YOUTUBE ON GAURAV SHARMA

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6:01 PM WED.

JENKINS :-

What is Jenkins?

It is an open source automation tool written in java with plugins built for CI purpose. Plugins allows integration of various DevOps Stages.

- Jenkin Plugins
  - Git for version control
  - Maven Built
  - Nagois Continuous Monitoring.
  - Gee Continuous Testing.
  - Puppet Configuration Management
  - Ansible Continuous Deployment.

INSTALLING JENKINS :-

- Add Repo
- Add Debian pkg repository address to the server's sources list.
- Sudo apt update
- Sudo apt install jenkins

JENKINS OVERVIEW

- In search bar, you type Job name, followed by its build no. so it can be used as a navigation.

- Manage Jenkins :

SYSTEM CONFIGURATION :-
- Configure System.
- Global Tool configuration
- Manage plugins
- Manage nodes and Clouds.

STATUS INFO
~~Summary~~ :
- System info
- System log

SECURITY
- Configure Global Security.
- Manage Credentials.

MANAGE PLUGINS

- It may be possible that some option may not appear in Jenkins configuration so you need to install that through Jenkins plugin.

Example:

- Search in tab of Available Plugins so may find your desire one.

CREATE USER :-

- Goto to manage Jenkins tab and create new user

JENKINS ROLE BASED ACCESS CONTROL:-

- Goto manage Jenkins, Goto/Search role base Authorization Stralegy.
- Goto Configure Global security, select your stralegy and apply & save.

- Manage role (Add, delete, Edit Role)
- Assign role (Apply role on user

GIT PLUGIN :-

- Add repo on Git
- Copy Git URL repo and paste in Jenkins Job.
- Add some command.
- Select branch i.e. master/main

TRIGGER BUILD REMOTELY :-

- In order to trigger your build from web URL, you need to configure it in Job. after that you set secret token i.e (mysecrettoken) then you copy that URL from their and place it in address bar of browser.
- It may lead you to authentication tab so you need "Build Authorization Token Root" plugin for this.

- You need to copy URL from Plugin example then after changes in Job name and token. you will be able to execute that URL.
- This URL will trigger a build on Jenkins

* Build after other project are built.
* Build periodically.
* Github hook trigger for GITSCM polling
* Poll SCM (SCM = Source Code Management)

- The difference between Build periodically and Poll SCM is that Build periodically will cont. to run job like cron/schedule while Poll SCM check the source code like GIT then execute this Job.

ENVIRONMENT VARIABLE :-

If I want to print my name then, I will goto execute shell prompt and write

```
name = Zohaib
echo "Hello, my name is ${name}"
```

- Jenkin add some environmental variable in your script and you may see the list is available below tab of execute shell prompt.

like
echo "My Build ID is ${BUILD_ID}"
echo "Job name is ${JOB_NAME}"

GLOBAL ENVIR VARIABLE :-

echo ${GLOBAL_VAR}

It will show anything so you should goto configure in configuration tab, then Global properties and check Environment variables

- Name = GLOBAL_VAR
  value = my test Global var.

PARAMETERIZED JOBS IN JENKIN

echo "Hello ${name}"

now goto general tab and mark/check "this project is Parameterized". In string format and Trim the string means it will remove space from input.

CONCURRENT OR PARALLEL JOB :-

Check mark "Execute concurrent build if necessary"

RETRY COUNT :-

It will retry to connect from SCM i.e 3. may be due to lack of internet.

THROTTLE BUILD :-

It will take time to build another build interval.

CUSTOM WORKSPACE :-

Jenkins create a folder which he say workspace for every Job that we create

/var/lib/Jenkins/workspace/Job_name

Goto General tab, in Advance tab Use custom workspace.

- CHANGE DISPLAY NAME :-

In Advance tab of General change display name, You may also change Project name.

Boolean: For True and False
Choice : will create a drop down list

PARAMETERIZED JOB 2 :-

- Password Parameter: To change password
- Multiline parameter: For multiple lines
- File Parameter: File location filePath and execute shell with cat filePath so it will show on console the file content

TIME OUT

Goto Build environment and check "Abort the build if it is stuck" and set minute 3

TIME STAMP

echo "This is current time" and check mark of build environment i.e "Add timestamp to the console output"

ENABLE /DISABLE PROJECT :-

You may disable project in two way so it will hide "build Now" tab

Block Build When Upstream/Downstream Job is Building:-

Upstream Project → Parent Job

Downstream Project → Child Job

by clicking block build when upstream project is building and vise versa

Pipeline Creation:-

Create two project (Free style) with any name like project1-built and project1-test-deploy

Now install plugin "build Pipeline"

Now come into project1-build and in section post-build Action → build other project i.e project1-test-deploy.

- now select "+" for initial build pipeline view

here select job i.e project1-build

CI/CD

The main difference in Continuous delivery has manual intervention while continuous deployment is automatic on production