

① Jenkins is an open source automation server. It helps automate the parts of software development related to building, testing and deploying, facilitating continuous integration and continuous delivery. It is a server-based system that runs in servlet containers such as apache Tomcat ---

② From the Jenkins home page we can follow these steps belows
jenkins dash board → Manage Jenkins → ~~Manage~~ Manage Credentials
under stores scoped to Jenkins on the right, click on Jenkins.
under system click the global credentials (unrestricted) link to access this default domain → click add credentials.

③ Continuous integration is a process of integrating code changes from multiple developers in a single project many times.
Continuous integration is a software development process where a code is continuously tested after a commit to ensure there are no bugs.

④ git cherry-pick is a powerful command that enables arbitrary git commit to be picked by reference and append to the current working HEAD.

cherry pick is the act of picking a commit from a branch and applying it to another. git cherry-pick can be useful for undoing changes.

⑤ To setup a Jenkins job we can follow these steps
a- login to Jenkins; b- create new item; c- enter item details;
d- enter project details; e- enter repository URL; f- Tweak settings
g- build source code and h- check the status.

⑥ To ~~assign~~ create a role we can login to the Jenkins Dashboard, choose the options ~~create~~ ~~create a~~ manage and assign roles → next Manage Roles → next Role name and select Add. To assign this role to a user create a "new user" then go to Manage Jenkins → Configure global security → under Authorization select Role based strategy and finally click on save.

⑦ git checkout [branch name] is issued after creating a branch to switch to that branch from the main branch. And the git checkout -b is ~~is~~ issued to create a branch and immediately switch from the main branch to that branch newly created.

⑧ The difference between a pull request and cherry pick are --
* git pull is just a synonym for two commands (git fetch and git merge). It creates a new commit with your local head and the head of the remote branch you just fetched as its parent.
* git cherry pick is different. Instead of creating a commit with two ~~others~~ commits as parent, it creates a commit with just your local head as its parent. Cherry pick doesn't bring two branches together; it just extends your local branch by one more node.

⑨ To ~~create~~ install a plugin in Jenkins: we can go to manage Jenkins → manage plugins → available → search for the plugin we wish to install → ~~click~~ select and click on the plugin and finally click on install without restart button.

⑩ An Agent is a machine, or container which connects to a Jenkins controller and executes tasks when directed by the controller. Artifact

To create an agent in Jenkins here are the steps
Go to dashboard → Manage Jenkins → Manage node and clouds
→ select new Node → Fill the Node/Agent Name and select type
permanent Agent → fill the fields and save.
