



Continuous integration / Continuous delivery (deployment). Lecture 3.



1. Jenkins nodes (slaves)
2. Jenkins CLI (command line interface)
3. Jenkins delivery pipelines "as code"
4. Approaches/technologies to delivery/deployment

Jenkins nodes (agent/slaves)

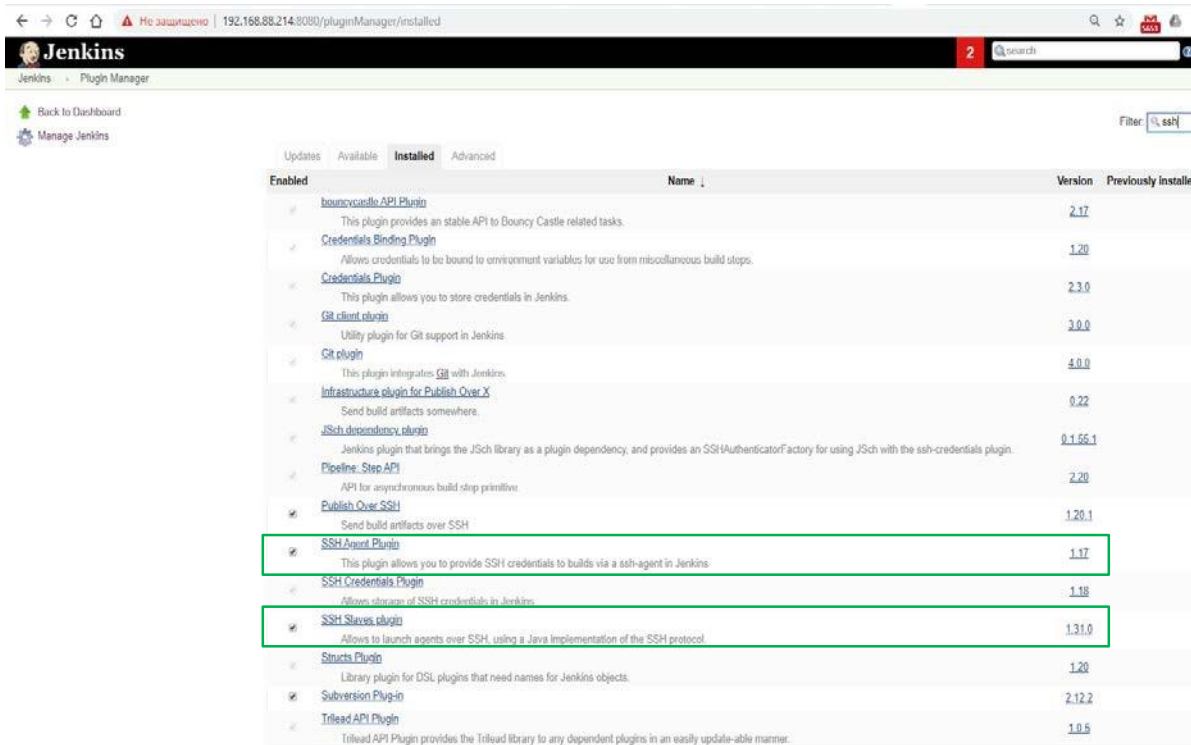
- Run more builds on Jenkins nodes (agent/~~slaves~~)
- Decrease load to Jenkins controller
- Different OS'es can be used on Jenkins nodes (agent/~~slaves~~) for different applications

Jenkins nodes (slaves)

Jenkins master needs Java on Jenkins slaves:

`sudo apt-get install openjdk-11-jdk`

Jenkins master needs two plugins to communicate with Jenkins slaves: *SSH Agent*, *SSH Slaves*



The screenshot shows the Jenkins Plugin Manager interface. The 'Installed' tab is selected, displaying a list of installed plugins. The 'SSH Agent' and 'SSH Slaves' plugins are highlighted with green boxes.

Enabled	Name	Version	Previously Installed
<input checked="" type="checkbox"/>	Bouncycastle API Plugin This plugin provides a stable API to Bouncy Castle related tasks.	2.17	
<input checked="" type="checkbox"/>	Credentials Binding Plugin Allows credentials to be bound to environment variables for use from miscellaneous build steps.	1.20	
<input checked="" type="checkbox"/>	Credentials Plugin This plugin allows you to store credentials in Jenkins.	2.3.0	
<input checked="" type="checkbox"/>	Git client plugin Utility plugin for Git support in Jenkins.	3.0.0	
<input checked="" type="checkbox"/>	Git plugin This plugin integrates Git with Jenkins.	4.0.0	
<input checked="" type="checkbox"/>	Infrastructure plugin for Publish Over SSH Send build artifacts somewhere.	0.22	
<input checked="" type="checkbox"/>	JSch dependency plugin Jenkins plugin that brings the JSch library as a plugin dependency, and provides an SSHAuthenticatorFactory for using JSch with the ssh-credentials plugin.	0.1.56.1	
<input checked="" type="checkbox"/>	Pipeline: Step API API for asynchronous build step primitives.	2.20	
<input checked="" type="checkbox"/>	Publish Over SSH Send build artifacts over SSH.	1.20.1	
<input checked="" type="checkbox"/>	SSH Agent Plugin This plugin allows you to provide SSH credentials to builds via a ssh-agent in Jenkins.	1.17	
<input checked="" type="checkbox"/>	SSH Credentials Plugin Allows storage of SSH credentials in Jenkins.	1.18	
<input checked="" type="checkbox"/>	SSH Slaves plugin Allows to launch agents over SSH, using a Java implementation of the SSH protocol.	1.31.0	
<input checked="" type="checkbox"/>	Structs Plugin Library plugin for DSL plugins that need names for Jenkins objects.	1.20	
<input checked="" type="checkbox"/>	Subversion Plugin	2.12.2	
<input checked="" type="checkbox"/>	Trilead API Plugin Trilead API Plugin provides the Trilead library to any dependent plugins in an easily update-able manner.	1.0.6	

Jenkins nodes (slaves)

May be you remember, but I prefer to remind you.

Copy public key from master Jenkins to Slaves before their usage will be available.

- ssh [student@192.168.88.193](#) (Slave1 IP address example)
- ssh-copy-id [student@192.168.88.193](#)
- ssh [student@192.168.88.194](#) (Slave2 IP address example)
- ssh-copy-id [student@192.168.88.194](#)

On slaves should be done:

1 sudo apt update

*2 ip a

*3 pwd

*4 mkdir jenkins

5 sudo apt-get install openjdk-8/11-jdk

#update repository list

#check IP for SSH

#check where are you now)

#home directory for Jenkins

needed for Jenkins

##- optional

Jenkins nodes (agent/slaves)

← → ↻ 🏠 Не защищено | 192.168.88.214:8080

Jenkins

Jenkins >

- New Item
- People
- Build History
- Project Relationship
- Check File Fingerprint
- Manage Jenkins**
- My Views
- Lockable Resources
- Credentials
- New View

Build Queue —
No builds in the queue.

Build Executor Status —
1 Idle
2 Idle
3 Idle

All +			
S	W	Name ↓	Last Success
🟢	☀️	job1-deploy	
🟢	☀️	jobdeploy1	
🟢	☀️	simple.job	
🟢	☀️	simplejob2	
🟢	☀️	siple-pipeline-example	

Icon: [S](#) [M](#) [L](#)

← → ↻ 🏠 Не защищено | 192.168.88.214:8080/manage

Jenkins

- Manage Plugins**
Add, remove, disable or enable plugins that can extend the functionality of Jenkins.
▲ There are updates available
- System Information**
Displays various environmental information to assist trouble-shooting.
- System Log**
System log captures output from java.util.logging output related to Jenkins.
- Load Statistics**
Check your resource utilization and see if you need more computers for your builds.
- Jenkins CLI**
Access/manage Jenkins from your shell, or from your script.
- Script Console**
Executes arbitrary script for administration/trouble-shooting/diagnostics.
- Manage Nodes**
Add, remove, control and monitor the various nodes that Jenkins runs jobs on.

