments>
  <!--
    interactive flag causes the empty black Java window to be displayed.
    I'm still debugging this.
  <interactive />
  -->
  <logmode>rotate</logmode>

  <onfailure action="restart" />


  <!--
    If uncommented, download the Remoting version provided by the Jenkins master.
    Enabling for HTTP implies security risks (e.g. replacement of JAR via DNS poisoning). Use on your own risk.
    NOTE: This option may fail to work correctly (e.g. if Jenkins is located behind HTTPS with untrusted certificate).
    In such case the old agent version will be used; you can replace slave.jar manually or to specify another download URL.
  -->
  <!-- <download from="http://HPVIElFCMVM05.devl.honeywell.com:8080/jnlpJars/slave.jar" to="%BASE%\slave.jar"/> -->

  <!--
    In the case WinSW gets terminated and leaks the process, we want to abort
    these runaway JAR processes on startup to prevent "Slave is already connected errors" (JENKINS-28492).
  -->
  <extensions>
    <!-- This is a sample configuration for the RunawayProcessKiller extension. -->
    <extension enabled="true"
          className="winsw.Plugins.RunawayProcessKiller.RunawayProcessKillerExtension"
          id="killOnStartup">
      <pidfile>%BASE%\jenkins_agent.pid</pidfile>
      <stopTimeout>5000</stopTimeout>
      <stopParentFirst>false</stopParentFirst>
    </extension>
  </extensions>

  <!-- See referenced examples for more options -->

</service>
```

- Download the latest service wrapper executable (winsw-2.x.0-bin.exe) from http://repo.jenkins-ci.org/public/com/sun/winsw/winsw/
- copy the winsw-2.x.0-bin.exe to C:\JENKINS
- Rename `winsw-2.x.0-bin.exe` into `jenkins-slave.exe`
- Below is the command to install jenkins service

Open command prompt as administrator, Execute the command "jenkins-slave.exe install"
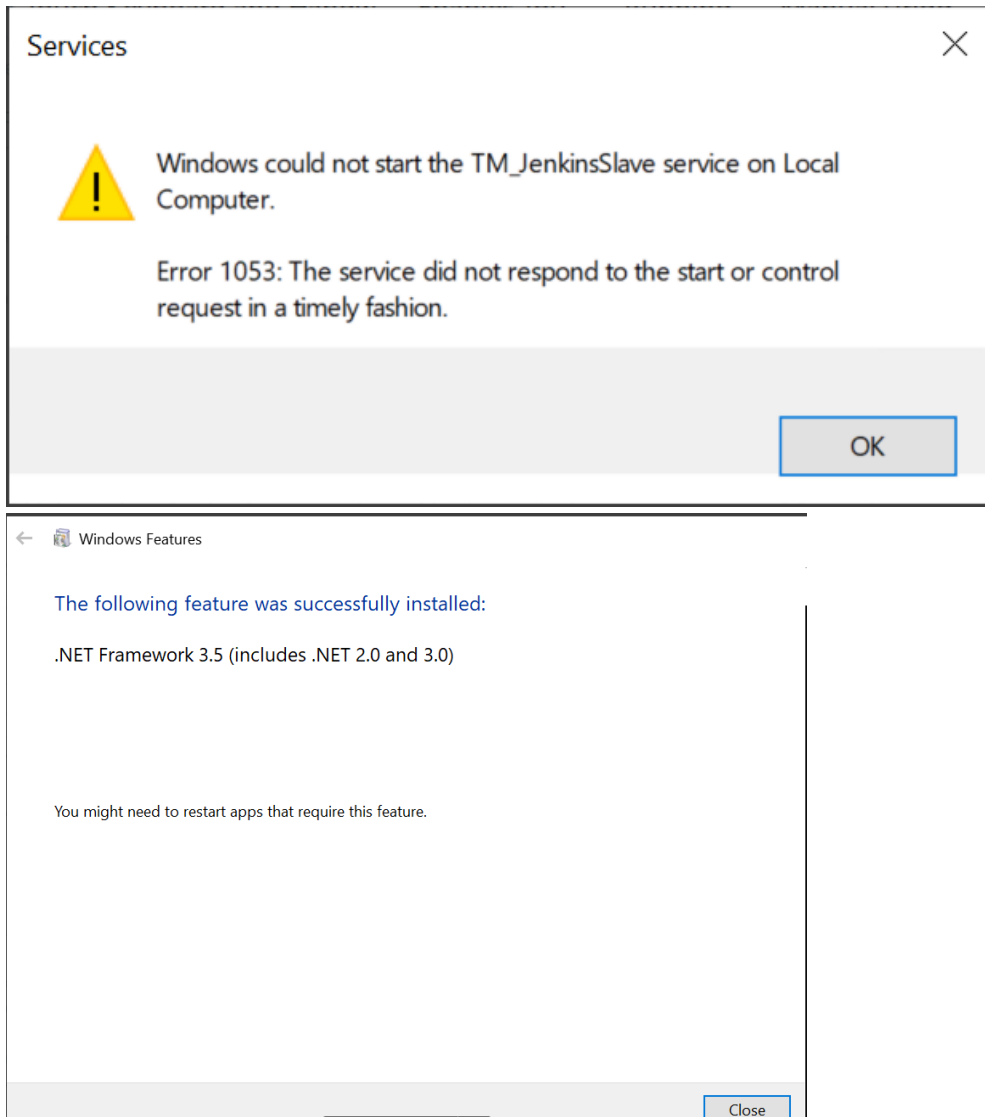

Open service.msc as administrator. Change logon user name for jenkins Service
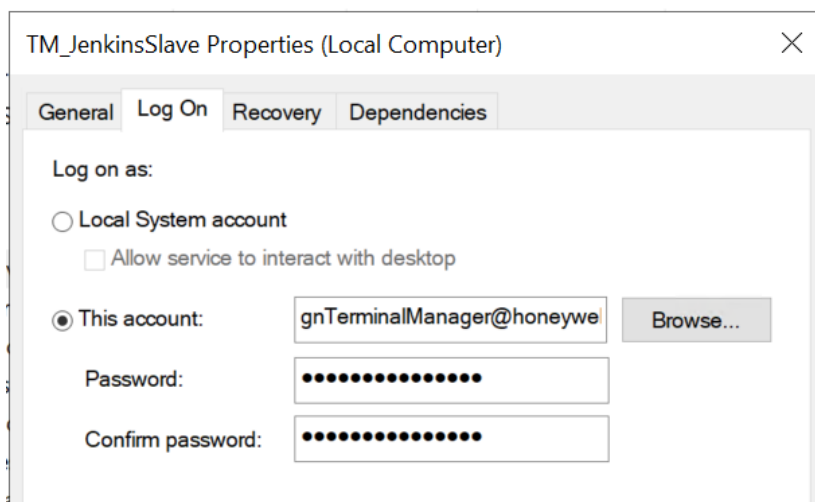
Start the Jenkins services

1 Jenkins Slave Configuration Error and Solution

1 . If .Net Framework 3.5 version is not installed. User will face below error while starting Jenkins service

2 . Error while starting Jenkins service

Error : error 1069:jenkins did not start due to logon failure

Solution : update password in jenkins services

3 . Unable to create jenkins service in windows

`solution: Open command prompt as administrator, Execute the command "`sc.exe
create Jenkins binPath= "C:\JENKINS\jenkins-slave.exe" "