

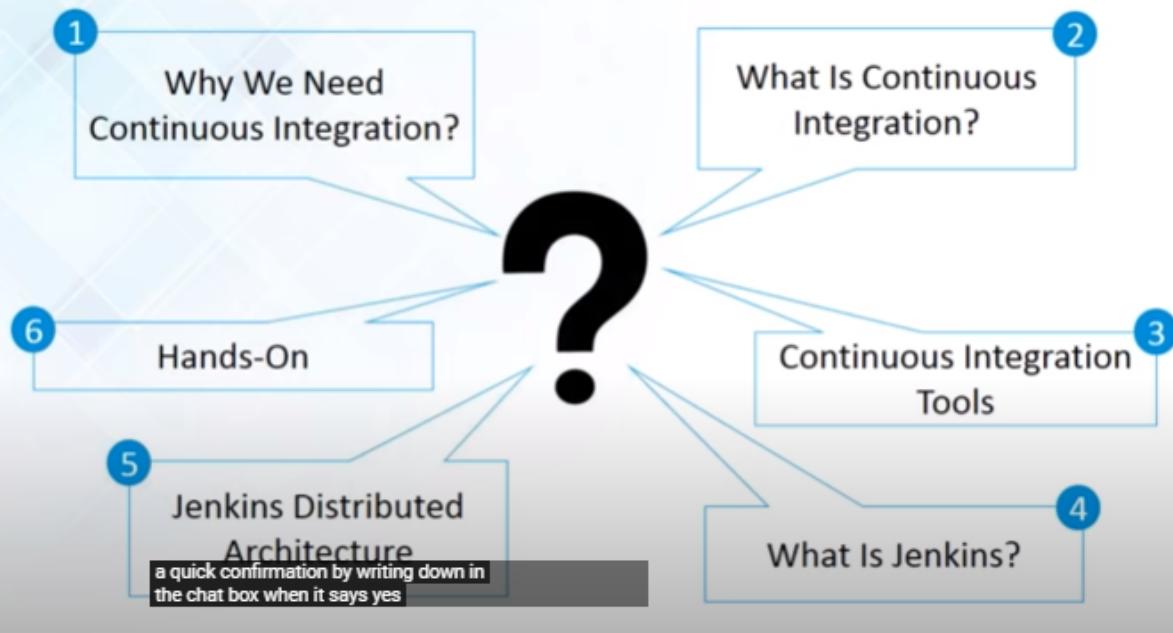
Jenkins

https://www.youtube.com/watch?v=pMO26j2OUME&list=PLy7NrYWoggjw_LIiDK1LXdNN82uYuuuiC

Quick Introduction to Jenkins

Do you know the following?

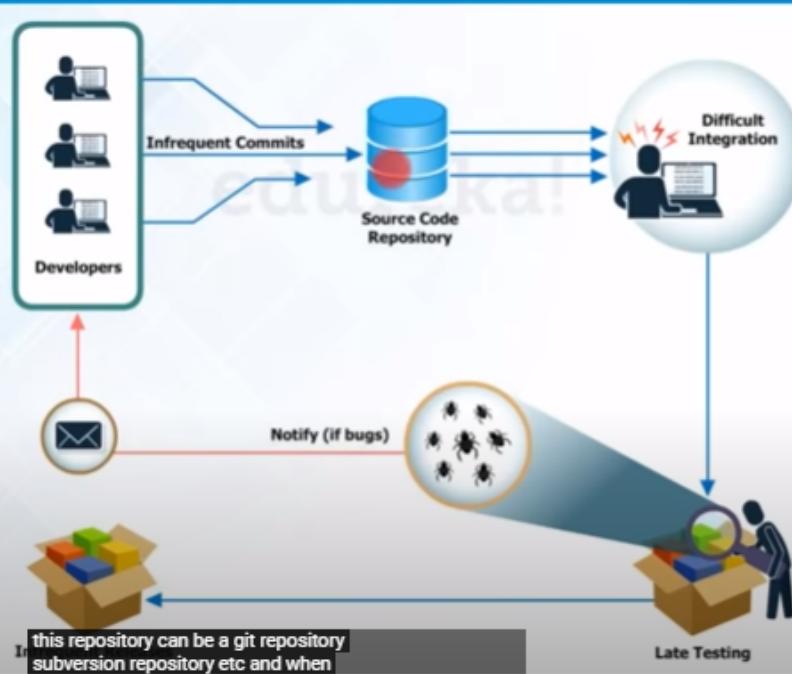
edureka!



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Process Before Continuous Integration

edureka!

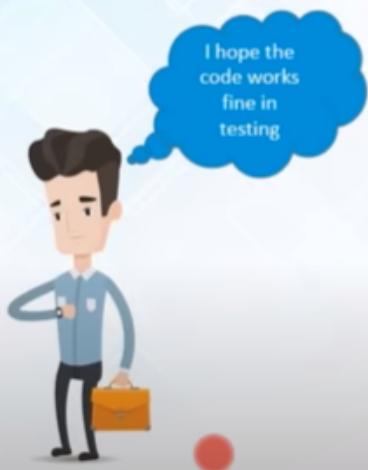


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Problems Before Continuous Integration

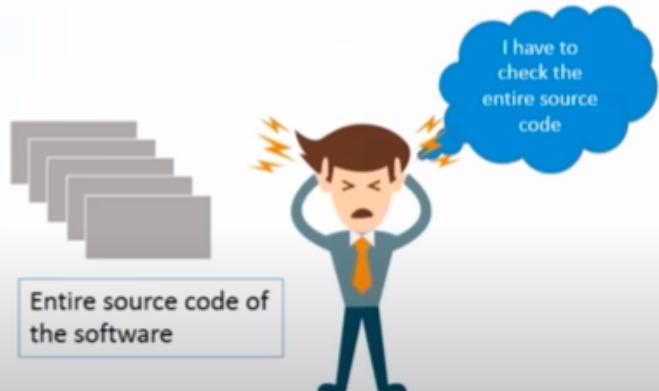
edureka!

Developers have to wait till the complete software is developed for the test results.



built and then only it will be deployed on to the test server for testing

If the test fails then locating and fixing bugs is very difficult. Developers have to check the entire source code of the software.



Entire source code of the software

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Problems Before Continuous Integration

edureka!

Software delivery process was slow



building new applications as we just saw

Continuous feedback pertaining to things like coding or architectural issues, build failures, test status etc. was not present

The Feedback loop
Build, Measure and Learn

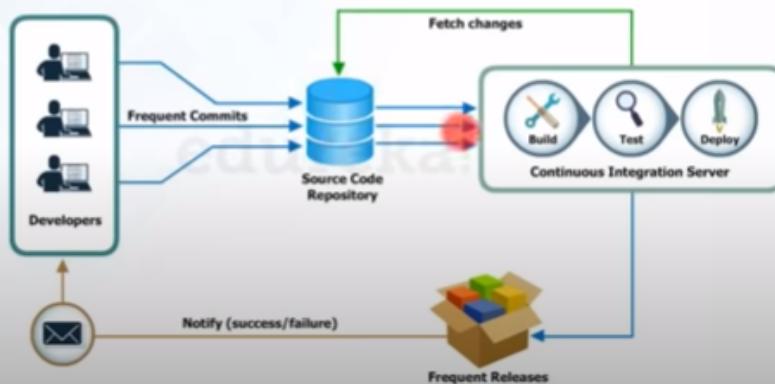


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Continuous Integration To The Rescue

edureka!