Jenkins nodes (agent/slaves)

← → ↺ 🏠 Не защищено | 192.168.88.214:8080/computer/

Jenkins

Jenkins ▾ Nodes ▸

🏠 [Back to Dashboard](#)

⚙️ [Manage Jenkins](#)

💻 [New Node](#)

⚙️ [Configure](#)

Build Queue

No builds in the queue.

Build Executor Status

- 1 Idle
- 2 Idle
- 3 Idle

S	Name ↓	Architecture	Clock Difference
💻	master	Linux (amd64)	In sync
	Data obtained	51 min	51 min

← → ↺ 🏠 ⚠️ Не защищено | 192.168.88.214:8080/computer/new

Jenkins

Jenkins ▾ Nodes ▸

🏠 [Back to Dashboard](#)

⚙️ [Manage Jenkins](#)

💻 [New Node](#)

⚙️ [Configure](#)

Build Queue

No builds in the queue.

Build Executor Status

💻 [master](#)

- 1 Idle
- 2 Idle
- 3 Idle

💻 [Slave1](#)

- 1 Idle
- 2 Idle
- 3 Idle

Node name

☒ Permanent Agent

Adds a plain, permanent agent to Jenkins. This is called "perman" for example such as when you are adding a physical computer, v

☐ Copy Existing Node

Copy from

OK

Jenkins nodes (agent/slaves)

The screenshot shows the Jenkins 'Configure' page for a new node named 'Slave2'. The page is divided into several sections:

- Left Sidebar:** Contains links to 'Back to Dashboard', 'Manage Jenkins', 'New Node', and 'Configure'. Below these are two expandable sections: 'Build Queue' (showing 'No builds in the queue.') and 'Build Executor Status' (showing the status of 'master' and 'Slave1' nodes, each with 3 idle executors).
- Main Form:** Contains fields for configuring the node:
 - Name:** Slave2
 - Description:** just slave2
 - # of executors:** 2
 - Remote root directory:** /home/student/jenkins
 - Labels:** ubuntu ansible
 - Usage:** Use this node as much as possible
 - Launch method:** Launch agent agents via SSH
 - Host:** 192.168.88.194
 - Credentials:** student (master2slave)
 - Host Key Verification Strategy:** Manually trusted key Verification Strategy
 - Availability:** Keep this agent online as much as possible
- Node Properties:** A section with checkboxes for 'Disable deferred wipeout on this node', 'Environment variables', and 'Tool Locations'. A 'Save' button is at the bottom.

The screenshot shows the Jenkins 'Nodes' page, displaying a list of nodes. The page includes a 'Build Queue' section (showing 'No builds in the queue.') and a 'Build Executor Status' section (showing the status of 'master', 'Slave1', and 'Slave2' nodes, each with 2 idle executors).

S	Name ↓	Architecture
	master	Linux (amd64)
	Slave1	Linux (amd64)
	Slave2	Linux (amd64)
Data obtained		10 sec

Jenkins nodes (agent/slaves)

The screenshot displays the Jenkins web interface for a specific slave node. The browser address bar shows the URL `192.168.88.214:8080/computer/Slave1/log`. The Jenkins header includes the logo, navigation links (Jenkins, Nodes, Slave1), a red status indicator with the number '2', and a search bar.

On the left sidebar, the 'Log' option is selected. Below it, the 'Build Executor Status' section shows a list of three idle build executors:


- 1 Idle
- 2 Idle
- 3 Idle

The main content area displays the SSH log for the 'Slave1' node. The log shows the SSH connection process, including the opening of the connection, the key fingerprint, and the successful authentication. The remote user's environment is also listed, showing various system variables and their values.

```
SSHLauncher{host='192.168.88.193', port=22, credentialsId='master2slave', jvmOptions='', javaPath='', prefixStartSlaveCmd='', suffixStartSlaveCmd='', retryWaitTime=15, sshHostKeyVerificationStrategy=hudson.plugins.sshslaves.verifiers.ManuallyTrustedKeyVerificationStrategy, tcpNoDelay=true, trace=[11/25/19 11:51:08] [SSH] Opening SSH connection to 192.168.88.193:22.
[11/25/19 11:51:09] [SSH] The SSH key with fingerprint 35:d2:27:27:e6:ce:99:d6:cc:a4:34:c2:ea:63:80 has been automatically trusted for connect
[11/25/19 11:51:09] [SSH] Authentication successful.
[11/25/19 11:51:09] [SSH] The remote user's environment is:
BASH=/bin/bash
BASHOPTS=cmdhist:complete_fullquote:extquote:force_ignores:hostcomplete:interactive_comments:progcomp:promptvars:sourcepath
BASH_ALIASES=()
BASH_ARGC=()
BASH_ARGV=()
BASH_CMDS=()
BASH_EXECUTION_STRING=set
BASH_LINENO=()
BASH_SOURCE=()
BASH_VERSION=[([0]="4" [1]="3" [2]="48" [3]="1" [4]="release" [5]="x86_64-pc-linux-gnu")
BASH_VERSION="4.3.48(1)-release"
DIRSTACK=()
EUID=1000
GROUPS=()
HOME=/home/student
HOSTNAME=ubuntu16srvr
HOSTTYPE=x86_64
IFS=$' \t\n'
LANG=en_US.UTF-8
LANGUAGE=en_US:en
LOGNAME=student
MACHTYPE=x86_64-pc-linux-gnu
MAIL=/var/mail/student
OPTERR=1
OPTIND=1
OSTYPE=linux-gnu
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games
PIPESTATUS=([0]="0")
PPID=17743
PS4='+ '
PWD=/home/student
SHELL=/bin/bash
SHELLOPTS=braceexpand:hashall:interactive-comments
SHLVL=1
SSH_CLIENT='192.168.88.214 58862 22'
SSH_CONNECTION='192.168.88.214 58862 192.168.88.193 22'
TERM=dumb
UID=1000
USER=student
XDG_RUNTIME_DIR=/run/user/1000
XDG_SESSION_ID=11
```

Jenkins nodes (agent/~~slaves~~)

← → ↻ 🏠 ⚠ Не защищено | 192.168.88.214:8080/job/simplejob2/configure

 **Jenkins**

Jenkins > simplejob2 >

General | Source Code Management | Build Triggers | Build Environment | Build | Post-build Actions

Description: simple jenkins job 2

[Plain text] [Preview](#)

- ☐ Discard old builds
- ☐ GitHub project
- ☐ This build requires lockable resources
- ☐ This project is parameterized
- ☐ Throttle builds
- ☐ Disable this project
- ☐ Execute concurrent builds if necessary
- ☒ Restrict where this project can be run

Label Expression:

[Label ubuntu16.04](#) is serviced by 1 node. Permissions or other restrictions provided by plugins may

No spaces after Label name

Jenkins nodes (agent/slaves)

← → ↻ 🏠 ⚠ Не защищено | 192.168.88.214:8080/job/simplejob2/configure

Jenkins » simplejob2 »

General Source Code Management Build Triggers **Build Environment** Build Post-build Actions

- ☐ Send files or execute commands over SSH after the build runs
- ☐ Abort the build if it's stuck
- ☐ Add timestamps to the Console Output
- ☐ Inspect build log for published Gradle build scans
- ☐ SSH Agent
- ☐ With Ant

Build

Execute shell

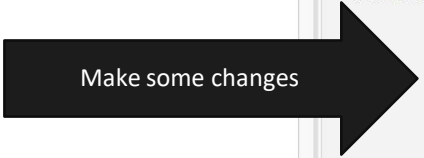
Command

```
sleep 10
pwd
whoami
ip a
hostname
echo "-----BEGINING-----"
echo "Hello World"
echo "-----FINISHING-----"
echo "Build number # "
sleep 10
echo $BUILD_NUMBER
```

See [the list of available environment variables](#)

Advanced...

