

Topic 1

execute a Job and store a o/p in one file

steps:

New Item (job) → Enter Name → select freestyle

- Job → configure Job → click Add build Step and select Execute SHELL and Enter below command in Execute SHELL

NAME = SWAPNIL

echo "Hello, \$NAME. Current date and time is
\$(date)" > /home/documents/filename.txt

execute a Job using SHELL script (script.sh)

use same steps as above and Enter below command in Execute shell, but before create on shell script in any system path and Enter that path in SHELL

NAME = SWAPNIL

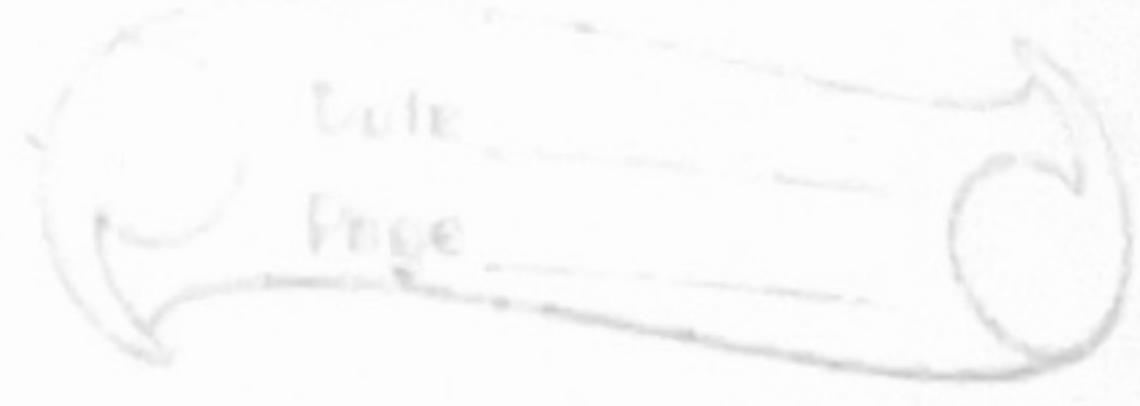
LASTNAME = MAHAJAN

/home/devops/documents/script.sh \$NAME \$LASTNAME

execute a Job using string, choice Parameter and boolean Parameter using shell script

go to Job → click on This project is parameterized





* select 1st string Parameter Enter value

↓ Create bmc do a success #

then,

select choice parameter Enter Name

and choices

then,

select boolean Parameter Enter Name

and select ~~show~~ Default value

After,

Edit script.sh file and enter below command

path /script.sh \$string parameter name

\$choice parameter name

\$boolean -1- +

NAME=SHAHIL

NAME=SHAHIL

NAME=SHAHIL

for loop, print price do a success #

time bmc price information passed bmc

Harmonia ei tajte risti do bmc ← do of ob

pass

Topic 2

Step.1 Create one container after creating a container install all required SW for that use Dockerfile

Step.2 goto Manage Jenkins

Manage Plugins

Install SSH plugin

Step.3

Manage Jenkins

credentials

configure System

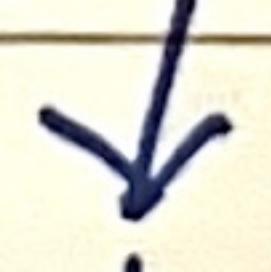
Add credentials

Select SSH UN with private key

Enter Username

click on private key i.e
Enter directly

Wan tuqdo vno ← bmo(mo)