- Since after every commit to the source code an auto build is triggered and then it is automatically deployed on the test server
- If the test results shows that there is a bug in the code then the developers only have to check the last commit made to the source code
- This also increases the frequency of new software releases
- The concerned teams are always provided with the relevant feedback



SUBS

Continuous Integration To The Rescue

edureka!

Before Continuous Integration

The entire source code was built and then tested.

Developers have to wait for test results

No Feedback

After Continuous Integration

Every commit made in the source code is built and tested.

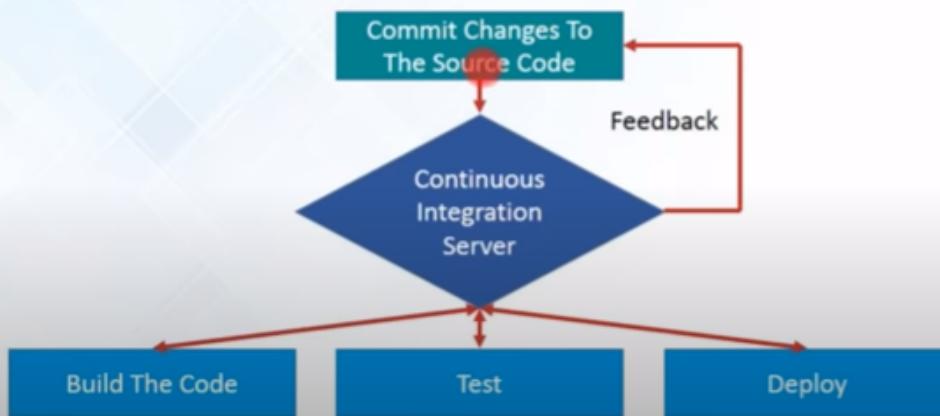
Developers know the test result of every commit made in the source code on the run

Feedback is present

SUBS
SUBSCRIBE

What Is Continuous Integration

- Continuous Integration is a development practice in which the developers are required to commit changes to the source code in a shared repository several times a day or more frequently.
- Every commit made in the repository is then built. This allows the teams to detect the problems early.

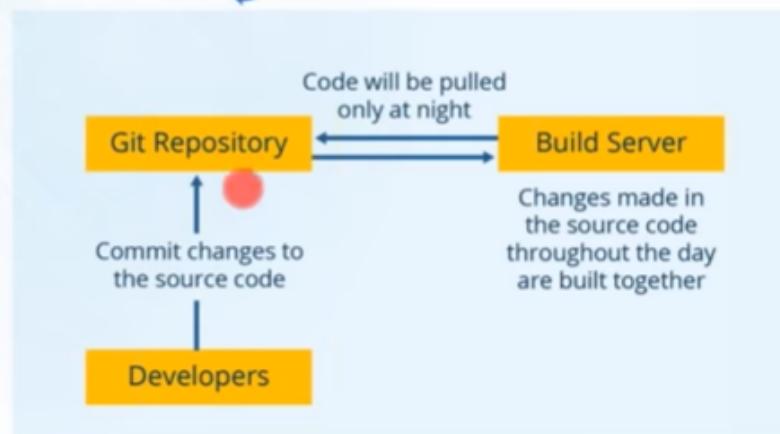


Continuous Integration Case-Study: Nokia

Problem Statement:



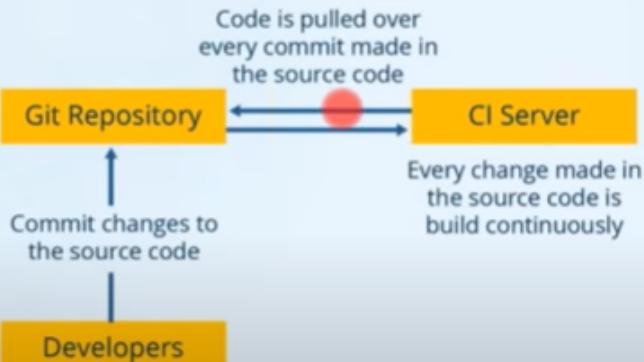
Nightly build



Solution:



Continuous Integration



Continuous Integration Tools

Suggested: DevOps Training Videos [\(i\)](#)



Jenkins



Buildbot



Travis CI

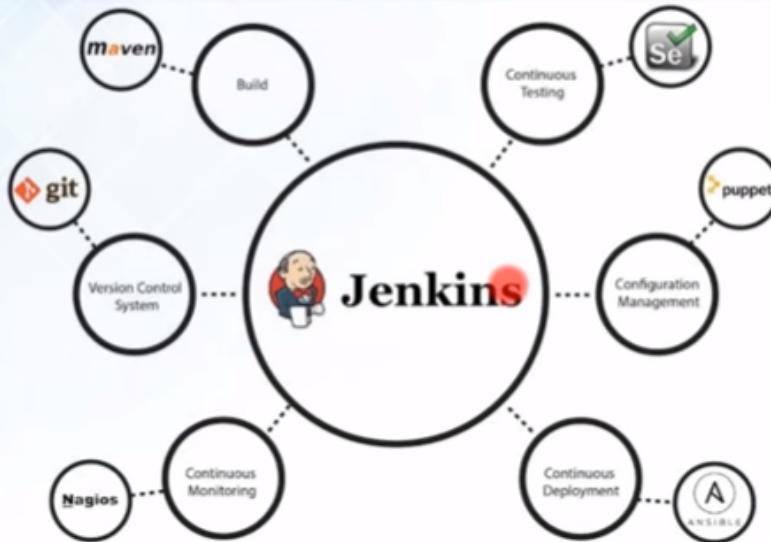
Atlassian
Bamboo

SUBS

What Is Jenkins?

edureka!

Jenkins is an open source automation tool written in Java with plugins built for Continuous Integration purpose. Plugins allows integration of various DevOps stages.