Add build step ▾



Jenkins nodes (agent/slaves)

The screenshot shows the Jenkins web interface. The top navigation bar includes a back arrow, a forward arrow, a refresh icon, a home icon, and a status bar indicating 'Не защищено' (Not secured) and the IP address '192.168.88.214:8080'. The main header displays the Jenkins logo and name.

The left sidebar contains the following navigation links:

- New Item
- People
- Build History
- Project Relationship
- Check File Fingerprint
- Manage Jenkins
- My Views
- Lockable Resources
- Credentials
- New View

The main content area displays a table of nodes. The table has columns for 'S' (Status), 'W' (Work), and 'Name'. The nodes listed are:

S	W	Name
●	☀	job1-deploy
●	☀	jobdeploy1
●	☀	simple job
●	☀	simplejob2
●	☀	simple-pipeline-example

Below the table, there is a link to 'Icon: S M L'.

The 'Build Queue (1)' section shows a single entry: [simplejob2](#).

The 'Build Executor Status' section shows the status of the master and slaves:

- master**
 - 1 Idle
 - 2 Idle
 - 3 Idle
- Slave1**
 - 1 Idle
 - 2 [simplejob2](#) #21
 - 3 Idle
- Slave2**
 - 1 Idle
 - 2 Idle

Jenkins nodes (agent/slaves)

← → ↺ 🏠 Не защищено | 192.168.88.214:8080/job/simplejob2/lastSuccessfulBuild/console

 Jenkins

Jenkins > simplejob2 > #22

📁 Back to Project

🔍 Status

📄 Changes

🖥️ Console Output

📄 View as plain text

📄 Edit Build Information

🚫 Delete build '#22'

📄 Previous Build

🟢 Console Output

```
Started by user student
Started by user student
Started by user student
Running as SYSTEM
Building remotely on Slave1 (apache ubuntu ubuntu16.04) in workspace /home/student/jenkins/workspace/simplejob2
[simplejob2] $ /bin/sh -xe /tmp/jenkins7713943178552298119.sh
+ sleep 10
+ pwd
/home/student/jenkins/workspace/simplejob2
+ whoami
student
+ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:5d:c7:7f brd ff:ff:ff:ff:ff:ff
    inet 192.168.88.193/24 brd 192.168.88.255 scope global enp0s3
        valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fe5d:c77f/64 scope link
        valid_lft forever preferred_lft forever
+ hostname
ubuntu16srvr
+ echo -----BEGINING-----
-----BEGINING-----
+ echo Hello World
Hello World
+ echo -----FINISHING-----
-----FINISHING-----
+ echo Build number #
Build number #
+ sleep 10
+ echo 22
22
Finished: SUCCESS
```

← → ↺ 🏠 Не защищено | 192.168.88.214:8080

 Jenkins

Jenkins >

📁 New Item

👤 People

📄 Build History

🔍 Project Relationship

🔑 Check File Fingerprint

⚙️ Manage Jenkins

👁️ My Views

🔒 Lockable Resources

🔑 Credentials

📄 New View

All +

S	W	Name ↓
🟢	🌞	job1-deploy
🟢	🌞	jobdeploy1
🟢	🌞	simple job
🟡	🌞	simplejob2
🟢	🌞	siple-pipeline-example

Icon: [S](#) [M](#) [L](#)

Build Queue (1)

simplejob2

Build Executor Status

🖥️ master

- 1 Idle
- 2 Idle
- 3 Idle

🖥️ Slave1

- 1 Idle
- 2 [simplejob2](#) #21
- 3 Idle

🖥️ Slave2

- 1 Idle
- 2 Idle

Jenkins nodes (agent/slaves)

← → ↻ 🏠 ⓘ Не защищено | 192.168.88.214:8080/job/simple-pipeline-using-slave/configure

Jenkins 2 🔍 search

Jenkins simple-pipeline-using-slave

General Source Code Management Build Triggers Build Environment Build Post-build Actions

Description
simple pipeline example
[Plain text] [Preview](#)

☒ Discard old builds ⓘ

Strategy
Log Rotation
Days to keep builds
if not empty, build records are only kept up to this number of days
Max # of builds to keep 5
if not empty, only up to this number of build records are kept
[Advanced...](#)

☐ GitHub project
☐ This build requires lockable resources
☐ This project is parameterized
☐ Throttle builds
☐ Disable this project
☐ Execute concurrent builds if necessary

☒ Restrict where this project can be run
Label Expression apache
Label [apache](#) is serviced by 1 node
Permissions or other restrictions provided by plugins may prevent this job from running on those nodes.
[Advanced...](#)

Jenkins nodes (agent/slaves)

← → ↺ 🏠 ⓘ Не защищено | 192.168.88.214:8080/job/simple-pipeline-using-slave/configure

Jenkins > simple-pipeline-using-slave >

General **Source Code Management** Build Triggers Build Environment Build Post-build Actions

Advanced...

Source Code Management

☐ None

☒ Git

Repositories

Repository URL

Credentials

Advanced...

Add Repository

Branches to build

Branch Specifier (blank for 'any')

Add Branch

Repository browser

Additional Behaviours

☐ Subversion

Build Triggers

☐ Trigger builds remotely (e.g., from scripts)

☐ Build after other projects are built

☐ Build periodically

☐ GitHub hook trigger for GITScm polling

☒ Poll SCM

Schedule

Nothing changed

Jenkins nodes (agent/slaves)

← → ↻ 🏠 ⓘ Не защищено | 192.168.88.214:8080/job/simple-pipeline-using-slave/configure

Jenkins > simple-pipeline-using-slave >

General Source Code Management Build Triggers **Build Environment** Build Post-build Actions

Build Environment

- ☐ Delete workspace before build starts
- ☐ Use secret text(s) or file(s)
- ☐ Send files or execute commands over SSH before the build starts
- ☐ Send files or execute commands over SSH after the build runs
- ☐ Abort the build if it's stuck
- ☐ Add timestamps to the Console Output
- ☐ Inspect build log for published Gradle build scans
- ☐ SSH Agent
- ☐ With Ant

Build

Execute shell

```
Command echo "start"
sleep 5
whoami
ip a
pwd
sleep 5
cp * /var/www/html/
sleep 5
echo "finish"
```

See [the list of available environment variables](#)

Add build step ▾

Post-build Actions

Add post-build action ▾

Save

Apply

192.168.88.193 (student)

Terminal Sessions View X server Tools Games Settings Macros Help

Quick connect...

```
Enabling module filter.
Enabling module deflate.
Enabling module status.
Enabling conf charset.
Enabling conf localized-error-pages.
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.
Setting up ssl-cert (1.0.37) ...
Processing triggers for libc-bin (2.23-0ubuntu10) ...
Processing triggers for systemd (229-4ubuntu21.4) ...
Processing triggers for ureadahead (0.100.0-19) ...
Processing triggers for ufw (0.35-0ubuntu2) ...
student@ubuntu16srvr:~$ cd /var/www/html
student@ubuntu16srvr:/var/www/html$ sudo chgrp -R student /var/www
student@ubuntu16srvr:/var/www/html$ sudo chmod -R g+rw /var/www
student@ubuntu16srvr:/var/www/html$ history
1 sudo apt update
2 ip a
3 exit
4 pwd
5 mkdir jenkins
6 exit
7 sudo apt-get install openjdk-8-jdk
8 ip a
9 ls
10 sudo apt update
11 ip a
12 history
13 sudo apt install apache2
14 cd /var/www/html
15 sudo chgrp -R student /var/www
16 sudo chmod -R g+rw /var/www
17 history
student@ubuntu16srvr:/var/www/html$
```

UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm>

No Post-build
Actions

← → ↻ 🏠 ⓘ Не защищено | 192.168.88.193

Be wise

This text is magenta and this SLAVE!

version in english

Jenkins CLI client

- Control Jenkins using command line interface
- Allow to develop scripts

<https://jenkins.io/doc/developer/cli/>

<https://jenkins.io/doc/book/managing/cli/>

Jenkins CLI client

Using the CLI client

While the SSH-based CLI is fast and covers most needs, there may be situations where the CLI client distributed with Jenkins is a better fit. For example, the default transport for the CLI client is HTTP which means no additional ports need to be opened in a firewall for its use.

Downloading the client

The CLI client can be downloaded directly from a Jenkins master at the URL `/jnlpJars/jenkins-cli.jar`, in effect `JENKINS_URL/jnlpJars/jenkins-cli.jar`

While a CLI .jar can be used against different versions of Jenkins, should any compatibility issues arise during use, please re-download the latest .jar file from the Jenkins master.

Using the client. The general syntax for invoking the client is as follows:

`java -jar jenkins-cli.jar [-s JENKINS_URL] [global options...] command [command options...] [arguments...]`

The JENKINS_URL can be specified via the environment variable \$JENKINS_URL. Summaries of other general options can be displayed by running the client with no arguments at all.

Client connection modes

There are two basic modes in which the client may be used, selectable by global option: **-http** and **-ssh**.

Jenkins CLI client

← → ↺ 🏠 ⓘ Не защищено | 192.168.88.214:8080/manage

Jenkins >

- 🔒 Lockable Resources
- 🔑 Credentials
- 📁 New View

Build Queue -

No builds in the queue.

Build Executor Status -

- 🖨️ master
 - 1 Idle
 - 2 Idle
 - 3 Idle
- 🖨️ Slave1
 - 1 Idle
 - 2 Idle
 - 3 Idle
- 🖨️ Slave2
 - 1 Idle
 - 2 Idle

Configure System
Configure global settings and paths.

Configure Global Security
Secure Jenkins, define who is allowed to access/use the system.

Configure Credentials
Configure the credential providers and types.

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

Reload Configuration from Disk
Discard all the loaded data in memory and reload everything from file system. Useful when you modified config files directly on disk.

Manage Plugins
Add, remove, disable or enable plugins that can extend the functionality of Jenkins.
🔴 There are updates available

System Information
Displays various environmental information to assist trouble-shooting.

System Log
System log captures output from java.util.logging output related to Jenkins.

Load Statistics
Check your resource utilization and see if you need more computers for your builds.

Jenkins CLI
Access/manage Jenkins from your shell, or from your script.

Jenkins CLI client

← → ↻ 🏠 ⓘ Не защищено | 192.168.88.214:8080/cli/ 🔍 ☆ M 5719

Jenkins 2 🔍 search

Jenkins → Jenkins CLI

- New Item
- People
- Build History
- Project Relationship
- Check File Fingerprint
- Manage Jenkins
- My Views
- Lockable Resources
- Credentials
- New View

Build Queue ⋮

No builds in the queue.

Build Executor Status ⋮

- master**
 - 1 Idle
 - 2 Idle
 - 3 Idle
- Slave1**
 - 1 Idle
 - 2 Idle
 - 3 Idle
- Slave2**
 - 1 Idle
 - 2 Idle

Jenkins CLI

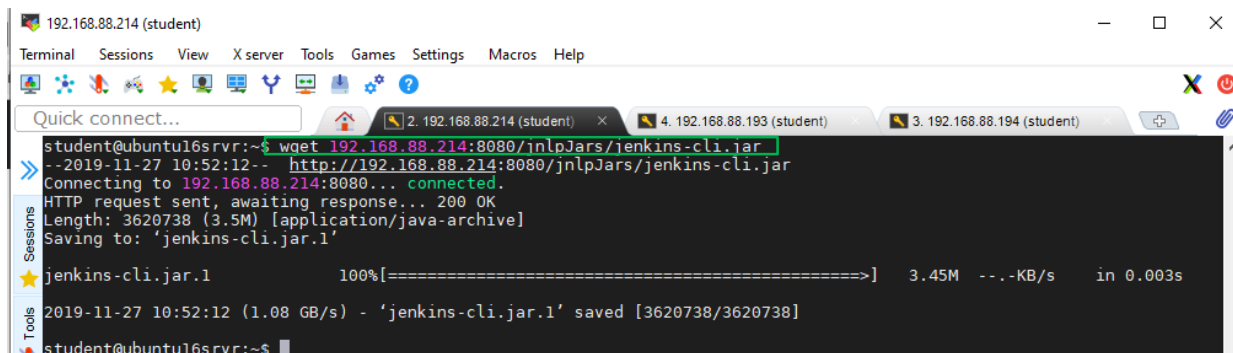
You can access various features in Jenkins through a command-line tool. See [the documentation](#) for more details of this feature. To get started, download **jenkins-cli.jar** and run it as follows:

```
java -jar jenkins-cli.jar -s http://192.168.88.214:8080/ help
```

Available Commands

add-job-to-view	Adds jobs to view.
build	Builds a job, and optionally waits until its completion.
cancel-quiet-down	Cancel the effect of the "quiet-down" command.
clear-queue	Clears the build queue.
connect-node	Reconnect to a node(s)
console	Retrieves console output of a build.
copy-job	Copies a job.
create-credentials-by-xml	Create Credential by XML.
create-credentials-domain-by-xml	Create Credentials Domain by XML.
create-job	Creates a new job by reading stdin as a configuration XML file.
create-node	Creates a new node by reading stdin as a XML configuration.
create-view	Creates a new view by reading stdin as a XML configuration.
declarative-linter	Validate a Jenkinsfile containing a Declarative Pipeline
delete-builds	Deletes build record(s).
delete-credentials	Delete a Credential
delete-credentials-domain	Delete a Credentials Domain
delete-job	Deletes job(s).
delete-node	Deletes node(s)
delete-view	Deletes view(s).
disable-job	Disables a job.
disable-plugin	Disable one or more installed plugins.
disconnect-node	Disconnects from a node.
enable-job	Enables a job.
enable-plugin	Enables one or more installed plugins transitively.
get-credentials-as-xml	Get a Credentials as XML (secrets redacted)
get-credentials-domain-as-xml	Get a Credentials Domain as XML
get-gradle	List available gradle installations
get-job	Dumps the job definition XML to stdout.
get-node	Dumps the node definition XML to stdout.
get-view	Dumps the view definition XML to stdout.
groovy	Executes the specified Groovy script.
groovysh	Runs an interactive groovy shell.
help	Lists all the available commands or a detailed description of single command.
import-credentials-as-xml	Import credentials as XML. The output of "list-credentials-as-xml" can be used as input here as is, the only needed change is to set the actual Secrets which are redacted in the out
install-plugin	Installs a plugin either from a file, an URL, or from update center.
keep-build	Mark the build to keep the build forever.