COPY All content from remote key

i.e private and Paste in the

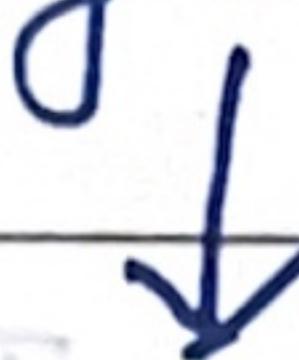
Enter directly



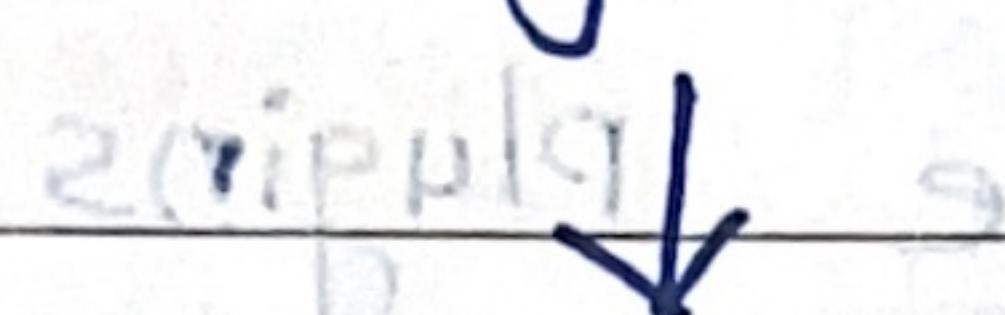
↓ next

→ click **OK**

Step. 4 Manage Jenkins



→ configure ~~settings~~ System



→ Select SSH remote hosts
then,

Hostname

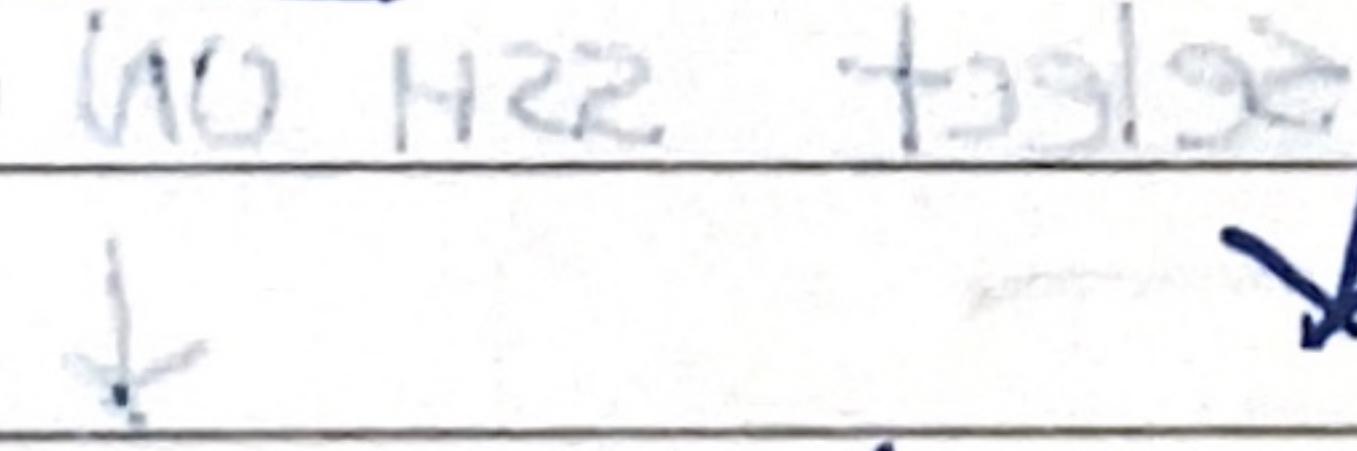
Port

credentials

→ save

↓ both Hosts
and **Save**

Step. 5 create one Job



↓

↓

click Add build Step and select

Execute shell script on remote host using

SSH site -



↓ Command → any output will

be stored on remote
host machine in one file.

Topic 3

① How To Enable / Disable Login in Jenkins

Manage Jenkins → Configure global security

Enable Security

② Jenkins' own user db

Uncheck the Allow user to sign up

go to the Authorization

③ Logged-in users can do Anything

Uncheck the Allows anonymous read access

SAVE IT.

② Allow users to sign-up

Manage Jenkins

Configure Global security → check the Allow user to sign-up.

SAVE IT.

③ Install A powerful security plugin

for providing a high security installed one plugin i.e. Role-based Authorization strategy

Manage Jenkins



Manage plugins → click on Available



Search Role-based Auth.strategy

click on it & install &

Restart it & check it is installed or not.

then,

Manage Jenkins → configure global security

click on Role-Based strategy and SAVE IT. After that

In Manage Jenkins you will see one new option is

Manage and Assign Roles

- ④ create user Manually in Jenkins DB

Manage Jenkins → Manage Users → create users

Now open a incognito window and open Jenkins Dashboard and try to login newly created users and signup users you will get Access Denied Errors.

- ⑤ create a Read only Role

for Removing access denied Errors give Role based Permission

Manage Jenkins → Manage and Assign

Manage Roles

Add Roles i.e (Read-only)

create Role i.e (Read-only)

give Read Permission and

Save it

⑥ Assign the Role that you created a particular user

Manage Jenkins



Manage and Assign Roles



Assign Roles

Add user

click on Read-only



SAVE it

then,

try to login using created user.