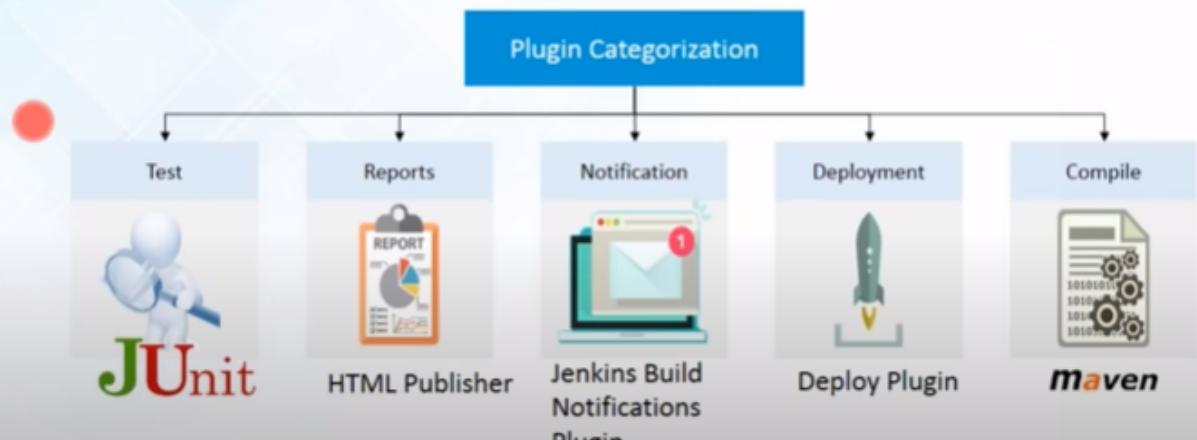


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Jenkins Plugins

edurek

Jenkins supports plugins, which allow Jenkins to be extended to meet specific needs of individual projects



Now to install the plugins :

Manage Jenkins [Jenkins] - Mozilla Firefox

localhost:8080/manage

Jenkins

Jenkins >

- New Item
- People
- Build History
- Manage Jenkins
- My Views
- Credentials

Build Queue
No builds in the queue.

Build Executor Status
1 Idle
2 Idle

Manage Jenkins

⚠ New version of Jenkins (2.32.1) is available for download ([changelog](#)).

- 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. ([updates available](#))
- System Information**
Displays various environmental information to assist trouble-shooting.
- Load Statistics**
Check your resources utilization and see if you need more computers for your builds.

need to click on manage and conduction and over

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We can install all the relevant plugins which are required here :

Update Center [Jenkins] - Mozilla Firefox

localhost:8080/pluginManager/available

Jenkins

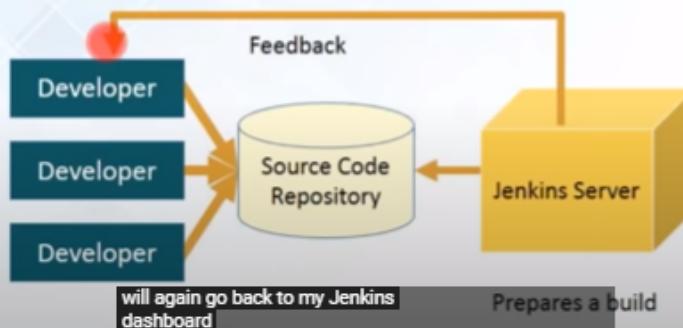
Jenkins > Plugin Manager

- Back to Dashboard
- Manage Jenkins
- Update Center

Filter: HTML

Updates	Available	Installed	Advanced
<input type="checkbox"/> NCover plugin			0.3
Archive and publish .NET code coverage HTML reports from NCover			
<input checked="" type="checkbox"/> HTML Publisher plugin			1.12
Publishes audio-notifications directly in the browser when builds fail			
bootstraped-multi-test-results-report			
<input type="checkbox"/> Cucumber reports			0.4
Allows you to have a pretty bootstraped HTML report of the test results generated by the automated tests for Cucumber / JUnit / RSpec / TestNG. Join chat for more details about the plugin, or visit repo or page .			
<input type="checkbox"/> Sahagin Plugin			1.4.24
This project provides pretty html reports for Cucumber. It works by generating html from the cucumber json report formatter. Can be used anywhere a json report is generated (Java, Ruby, JavaScript and other implementations).			
<input type="checkbox"/> Hudson Seleniumhq plugin			3.4.0
This plugin generates Sahagin HTML report from Sahagin test output data and attaches it to build.			
Selenium HTML report			
name of the plug-in here it is HTML publisher plug-in just click over			
Seleniumhq allows you to run and load HTML Selene suite result generate by Selenium Server from Seleniumhq . Jenkins will generate the trend report of test result. The Seleniumhq plug in can be downloaded here .			
SUBSCRIBE e!			

- Developers commit changes to the source code
- Continuous Integration server pulls that code and triggers a build



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e!

For example we will be using freestyle project as its easy to configure

localhost:8080/view/All/newJob

Search Edureka | log out

Enter an item name

Com

Code_Review
DEVELOPER_COMPILE

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.

Maven project
Build a maven project. Jenkins takes advantage of your POM files and drastically reduces the configuration.

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

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.

you can use any name that you want I'll just write compile on project

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

Now we will go to the Source code management to give path of repository

The screenshot shows the Jenkins job configuration interface for a job named "Compile Config [Jen...]" at the URL localhost:8080/job/Compile/configure. The "Source Code Management" tab is selected. Under the "Repositories" section, a single Git repository is configured with the URL <https://github.com/saurabh0010/houselannister.git> and no credentials. The "Branches to build" section specifies the branch specifier as `*/master`. A tooltip in the repository browser dropdown says: "name slash the name of your repository and finally dot get all right now".

In build option we have multiple build options from which we will select

The screenshot shows the Jenkins job configuration interface for the same job. The "Build Environment" tab is selected. Under "Build", a dropdown menu is open, showing various build step options: "Conditional step (single)", "Conditional steps (multiple)", "Execute Windows batch command", "Execute shell", "Invoke Ant", "Invoke Gradle script", and "Invoke top-level Maven targets". The "Invoke top-level Maven targets" option is highlighted with a blue selection bar. A tooltip in the dropdown says: "alright so what I'll do is click on invoke top-level maven".

Compile Config [Jen... x +

localhost:8080/job/Compile/configure

Jenkins > Compile >

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

Build Environment

Delete workspace before build starts
 Abort the build if it's stuck
 Add timestamps to the Console Output
 Use secret text(s) or file(s)