Jenkins CLI client



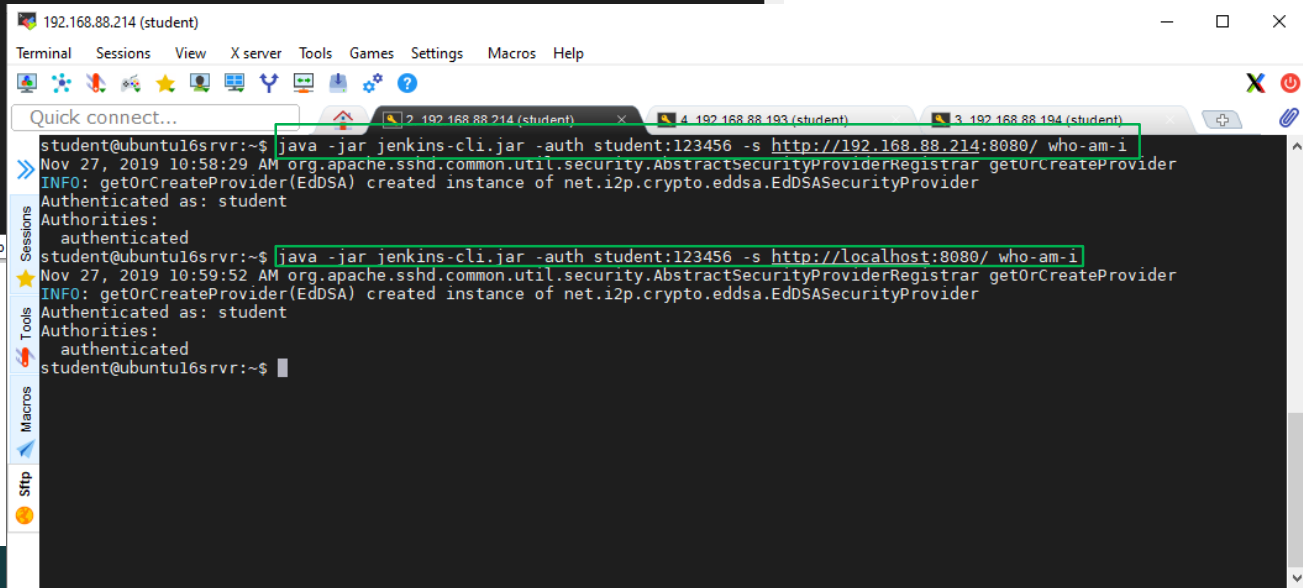
A screenshot of a terminal window titled "192.168.88.214 (student)". The terminal shows the command `wget 192.168.88.214:8080/jnlpJars/jenkins-cli.jar` being executed. The output shows the file being downloaded from the specified URL, with a progress bar indicating 100% completion. The file size is 3.45M. The terminal also shows the file being saved to the local disk.

```
student@ubuntu16srvr:~$ wget 192.168.88.214:8080/jnlpJars/jenkins-cli.jar
--2019-11-27 10:52:12-- http://192.168.88.214:8080/jnlpJars/jenkins-cli.jar
Connecting to 192.168.88.214:8080... connected.
HTTP request sent, awaiting response... 200 OK
Length: 3620738 (3.5M) [application/java-archive]
Saving to: 'jenkins-cli.jar.1'

jenkins-cli.jar.1      100%[=====] 3.45M  --.-KB/s  in 0.003s

2019-11-27 10:52:12 (1.08 GB/s) - 'jenkins-cli.jar.1' saved [3620738/3620738]

student@ubuntu16srvr:~$
```



A screenshot of a terminal window titled "192.168.88.214 (student)". The terminal shows the command `java -jar jenkins-cli.jar -auth student:123456 -s http://192.168.88.214:8080/ who-am-i` being executed. The output shows the client authenticating with the Jenkins server and returning the user identity "student". The terminal also shows the command being executed again with the local host address.

```
student@ubuntu16srvr:~$ java -jar jenkins-cli.jar -auth student:123456 -s http://192.168.88.214:8080/ who-am-i
Nov 27, 2019 10:58:29 AM org.apache.sshd.common.util.security.AbstractSecurityProviderRegistrar getOrCreateProvider
INFO: getOrCreateProvider(EddSA) created instance of net.i2p.crypto.eddsa.EdDSASecurityProvider
Authenticated as: student
Authorities:
authenticated
student@ubuntu16srvr:~$ java -jar jenkins-cli.jar -auth student:123456 -s http://localhost:8080/ who-am-i
Nov 27, 2019 10:59:52 AM org.apache.sshd.common.util.security.AbstractSecurityProviderRegistrar getOrCreateProvider
INFO: getOrCreateProvider(EddSA) created instance of net.i2p.crypto.eddsa.EdDSASecurityProvider
Authenticated as: student
Authorities:
authenticated
student@ubuntu16srvr:~$
```

Jenkins CLI client

Jenkins CLI client configuration page for user 'student'.

Full Name: student

Description:

API Token

Current token(s): student-token 117e9e8fa679ab8f107ad9064eec68c5d0

⚠ Copy this token now, because it cannot be recovered in the future.

Add new Token

Color blind support

Enable color blind support

Credentials

Credentials are only available to the user they belong to

E-mail

E-mail address: student@email.com

Extended Email Job Watching

No configuration available

My Views

Default View

Notification URL

Default

Password

Confirm Password

Save Apply

```
192.168.88.214 (student)
Terminal Sessions View X server Tools Games Settings Macros Help

Quick connect...

2- 192.168.88.214 (student)
3- 192.168.88.194 (student)

student@ubuntu16srvr:~$ java -jar jenkins-cli.jar -auth student:117e9e8fa679ab8f107ad9064eec68c5d0 -s http://localhost:8080/ who-am-i
Nov 27, 2019 11:13:45 AM org.apache.sshd.common.util.security.AbstractSecurityProviderRegistrar getOrCreateProvider
INFO: getOrCreateProvider(EddSA) created instance of net.i2p.crypto.eddsa.EdDSASecurityProvider
Authenticated as: student
Authorities:
authenticated
student@ubuntu16srvr:~$
```

Jenkins CLI client

- To automate you can use:

The image shows two terminal windows side-by-side, demonstrating the Jenkins CLI client. The left window is a Linux terminal (Ubuntu 16.04) and the right is a Windows PowerShell terminal. Both show the process of authenticating with Jenkins and running a command to identify the user.

From Linux

```
student@ubuntu16srvr:~$ java -jar jenkins-cli.jar -auth student:117e9e8fa679ab8f107ad9064eec68c5d0 -s http://localhost:8080/ who-am-i
Nov 27, 2019 11:13:45 AM org.apache.sshd.common.util.security.AbstractSecurityProviderRegistrar getOrCreateProvider
INFO: getOrCreateProvider(EdDSA) created instance of net.i2p.crypto.eddsa.EdDSASecurityProvider
Authenticated as: student
Authorities:
authenticated
student@ubuntu16srvr:~$ export JENKINS_USER_ID=student
student@ubuntu16srvr:~$ export JENKINS_API_TOKEN=117e9e8fa679ab8f107ad9064eec68c5d0
student@ubuntu16srvr:~$ java -jar jenkins-cli.jar -s http://localhost:8080/ who-am-i
Nov 27, 2019 11:22:35 AM org.apache.sshd.common.util.security.AbstractSecurityProviderRegistrar getOrCreateProvider
INFO: getOrCreateProvider(EdDSA) created instance of net.i2p.crypto.eddsa.EdDSASecurityProvider
Authenticated as: student
Authorities:
authenticated
student@ubuntu16srvr:~$
```


From Windows

```
PS C:\Users\User> cd .\Downloads\
PS C:\Users\User\Downloads> $env:JENKINS_USER_ID="student"
PS C:\Users\User\Downloads> $env:JENKINS_API_TOKEN="117e9e8fa679ab8f107ad9064eec68c5d0"
PS C:\Users\User\Downloads> java -jar .\jenkins-cli.jar -s http://192.168.88.214:8080 who-am-i
Authenticated as: student
Authorities:
authenticated
PS C:\Users\User\Downloads>
```

Jenkins Pipeline

<https://jenkins.io/doc/book/pipeline/>

← → ↺ 🏠 ⚠ Не защищено | 192.168.88.214:8080/view/all/newJob 🔍


 **Jenkins** 2 🔍 search


Jenkins > All >


Enter an item name


First-Jenkins-Pipeline


» Required field


 **Freestyle project**
This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.


 **Pipeline**
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job ty

 **External Job**
This type of job allows you to record the execution of a process run outside Jenkins, even on a remote machine. This is designed so that you can use Jenkins as a dashboard of your existing automation system


 **Multi-configuration project**
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

 **Folder**
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name long as they are in different folders.

 **GitHub Organization**
Scans a GitHub organization (or user account) for all repositories matching some defined markers.

