

Jenkins_Lab-01

01) What is Jenkins used for?

Jenkins is an open source continuous integration/continuous delivery and deployment (CI/CD) automation software DevOps tool written in the Java programming language. It is used to implement CI/CD workflows, called pipelines.

02) What is Jenkins agent? What is Jenkins executor (Build Executor)?

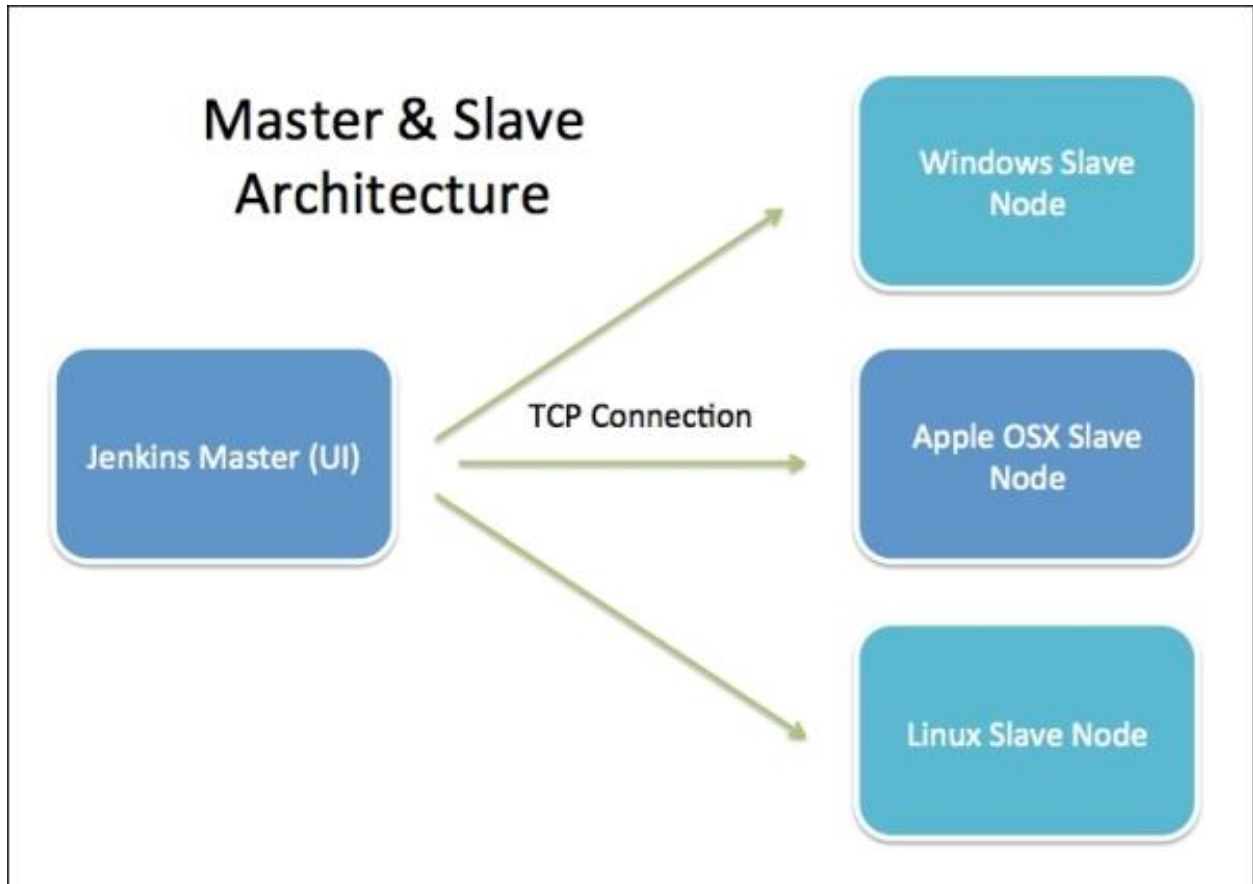
An agent is typically a machine, or container, which connects to a Jenkins controller and executes tasks when directed by the controller

A Jenkins executor is one of the basic building blocks which allow a build to run on a node/agent

03) Explain Jenkins master-slave architecture?

A Jenkins slave node is simply a device configured to act as an automation executor on behalf of the master

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04) Install jenkins with docker image.

The screenshot shows the Jenkins Dashboard in a web browser at localhost:8080. The dashboard includes a sidebar with links to "New Item", "People", "Build History", "Manage Jenkins", and "My Views". The main content area displays a table of build history for the "my-freestyle-project".

S	W	Name ↓	Last Success	Last Failure	Last Duration
✓	☁	my-freestyle-project	6 min 15 sec #13	7 min 56 sec #12	0.12 sec

Below the table, there is a "Build Queue" section showing "No builds in the queue." and a "Build Executor Status" section showing "1 Idle".

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05) Create free style project and link it to private git repo containing any dockerfile then build an image from this dockerfile and push it to private docker repo

The image shows two screenshots from a web browser. The top screenshot is the Jenkins 'Configure' page for a job named 'my-freestyle-project'. The 'Build Steps' tab is selected, showing a single step named 'Execute shell'. The command field contains the following Docker commands:

```
docker build -t mohamedazzam/jenkins-images:2 .
docker login -u $USER -p $PASSWORD
docker push mohamedazzam/jenkins-images:2
```





Below the command field is an 'Advanced...' button. At the bottom of the configuration page are 'Save' and 'Apply' buttons. The bottom screenshot is the Docker Hub repository page for 'mohamedazzam / jenkins-images'. The 'General' tab is active, showing the repository name, a description field (currently empty), and the last pushed time ('a few seconds ago'). On the right, there are 'Docker commands' and an 'Automated Builds' section. The 'Tags' section shows two tags:

Tag	OS	Type	Pulled	Pushed
2	linux	Image	---	a few seconds ago
1	linux	Image	---	a minute ago


On the right side of the Docker Hub page, there is a 'Docker commands' section with the command: `docker push mohamedazzam/jenkins-images:tagname`. Below that is an 'Automated Builds' section with a description and an 'Upgrade' button. At the bottom right, there is an 'Activate Windows' watermark.

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Credentials

T	P	Store ↓	Domain	ID	Name
	 System		(global)	github-token	MohamedAzzam3/******
	 System		(global)	docker-hub	mohamedazzam/******

Stores scoped to Jenkins

P	Store ↓	Domains
 System		(global)

Activate Windows
Go to Settings to activate