Build

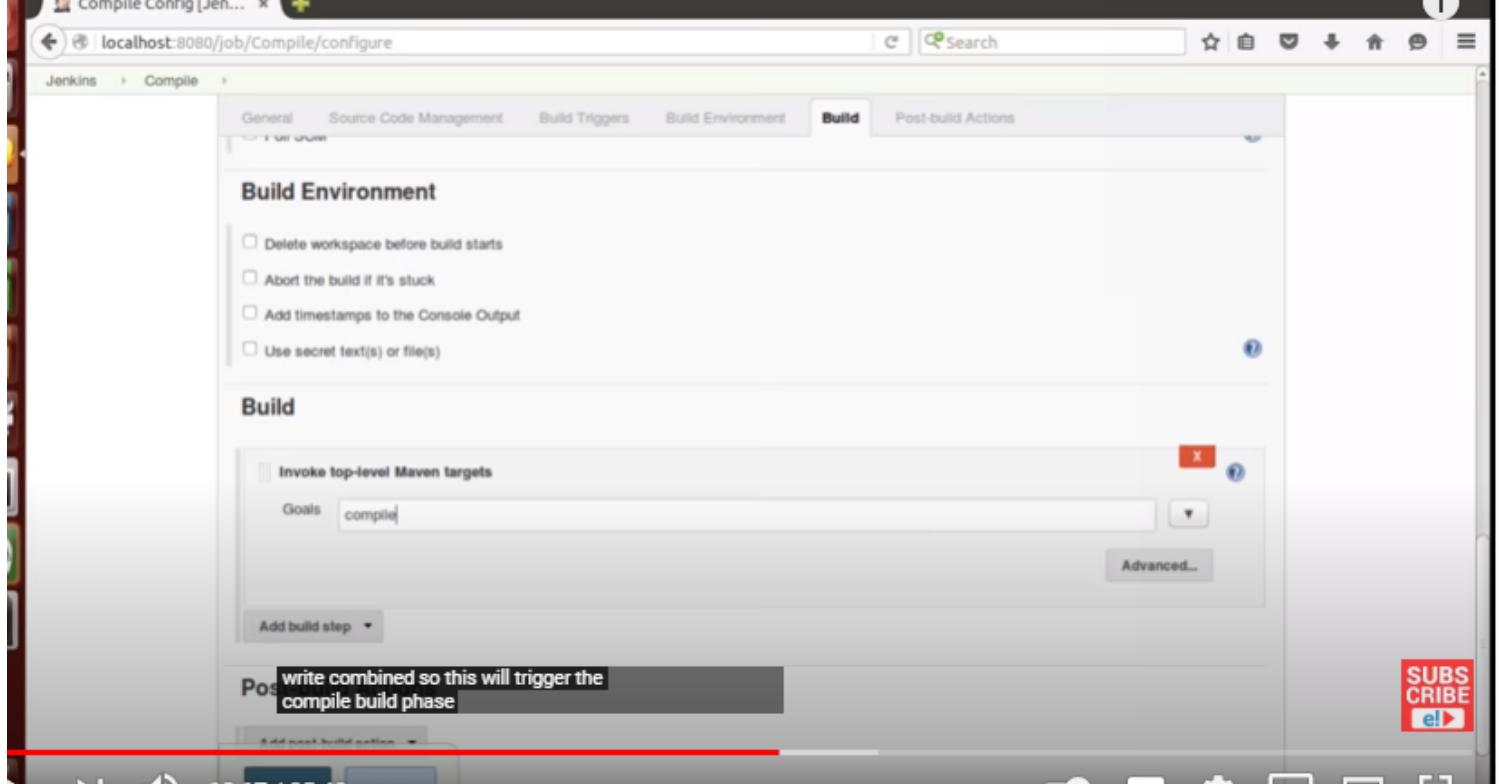
Invoke top-level Maven targets

Goals: `compile`

Add build step ▾

Post-build Actions: write combined so this will trigger the compile build phase

SUBSCRIBE



This screenshot shows the Jenkins job configuration page for 'Compile'. It highlights the 'Build' tab where a Maven 'compile' goal is set. A note above the post-build actions says 'write combined so this will trigger the compile build phase'. A red bar at the bottom indicates a warning or error.

Compile [Jenkins] x +

localhost:8080/job/Compile/

Jenkins > Compile >

Project Compile

[add description](#)

[Disable Project](#)

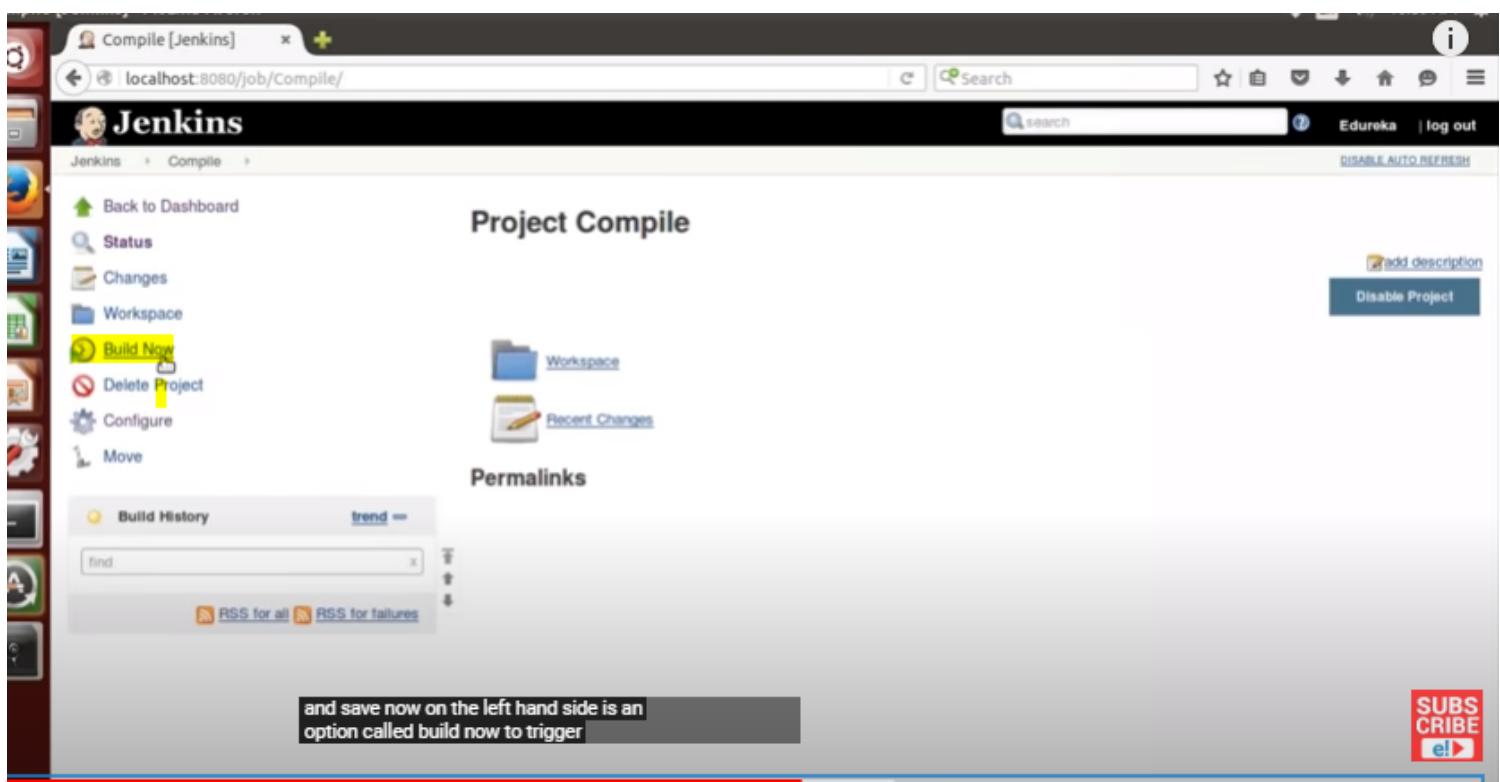
Back to Dashboard Status Changes Workspace [Build Now](#) Delete Project Configure Move