 **Multibranch Pipeline**
Creates a set of Pipeline projects according to detected branches in one SCM repository.

If you want to create a new item from other existing, you can use this option:

 Copy from

OK

Jenkins Pipeline

← → ↺ 🏠 ⓘ Не защищено | 192.168.88.214:8080/job/First-Jenkins-Pipeline/configure

Jenkins > First-Jenkins-Pipeline >

General **Build Triggers** Advanced Project Options Pipeline

☐ Build periodically

☐ GitHub hook trigger for GITScm polling

☐ Poll SCM

☐ Disable this project

☐ Quiet period

☐ Trigger builds remotely (e.g., from scripts)

Advanced Project Options

Pipeline

Definition **Pipeline script**

Script

```
1 pipeline {  
2   agent any  
3  
4   stages {  
5     stage('Build') {  
6       steps {  
7         echo 'Building..'  
8       }  
9     }  
10    stage('Test') {  
11      steps {  
12        echo 'Testing..'  
13      }  
14    }  
15    stage('Deploy') {  
16      steps {  
17        echo 'Deploying....'  
18      }  
19    }  
20  }  
21}
```

☒ Use Groovy Sandbox

[Pipeline Syntax](#)

Save Apply

```
• pipeline {  
•   agent any  
•  
•   stages {  
•     stage('Build'){  
•       steps {  
•         echo 'Building..'  
•       }  
•     }  
•  
•     stage('Test'){  
•       steps {  
•         echo 'Testing..'  
•       }  
•     }  
•  
•     stage('Deploy'){  
•       steps {  
•         echo 'Deploying....'  
•       }  
•     }  
•   }  
• }
```

Jenkins Pipeline


← → ↺ 🏠 ⓘ Не защищено | 192.168.88.214:8080/job/First-Jenkins-Pipeline/

Jenkins

Jenkins > First-Jenkins-Pipeline >

- 📈 Back to Dashboard
- 🔍 Status
- 📄 Changes
- 🏗 Build Now**
- 🗑 Delete Pipeline
- ⚙ Configure
- 🔍 Full Stage View
- 📄 Rename
- 🔗 Pipeline Syntax

Pipeline First-Jenkins-Pipeline

 [Recent Changes](#)



Stage View

No data available. This Pipeline has not yet run.

Permalinks

Build History [trend ▾](#)

find x

 [RSS for all](#)  [RSS for failures](#)


← → ↺ 🏠 ⓘ Не защищено | 192.168.88.214:8080/job/First-Jenkins-Pipeline/

Jenkins

Jenkins > First-Jenkins-Pipeline >


- 📈 Back to Dashboard
- 🔍 Status
- 📄 Changes
- 🏗 Build Now
- 🗑 Delete Pipeline
- ⚙ Configure
- 🔍 Full Stage View
- 📄 Rename
- 🔗 Pipeline Syntax



Pipeline First-Jenkins-Pipeline

 [Recent Changes](#)

Stage View

Average stage times:
(Average full run time: ~6s)

	Build	Test	Deploy
 Nov 27 13:05	312ms	144ms	158ms

 [RSS for all](#)  [RSS for failures](#)

Permalinks

- [Last build \(#1\), 7.5 sec ago](#)
- [Last stable build \(#1\), 7.5 sec ago](#)
- [Last successful build \(#1\), 7.5 sec ago](#)
- [Last completed build \(#1\), 7.5 sec ago](#)

Jenkins Pipeline

← → ↺ 🏠 ⓘ Не защищено | 192.168.88.214:8080/job/First-Jenkins-Pipeline/configure 🔍 ☆ 📧 56/71

Jenkins > First-Jenkins-Pipeline >

General Build Triggers **Advanced Project Options** Pipeline

☐ Trigger builds remotely (e.g., from scripts) ⓘ

Advanced Project Options

Advanced...

Pipeline

Definition Pipeline script from SCM ⓘ

SCM Git ⓘ

Repositories

Repository URL git@github.com:dimdimuzun/Test-Jenkins-Pipeline.git ⓘ

Credentials dimdimuzun (github-ssh-key-new) ⓘ Add ⓘ

Advanced... Add Repository

Branches to build

Branch Specifier (blank for 'any') */master ⓘ

Add Branch

Repository browser (Auto) ⓘ

Additional Behaviours Add ⓘ

Script Path jenkinsfiles/test-jenkins ⓘ


Lightweight checkout ☒ ⓘ

[Pipeline Syntax](#)

Save Apply


Jenkins Pipeline


← → ↺ ⌂ ⓘ Не защищено | 192.168.88.214:8080/job/First-Jenkins-Pipeline/


 **Jenkins**


2


Jenkins > First-Jenkins-Pipeline >


 Back to Dashboard


 Status


 Changes


 Build Now


 Delete Pipeline

 Configure

 Full Stage View

 Rename

 Pipeline Syntax

 **Build History** [trend](#)

X


#5 Nov 27, 2019 1:50 PM


#4 Nov 27, 2019 1:38 PM

#3 Nov 27, 2019 1:18 PM


#2 Nov 27, 2019 1:16 PM

#1 Nov 27, 2019 1:05 PM

 [RSS for all](#)

 [RSS for failures](#)

Pipeline First-Jenkins-Pipeline

 [Recent Changes](#)

Stage View

Average stage times:
(Average full run time: ~6s)

#5
Nov 27
13:50

No Changes

#4
Nov 27
13:38

No Changes

#3
Nov 27
13:18

No Changes

#2
Nov 27
13:16

No Changes

Declarative: Checkout SCM	Build	Test	Deploy
3s	130ms	106ms	91ms
3s	130ms	106ms	91ms

epam

Jenkins Pipeline

← → ↺ 🏠 ⓘ Не защищено | 192.168.88.214:8080/job/First-Jenkins-Pipeline/5/console



Jenkins

Jenkins » First-Jenkins-Pipeline » #5

- 📁 Back to Project
- 🔍 Status
- 📄 Changes
- 🖥️ Console Output
 - 📄 View as plain text
- 📖 Edit Build Information
- 🗑️ Delete build '#5'
- 📄 Git Build Data
- 🏷️ No Tags
- 🔄 Restart from Stage
- 🎬 Replay
- ⚙️ Pipeline Steps
- 📁 Workspaces
- 🏠 Previous Build