If you want to give any Job specific permission then follow

Manage Jenkins → Manage and Assign Roles

↓

Manage Roles

↓

go to the Jobs tab and click on Read and Save it. After that

he will get only job reading permission.

7 create a Role to execute Jobs, and assign that Role to user.

Manage Jenkins → Manage And Assign Roles

1st Manage Roles ie create a Role

2nd Assign a Role to user i.e., Job, Read, execute.

SAVE IT.

then, login to that user and build it and Read it.

8 How to Restrict Jobs to users Using Project Roles.

If we want Restrict only Some project to that user, then follow below steps.

Manage Jenkins

Manage and assign Roles

Manage Roles

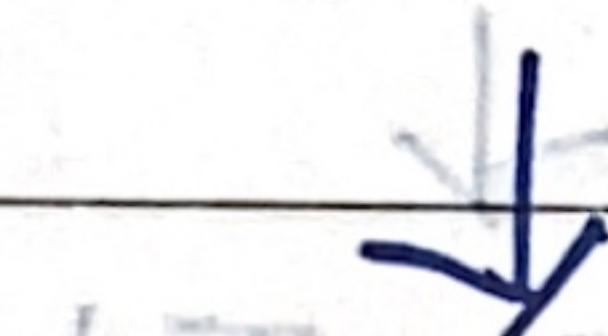
Date _____
Page _____

create one Global Role i.e (Read or write or exec)

create one Item Role i.e (Any Job name that is which Job you want to give access to any user that job name is item Role name)

Role to add —

Pattern — [name-*]



SAVE IT

click on Assign Role

Global Role access

item Role (select created item)

ie Mark check option.



Save it.

then,

Refresh the incognito browser

Topic 4

① Global Environment VARIABLE in Jenkins

→ When we use this Environment variable in Jenkins, If we want to send Build URL or Job Name or Build Name using email or other methods that time we use Environment variable.

Step. 1 → Go to google and type env variable in Jenkins. After getting list

Step. 2 Create a new Job

Execute SHELL

and type

echo "This is build no \$BUILD-NUMBER"

echo \$BUILD-ID

\$BUILD-URL

SAVE IT



Build it.

② create your own custom Environment Variable.

⇒ sometimes we want to define our own custom Env variable.

Manage Jenkins

Configure System

Global Properties

check the Environment variable.

click on Add button

Name → Name of variable (ex. NAME)

value → value for variable (ex. swapnil)

SAVE IT, then to go the respective

"Add environment variable" or click "edit" on job.

Execute SHELL

in Execute Shell define the created variable [ex. \$NAME]

SAVE IT

Build It

③ Modify the Jenkins URL

Manage Jenkins → Configure System
 ↓

Jenkins Location
 ↓

Change the Jenkins URL.

④ How to ~~create~~ execute a Job automatically using cron i.e (build periodically)

Create a new Job or go to Existing Job



Build Triggers

check the build periodically



Enter the cron value

Ex: If you want to execute a job in every minute

*	*	*	*	*
Minute	Hour	day of	Month	day of
		Month		week

Topic 5

① Install a mail plugin

Manage Jenkins



Manage Plugins → Install mailer plugin



check it and SAVE it

② Integrate Jenkins and Gmail

Manage Jenkins



Configure System → E-mail Notification



SMTP Server → smtp.gmail.com

Check use SMTP Authentication

Username (gmail id) → @gmail.com

Password → - - -

check the use SSL

SMTP Port → 465

check Test configuration by sending test e-mail Enter email.

@gmail.com



And then you need to enable less secure app in gmail then SAVE it & test it.
Gmail from to user1

③ Add notifications to Job

create a new job or go to existance Job

+ Save Post build Actions



click on E-mail Notification



Enter Email and SAVE it and Build it.



configuration file → enter configuration



smtp.gmail.com ← forward port

checkbox → use SMTP Authentication

username → (bitnami) user123

password → bitnami223

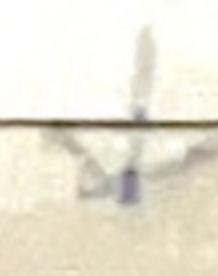
specify file → JRE 320

APP → targeting API

selected automatically → selected

names → name name test

mail-test



Topic 6

- ① Install the Maven and Git plugins.
(Maven)

Manage Jenkins

Install Maven Integration plugin

Restart it and check it

(Git)