Workspace Recent Changes

Build History trend == find RSS for all RSS for failures

and save now on the left hand side is an option called build now to trigger

SUBSCRIBE



This screenshot shows the Jenkins project page for 'Compile'. It features a sidebar with options like 'Build Now' highlighted in yellow. The main area displays build history and recent changes. A note at the bottom says 'and save now on the left hand side is an option called build now to trigger'. A red bar at the bottom indicates a warning or error.

localhost:8080/job/Compile/1/console

Jenkins

Back to Project Status Changes Console Output View as plain text Edit Build Information

Console Output

Started by user Edureka
Building in workspace /var/lib/jenkins/workspace/Compile
Cloning the remote Git repository
Cloning repository <https://github.com/saurabh0010/houselannister.git>
> git init /var/lib/jenkins/workspace/Compile # timeout=10
Fetching upstream changes from <https://github.com/saurabh0010/houselannister.git>
> git --version # timeout=10
> git fetch --tags --progress <https://github.com/saurabh0010/houselannister.git> +refs/heads/*:refs/remotes/origin/*
> git config remote.origin.url <https://github.com/saurabh0010/houselannister.git> # timeout=10
> git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
> git config remote.origin.url <https://github.com/saurabh0010/houselannister.git> # timeout=10
Fetching upstream changes from <https://github.com/saurabh0010/houselannister.git>
> git fetch --tags --progress <https://github.com/saurabh0010/houselannister.git> +refs/heads/*:refs/remotes/origin/*
> git rev-parse refs/remotes/origin/master^{commit} # timeout=10
> git rev-parse refs/remotes/origin/master^{commit} # timeout=10
Checking out Revision Se377755b086788c6b195a4bf782b0cdb53262c3 (refs/remotes/origin/master)
> git config core.sparsecheckout # timeout=10
> git checkout -f Se377755b086788c6b195a4bf782b0cdb53262c3

console output you can click on that. Skipping changelog
build and you'll see the console

Progress: 

localhost:8080/job/Compile/1/console

Jenkins

Compile #1

```
[INFO]
[INFO] -----
[INFO] Building Vaadin Addressbook example 2.0
[INFO] -----
[INFO] --- maven-enforcer-plugin:1.0:enforce (enforce-versions) @ addressbook ---
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ addressbook ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory /var/lib/jenkins/workspace/Compile/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.2:compile (default-compile) @ addressbook ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 13 source files to /var/lib/jenkins/workspace/Compile/target/classes
[INFO] /var/lib/jenkins/workspace/Compile/src/main/java/com/edurekademo/tutorial/addressbook/ContactForm.java:
Some input files use or override a deprecated API.
[INFO] /var/lib/jenkins/workspace/Compile/src/main/java/com/edurekademo/tutorial/addressbook/ContactForm.java:
Recompile with -Xlint:deprecation for details.
[INFO] /var/lib/jenkins/workspace/Compile/src/main/java/com/edurekademo/tutorial/addressbook/backend/
/ContactService.java: /var/lib/jenkins/workspace/Compile/src/main/java/com/edurekademo/tutorial/addressbook/
/backend/ContactService.java uses unchecked or unsafe operations.
[INFO] /var/lib/jenkins/workspace/Compile/src/main/java/com/edurekademo/tutorial/addressbook/backend/
/ContactService.java: Recompile with -Xlint:unchecked for details.
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 18.038 s
[INFO] Finished at: 2017-01-15T11:00:07+05:30
[INFO]
```

so we have successfully compiled the code

Finished: SUCCESS

SUBSCRIBE

localhost:8080

Jenkins

New Item People Build History Manage Jenkins My Views Credentials

All + S W Name : Last Success Last Failure Last Duration

Icon: S M L Compile 1 min 24 sec - #1 N/A 38 sec

Legend RSS for all RSS for failures RSS for just latest builds

Build Queue No builds in the queue.

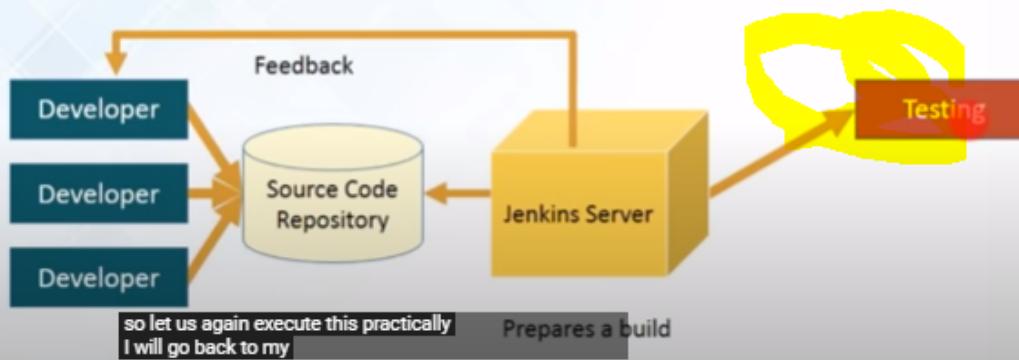
Build Executor Status 1 Idle 2 Idle

Now once the Code is being compiled successfully it will be deployed on to the server for testing by jenkins

Jenkins Example

Edureka DevOps Training 

- Developers commit changes to the source code
- Continuous Integration server pulls that code and triggers a build
- The build application is then deployed on the testing server for testing



We will create new test Project :

ENS-VM [Running] - Oracle VM VirtualBox

Machine View Input Devices Help

New Item [Jenkins] +

localhost:8080/view/All/newJob

Search Edureka | log out

Jenkins

Jenkins > All >

Enter an item name

Test

= 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.

Maven project

Build a maven project. Jenkins takes advantage of your POM files and drastically reduces the configuration.

Pipeline

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

External Job

type tests and I will again use the execution of a process run outside Jenkins, even on a remote machine. This is designed so that you freestyle Jenkins as a dashboard of your existing automation system.

configuration project

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

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We also neeed tp review the code for that we will be creating new project

ENS-VM [Running] - Oracle VM VirtualBox

Machine View Input Devices Help

New Item [Jenkins] +

localhost:8080/view/All/newJob

Search Edureka | log out

Jenkins

Jenkins > All >

Enter an item name

Code_Review

= 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.

Maven project

Build a maven project. Jenkins takes advantage of your POM files and drastically reduces the configuration.

Pipeline

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

External Job

type it as cold underscore review the execution of a process run outside Jenkins, even on a remote machine. This is designed so that you freestyle Jenkins as a dashboard of your existing automation system.

configuration project

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

SUBSCRIBE!

Review Config [Jenkins] - Mozilla Firefox

Code Review Config... +

localhost:8080/job/Code_Review/configure

Search

Jenkins > Code_Review >

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

Source Code Management

None
 Git

Repositories

Repository URL: `https://github.com/saurabh0010/houseannister.git`
Please enter Git repository.