Console Output

```
Started by user student
Obtained jenkinsfiles/test.jenkins from git git@github.com:dimdimuzun/Test-Jenkins-Pipeline.git
Running in Durability level: MAX_SURVIVABILITY
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/First-Jenkins-Pipeline
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Declarative: Checkout SCM)
[Pipeline] checkout
using credential github-ssh-key-new
Cloning the remote Git repository
Cloning repository git@github.com:dimdimuzun/Test-Jenkins-Pipeline.git
> git init /var/lib/jenkins/workspace/First-Jenkins-Pipeline # timeout=10
Fetching upstream changes from git@github.com:dimdimuzun/Test-Jenkins-Pipeline.git
> git --version # timeout=10
using GIT_SSH to set credentials github-ssh-key-new
> git fetch --tags --progress git@github.com:dimdimuzun/Test-Jenkins-Pipeline.git +refs/heads/*:refs/remotes/origin/* # timeout=10
> git config remote.origin.url git@github.com:dimdimuzun/Test-Jenkins-Pipeline.git # timeout=10
> git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
> git config remote.origin.url git@github.com:dimdimuzun/Test-Jenkins-Pipeline.git # timeout=10
Fetching upstream changes from git@github.com:dimdimuzun/Test-Jenkins-Pipeline.git
using GIT_SSH to set credentials github-ssh-key-new
> git fetch --tags --progress git@github.com:dimdimuzun/Test-Jenkins-Pipeline.git +refs/heads/*:refs/remotes/origin/* # timeout=10
> git rev-parse refs/remotes/origin/master^{commit} # timeout=10
.....
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

Jenkins for Java app using Maven

← → ↻ 🏠 <https://maven.apache.org/download.cgi>

🔍 Cepaxov ★ Bookmarks 📁 C/C++ 📁 LINUX 📁 PASHOE 📁 MOOC 📁 AWS 📁 Python 📁 Academy 📁 GL 📁 Networking 📁 BASH

 **Apache Maven Project**
<http://maven.apache.org/>

Apache / Maven / Download Apache Maven

Welcome

License

ABOUT MAVEN

What is Maven?

Features

Download

Use

Release Notes

DOCUMENTATION

Maven Plugins

Index (category)

User Centre

Plugin Developer Centre

Maven Central Repository

Maven Developer Centre

Books and Resources

Security

COMMUNITY

Community Overview

Project Roles

How to Contribute

Getting Help

Issue Management

Getting Maven Source

The Maven Team

Downloading Apache Maven 3.6.3

Apache Maven 3.6.3 is the latest release and recommended version for all users.

The currently selected download mirror is <https://apache.volia.net/>. If you encounter a problem with mirrors, see [this page](#).

Other mirrors:

System Requirements

Java Development Kit (JDK)	Maven 3.3+ require JDK 1.7 or above to execute - they
Memory	No minimum requirement
Disk	Approximately 10MB is required for the Maven installation
Operating System	No minimum requirement. Start up scripts are included a

Files

Maven is distributed in several formats for your convenience. Simply pick a ready-made binary distribution. In order to guard against corrupted downloads/installations, it is highly recommended to verify the checksums of the downloaded files.

	Link
Binary tar.gz archive	apache-maven-3.6.3-bin.tar.gz
Binary zip archive	apache-maven-3.6.3-bin.zip
Source tar.gz archive	apache-maven-3.6.3-src.tar.gz
Source zip archive	apache-maven-3.6.3-src.zip

← → ↻ 🏠 <https://maven.apache.org/guides/getting-started/maven-in-five-minutes.html>

🔍 Cepaxov ★ Bookmarks 📁 C/C++ 📁 LINUX 📁 PASHOE 📁 MOOC 📁 AWS 📁 Python 📁 Academy 📁 GL 📁 Networking 📁 BASH 📁 AWK 📁 Python 📁 KB 📁 EDU 📁 Docker 📁 Vagrant

Apache / Maven / Maven in 5 Minutes

Welcome

License

ABOUT MAVEN

What is Maven?

Features

Download

Use

Release Notes

DOCUMENTATION

Maven Plugins

Index (category)

User Centre

Maven in 5 Minutes

Getting Started Guide

Getting Help

Running Maven

Configuring Plugins

Creating a site

Archetypes

Repositories

Guides

Settings Reference

POM Reference

FAQ

Plugin Developer Centre

Maven Central Repository

Maven Developer Centre

Books and Resources

Maven in 5 Minutes

Prerequisites

You must have an understanding of how to install software on your computer. If you do not know how to do this, please ask someone at your office, school, etc or pay someone to explain this to you.

Installation

Maven is a Java tool, so you must have [Java](#) installed in order to proceed.

First, [download Maven](#) and follow the [installation instructions](#). After that, type the following in a terminal or in a command prompt:

```
mvn --version
```

It should print out your installed version of Maven, for example:

```
Apache Maven 3.6.3 (cecd9343002696d065964694d68778161b8602833f)
Maven home: D:\apache-maven-3.6.3\apache-maven\bin\..
Java version: 1.8.0_232, vendor: AdoptOpenJDK, runtime: C:\Program Files\AdoptOpenJDK\jdk-8.0.232.09-hotspot\jre
Default locale: en_US, platform encoding: cp1259
OS name: "windows 10", version: "10.0", arch: "amd64", family: "windows"
```

Depending upon your network setup, you may require extra configuration. Check out the [Guide to Configuring Maven](#) if necessary.

If you are using Windows, you should look at [Windows Prerequisites](#) to ensure that you are prepared to use Maven on Windows.

Creating a Project

You will need somewhere for your project to reside, create a directory somewhere and start a shell in that directory. On your command line, execute the following Maven goal:

```
mvn archetype:generate -DgroupId=com.mycompany.app -DartifactId=my-app -DarchetypeArtifactId=maven-archetype-quickstart -DarchetypeVersion=1.4 -DinteractiveMode=false
```

If you have just installed Maven, it may take a while on the first run. This is because Maven is downloading the most recent artifacts (plugin jars and other files) into your local repository. You may also notice that the remote server may time out before your downloads are complete. Don't worry, there are ways to fix that.

You will notice that the generate goal created a directory with the same name given as the artifactId. Change into that directory.

```
cd my-app
```

Jenkins for Java app using Maven

```
quick connect...
student@ubuntu16srvr:~/github/my_maven_app$ tree
.
|-- my-app
|   |-- pom.xml
|   |-- src
|       |-- main
|           |-- java
|               |-- com
|                   |-- mycompany
|                       |-- app
|                           |-- App.java
|       |-- test
|           |-- java
|               |-- com
|                   |-- mycompany
|                       |-- app
|                           |-- AppTest.java
--
12 directories, 3 files
student@ubuntu16srvr:~/github/my_maven_app$ cat my-app/src/main/java/com/mycompany/app/App.java
package com.mycompany.app;

/**
 * Hello world!
 */
public class App
{
    public static void main( String[] args )
    {
        System.out.println( "Hello World!" );
    }
}

student@ubuntu16srvr:~/github/my_maven_app$ cat my-app/src/test/java/com/mycompany/app/AppTest.java
package com.mycompany.app;

import static org.junit.Assert.assertTrue;
import org.junit.Test;

/**
 * Unit test for simple App.
 */
public class AppTest
{
    /**
     * Rigorous Test :-)
     */
    @Test
    public void shouldAnswerWithTrue()
    {
        assertTrue( true );
    }
}

student@ubuntu16srvr:~/github/my_maven_app$
```

```
student@ubuntu16srvr:~/github/my_maven_app$ echo $PATH
/home/student/bin:/home/student/.local/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
student@ubuntu16srvr:~/github/my_maven_app$ export PATH="$PATH:/home/student/apache-maven-3.6.3/bin"
student@ubuntu16srvr:~/github/my_maven_app$ export PATH="$PATH:/home/student/apache-maven-3.6.3/bin"
student@ubuntu16srvr:~/github/my_maven_app$ mvn -version
Apache Maven 3.6.3 (cecedd343002696d0abb50632b541b8a6ba2883f)
Maven home: /home/student/apache-maven-3.6.3
Java version: 1.8.0_222, vendor: Private Build, runtime: /usr/lib/jvm/java-8-openjdk-amd64/jre
Default locale: en_US, platform encoding: UTF-8
OS name: "linux", version: "4.4.0-131-generic", arch: "amd64", family: "unix"
```