Git plugin is already installed (in Jenkins)

- ② How to build a Jar using maven

Managed Jenkins

Global Tool configuration

Add Maven

Add → Name of maven & version

SAVE it

- create a new Job
- ↓
- git Repo
- ↓
- click on Add Build step & select Invoke top-level...
- maven
- version -
- Goals -
- ↓
- SAVE IT. & Build it

③ How to Deploy Jar Locally

Job configure



maven profile set as build or with

change the Maven

click on Build step & click on

Execute SHELL step. & enter the

whole Jar path ie in the before

creating execute shell Build a Job

w/o Execute shell then Jar path

is creating then copy Jar path

from console o/p. and paste in

the Execute SHELL

java -jar whole Jar path ie (workspace)

[Note → Add a manifest dependency in Pom.xml file push it and Build it.]

SAVE & Build it.

④ Display the result of test using graph

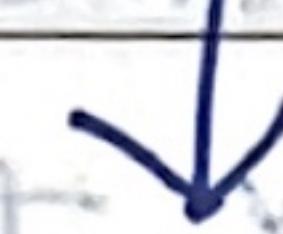
go to configuration Job



click on Post-build Actions and select Publish Junit test result report.



Enter the Path of Surefire-reports in the text box [ex. /target/surerep/*.xml]



SAVE IT & Build it

After Building in console O/P it will show graph.

⑤ Archive the Artifact.

configuration Job



click on post build Action

and select Archive the Artifact



Enter into the

Files to Archive

target/*.jar

textfield with this value



SAVE IT & Build it the Jar shown in O/P window.

Topic 9 Continuous Integration & Delivery

Topic 9

① Continuous Integration

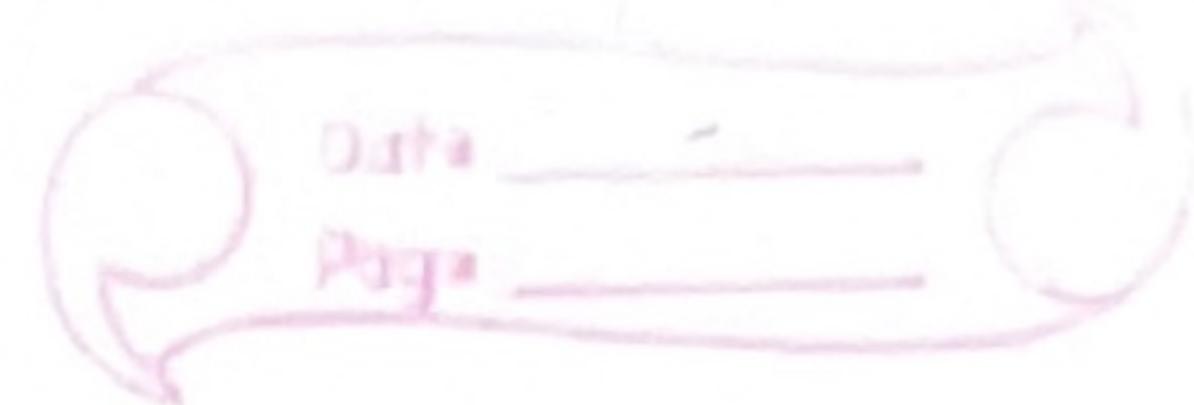
is nothing but take the new changes from github and build the application and test the application

② Continuous Delivery

is nothing but once the application jar or artifact is ready. the deploy the artifact on test environment i.e QA or UAT environment

③ Continuous Deployment

is the final steps once the build and test is complete on QA or UAT there is no manual process it is directly deploy on prod.



Topic 10 Master & Slave

Manage Jenkins

Manage nodes

Step.1 create one container

Create one user & and one directory
in container & give permission
to directory

Install Java, Maven, Git and
Tomcat also Install
openSSH-server and
sshpass

Step.2 Go to Jenkins

Note → Install
sshpass using
Notes, using
ssh-keygen Notes

Manage Jenkins

Manage Nodes

New Node

Node Name &
click on permanent Agent



Click on OK

Enter,

Name

DESC

Remote directo! (container directory)

use this node as much

Launch agent via SSH

Host : IP of container

Credential : Un & pw of container

known Host key verification

keep this agent online --

click on Tool Location and

Enter

jdk, Maven & git path.

go to job configuration

and select the

Restrict job and enter slave name

↓

But before do SSH on both
side & give permission to all folder.

trap tomorrow no jobs