Credentials: - none - [Add](#)

[Advanced...](#) [Add Repository](#)

Branches to build

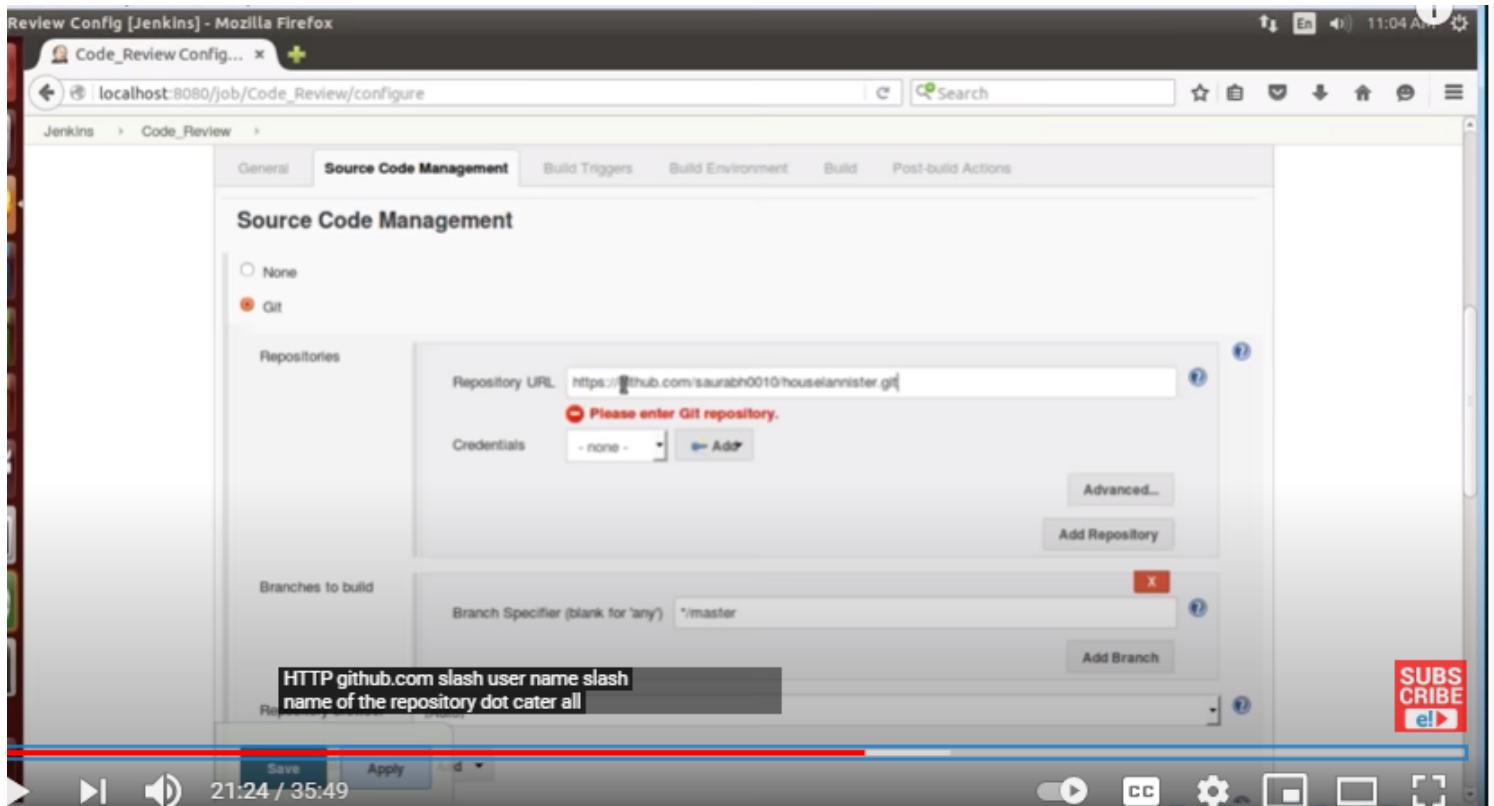
Branch Specifier (blank for 'any'): `*:master`
[Add Branch](#)

HTTP github.com slash user name slash
name of the repository dot cater all

Save Apply

21:24 / 35:49

SUBSCRIBE



Machine View Input Devices Help

Code_Review Config [Jenkins] - Mozilla Firefox

Code Review Config... +

localhost:8080/job/Code_Review/configure

Search

Jenkins > Code_Review >

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

Delete workspace before build starts
 Abort the build if it's stuck.
 Add timestamps to the Console Output
 Use secret text(s) or file(s)

Build

Invoke top-level Maven targets

Goals:
[Advanced...](#)