```
quick connect...
student@ubuntu16srvr:~/github/my_maven_app$ cd my-app/
student@ubuntu16srvr:~/github/my_maven_app/my-app$ mvn test
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.mycompany.app:my-app >-----
[INFO] Building my-app 1.0-SNAPSHOT
[INFO]
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ my-app ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory /home/student/github/my_maven_app/my-app/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ my-app ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ my-app ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory /home/student/github/my_maven_app/my-app/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ my-app ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-surefire-plugin:2.22.1:test (default-test) @ my-app ---
[INFO]
[INFO] -----T E S T S-----
[INFO]
[INFO] Running com.mycompany.app.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.086 s - in com.mycompany.app.AppTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] -----B U I L D   S U C C E S S-----
[INFO]
[INFO] Total time: 3.083 s
[INFO] Finished at: 2020-10-08T07:47:54+03:00
[INFO]
student@ubuntu16srvr:~/github/my_maven_app/my-app$
```


Jenkins for Java app using Maven

The image displays three screenshots of the Jenkins web interface, illustrating the configuration process for a Java application using Maven.

Left Screenshot: Jenkins Global Tool Configuration

- Gradle:** Shows the "Add Gradle" button and a list of installations.
- Ant:** Shows the "Add Ant" button and a list of installations.
- Maven:** Shows the "Add Maven" button. The "Maven" section is expanded, showing the "Name" field set to "maven-3.63", the "Install automatically" checkbox checked, and the "Install from Apache" section with "Version" set to "3.6.3". Below this is the "Add Installer" button.
- Docker:** Shows the "Add Docker" button and a list of installations.
- Buttons: "Save" and "Apply" are at the bottom.

Middle Screenshot: Jenkins Job Configuration (http://192.168.88.214:8080/job/java_maven_test/configure)

- General Tab:** Shows the "Description" field set to "1st maven". Below it, the "Discard old builds" checkbox is unchecked, and the "GitHub project" checkbox is checked. The "Project url" field is set to "https://github.com/dimdimuzun/java-test.git".
- Source Code Management Tab:** Shows the "Repository URL" field set to "https://github.com/dimdimuzun/java-test.git".
- Buttons: "Save" and "Apply" are at the bottom.

Right Screenshot: Jenkins Job Configuration (Build Environment Tab)

- Build Environment:** Shows the "Delete workspace before build starts" checkbox checked. Below it, the "Advanced..." button is visible.
- Build:** Shows the "Invoke top-level Maven targets" section with "Maven Version" set to "maven-3.63" and "Goals" set to "clean test".
- Post-build Actions:** Shows the "Add post-build action" button.
- Buttons: "Save" and "Apply" are at the bottom.

Jenkins for Java app using Maven

← → ↺

Не защищено | http://192.168.88.214:8080/job/Java_maven_test/5/console

Сервисы

★ Bookmarks

📁 CUCD

📁 LINUX

📁 РАЗНОЕ

📁 MOOC

📁 AWS

📁 Python

Сервисы

★ Bookmarks

📁 CUCD

📁 LINUX

📁 РАЗНОЕ

📁 MOOC

📁 AWS

📁 Python

Academy

GL

Networking

BASH

AWK


Python

📁 K8

EDU

Docker

Vacancies

 Jenkins

Jenkins » Java_maven_test » #5

🏠 Back to Project

🔍 Status

📁 Changes

🖨 Console Output

📄 View as plain text


📁 Edit Build Information

🗑 Delete build '5'

📁 Git Build Data

📁 No Tags

🏠 Previous Build

 Console Output

Skipping 32 KB. [Full Log](#)

202 kB | 52 kB | 66/222 kB

Progress (3): 93/202 kB | 52 kB | 66/222

Progress (3): 93/202 kB | 52 kB | 69/222

Progress (4): 93/202 kB | 52 kB | 69/222

Progress (4): 93/202 kB | 52 kB | 69/222

Progress (4): 93/202 kB | 52 kB | 69/222

Progress (4): 93/202 kB | 52 kB | 69/222

Progress (4): 96/202 kB | 52 kB | 69/222

Progress (4): 96/202 kB | 52 kB | 71/222

Progress (4): 96/202 kB | 52 kB | 74/222

Progress (4): 96/202 kB | 52 kB | 77/222

Progress (5): 96/202 kB | 52 kB | 77/222

Progress (5): 96/202 kB | 52 kB | 77/222

Progress (5): 96/202 kB | 52 kB | 77/222

Progress (5): 96/202 kB | 52 kB | 77/222

Progress (5): 96/202 kB | 52 kB | 77/222

Jenkins » Java_maven_test » #5

Downloaded from central: <https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-junit4/2.22.1/surefire-junit4-2.22.1.pom> (3.1 kB at 34 kB/s)

Downloading from central: <https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-providers/2.22.1/surefire-providers-2.22.1.pom>

Progress (1): 2.5 kB

Downloaded from central: <https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-providers/2.22.1/surefire-providers-2.22.1.pom> (2.5 kB at 28 kB/s)

Downloading from central: <https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-junit4-2.22.1.jar>

Progress (1): 4.1/85 kB

Progress (1): 8.2/85 kB

Progress (1): 12/85 kB

Progress (1): 16/85 kB

Progress (1): 20/85 kB

Progress (1): 25/85 kB

Progress (1): 29/85 kB

Progress (1): 33/85 kB

Progress (1): 37/85 kB

Progress (1): 41/85 kB

Progress (1): 45/85 kB

Progress (1): 49/85 kB

Progress (1): 53/85 kB

Progress (1): 57/85 kB

Progress (1): 61/85 kB

Progress (1): 66/85 kB

Progress (1): 70/85 kB

Progress (1): 74/85 kB

Progress (1): 78/85 kB

Progress (1): 82/85 kB

Progress (1): 85 kB

Downloaded from central: <https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-junit4/2.22.1/surefire-junit4-2.22.1.jar> (85 kB at 755 kB/s)

[INFO]

[INFO] -----

[INFO] T E S T S

[INFO] -----

[INFO] Running com.mycompany.app.AppTest

[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.131 s - in com.mycompany.app.AppTest

[INFO]

[INFO] Results:

[INFO]

[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0

[INFO]

[INFO] -----

[INFO] BUILD SUCCESS

[INFO] -----

[INFO] Total time: 23.209 s

[INFO] Finished at: 2020-10-07T15:05:32+03:00

[INFO] -----

Finished: SUCCESS

Deployment-strategies

<https://thenewstack.io/deployment-strategies/>

https://docs.okd.io/latest/dev_guide/deployments/deployment_strategies.html

<https://azure.microsoft.com/en-us/blog/deployment-strategies-defined/>

Recreate: Version A is terminated then version B is rolled out.

Ramped (also known as rolling-update or incremental): Version B is slowly rolled out and replacing version A.

Blue/Green: Version B is released alongside version A, then the traffic is switched to version B.

Canary: Version B is released to a subset of users, then proceed to a full rollout.

A/B testing: Version B is released to a subset of users under specific condition.

Shadow: Version B receives real-world traffic alongside version A and doesn't impact the response.

Q&A

A light blue world map is centered in the background, showing the outlines of continents and countries. The map is slightly faded and serves as a backdrop for the text.

Thank you!