Add build step ▾

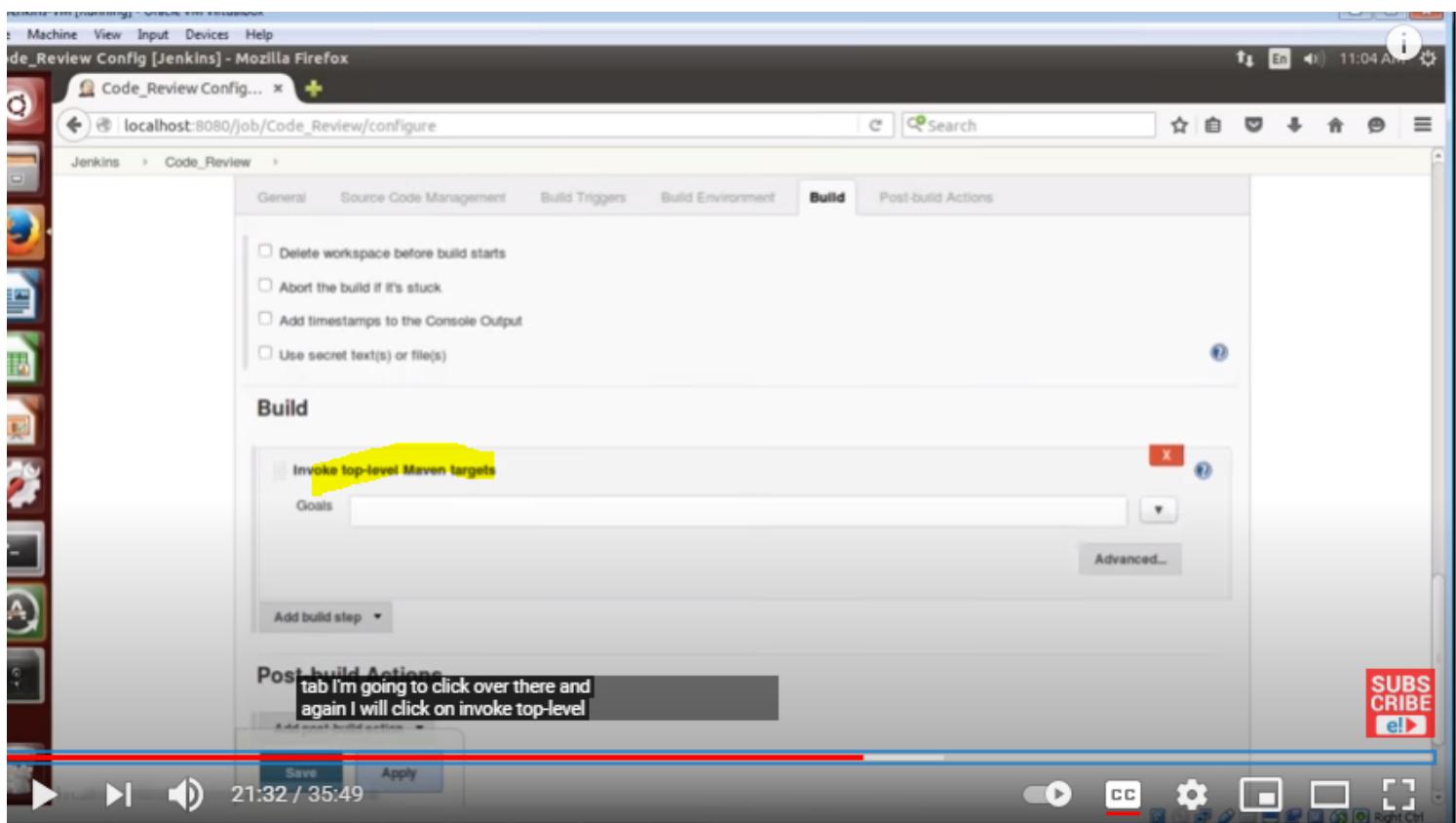
Post-build Actions

tab I'm going to click over there and again I will click on invoke top-level

Save Apply

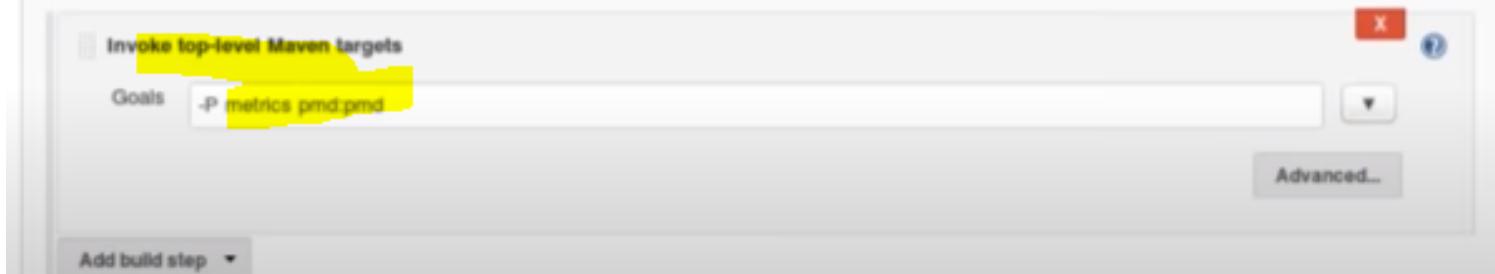
21:32 / 35:49

SUBSCRIBE

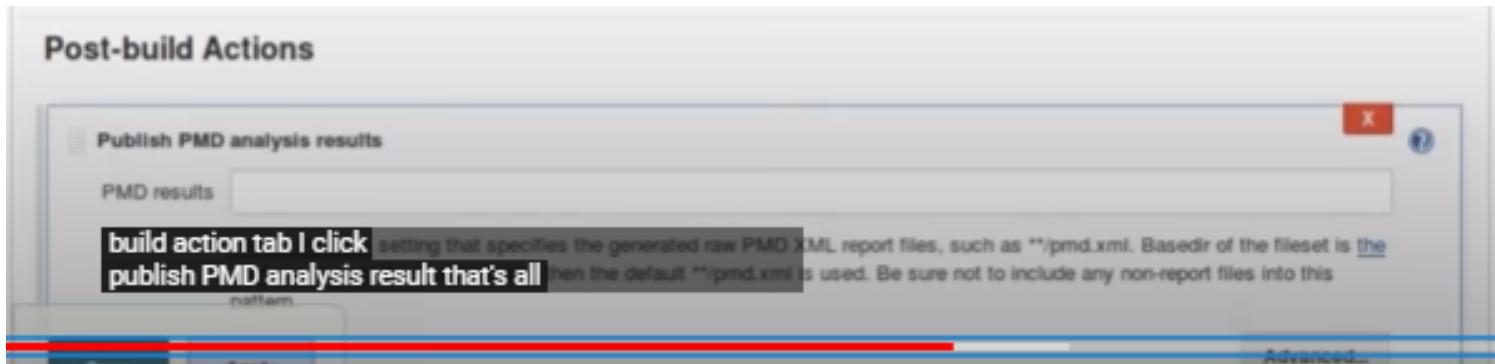


Now in order to review the code we can use the metrix profile of maven for that we need to do as below :

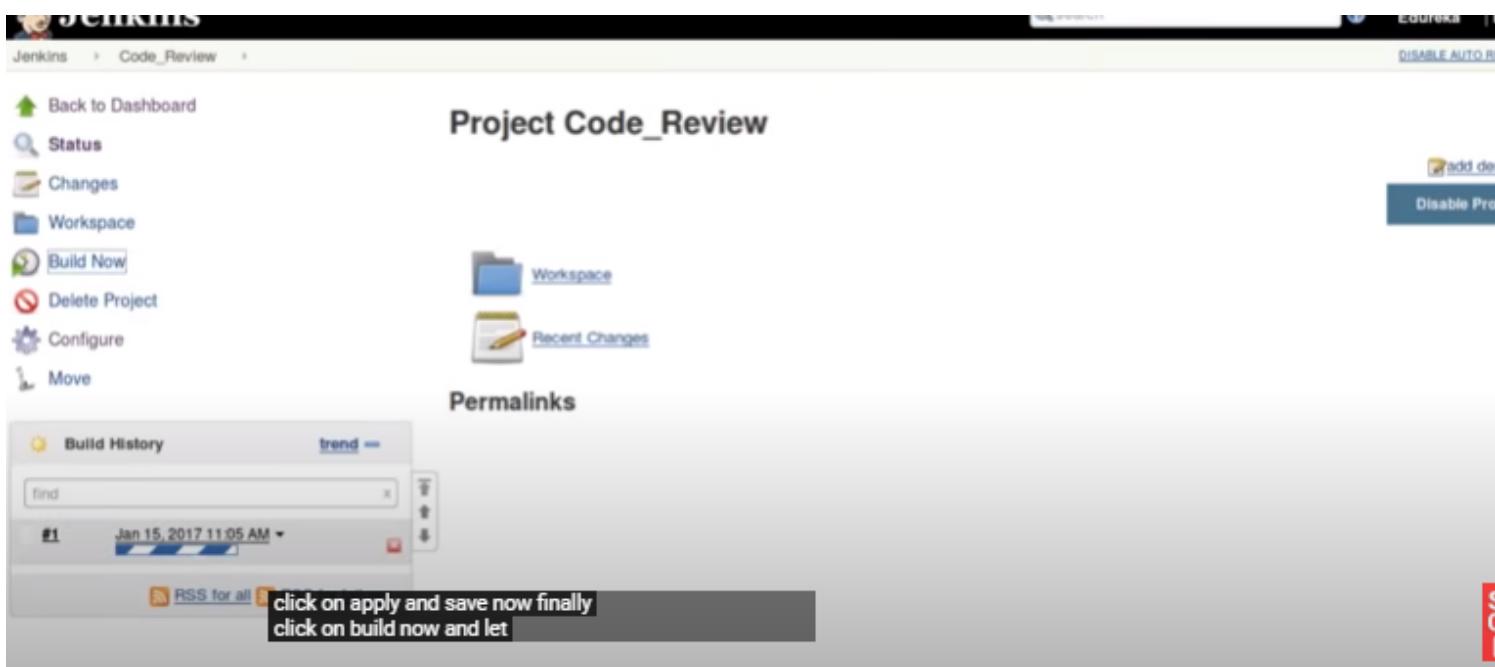
Build



In post build we need to publish that report



now we can just build the project



Code review is successfull :

The screenshot shows the Jenkins interface for a 'Code_Review' project. On the left, a sidebar lists various project management options like 'Back to Project', 'Status', 'Changes', 'Console Output' (which is selected), 'View as plain text', 'Edit Build Information', 'Git Build Data', and 'No Tags'. The main content area is titled 'Console Output' and displays the build log. The log starts with 'Started by user Edureka' and details the git fetch and Maven build process. A message at the bottom encourages reviewing the code.

```
Started by user Edureka
Building in workspace /var/lib/jenkins/workspace/Code_Review
> git rev-parse --is-inside-work-tree # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/saurabh0010/houselannister.git # timeout=10
Fetching upstream changes from https://github.com/saurabh0010/houselannister.git
> git --version # timeout=10
> git fetch --tags --progress https://github.com/saurabh0010/houselannister.git +refs/heads/*:refs/remotes/origin/*
> git rev-parse refs/remotes/origin/master^{commit} # timeout=10
> git rev-parse refs/remotes/origin/origin/master^{commit} # timeout=10
Checking out Revision 5e377755b086788c6b195a4bf782b0cdb53262c3 (refs/remotes/origin/master)
> git config core.sparsecheckout # timeout=10
> git checkout -f 5e377755b086788c6b195a4bf782b0cdb53262c3
First time build. Skipping changelog.
[Code_Review] $ mvn -P metrics pmd:pmd
[INFO] Scanning for projects...
[INFO]
```

successfully review the code now let us
go back to the project [INFO] Building Vaadin Addressbook example 2.0
[INFO] [INFO]

Now we can check the PMD warnings :

The screenshot shows the Jenkins 'Project Code_Review' page. The left sidebar includes options like 'Back to Dashboard', 'Status', 'Changes', 'Workspace', 'Build Now', 'Delete Project', 'Configure', 'Move', and 'PMD Warnings' (which is highlighted with a yellow box). The main content area is titled 'Project Code_Review' and contains sections for 'Workspace', 'Recent Changes', and 'Permalinks'. Below these is a 'Build History' table with one entry for 'Jan 15, 2017 11:05 AM'. A message box at the bottom of the history table points to the PMD section. A red bar at the bottom of the page has a 'SUBSCRIBE' button.

Project Code_Review

PMD Warnings

Build History

Jan 15, 2017 11:05 AM

go back to the project over here you can see an option called PMD

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ns - Mozilla Firefox

Jenkins

localhost:8080/job/Code_Review/1/pmdResult/

PMD Result

Warnings Trend

All Warnings	New Warnings	Fixed Warnings
11	11	0

Summary

Total	High Priority	Normal Priority	Low Priority
11	0	11	0

Details

Package	Total	Distribution
com.edureka.demo.tutorial.addressbook	1	Yellow
com.edureka.demo.tutorial.addressbook.backend	1	Yellow
Total	9	Yellow
	11	Yellow

click over there and it will display all the warnings

SUBSCRIBE

Now we will just create one more Test project same steps as above and in the build we will mention the test which will trigger the test phase of maven build lifecycle

Test Config [Jenkins]

localhost:8080/job/Test/configure

Build Environment

- Delete workspace before build starts
- Abort the build if it's stuck
- Add timestamps to the Console Output
- Use secret text(s) or file(s)

Build

Invoke top-level Maven targets

Goals: test

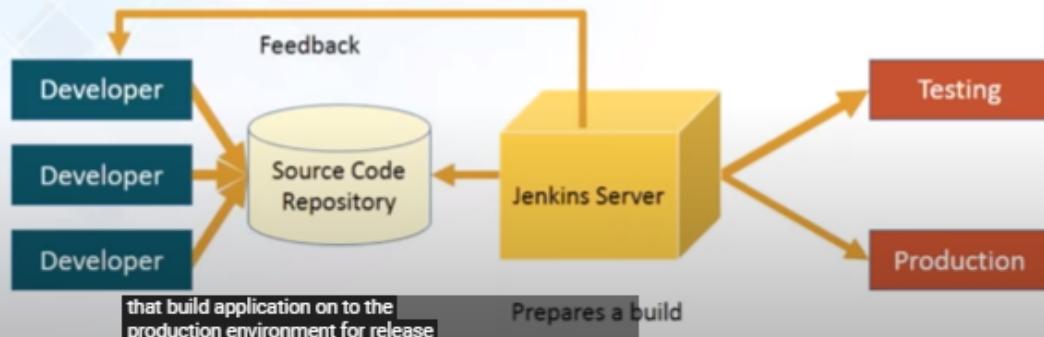
Add build step

Post-build Actions

that are present in the github account so let us write tests and

Adfter testing is successfull we just need to deplooy onto the production

- Developers commit changes to the source code
- Continuous Integration server pulls that code and triggers a build
- The build application is then deployed on the testing server for testing
- After testing the application, it is then deployed on the production server
- The concerned teams are constantly notified about the build and test results



Now we can create build Pipeline here

Dashboard [Jenkins] - Mozilla Firefox 11:21 AM

localhost:8080

Jenkins

New Item People Build History Manage Jenkins My Views Credentials

All

S	W	Name	Last Success	Last Failure	Last Duration
●	●	Code_Review	16 min - #1	N/A	26 sec
●	●	Compile	21 min - #1	N/A	38 sec
●	●	Test	3 min 9 sec - #1	N/A	25 sec

Icon: S M L

Build Queue: No builds in the queue.

Build Executor Status: 1 Idle, 2 Idle

Legend: RSS for all RSS for failures RSS for just latest builds

Ubuntu box once again now in here you can see that there is an option

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view [Jenkins] - Mozilla Firefox 11:22 AM

New View [Jenkins] +

localhost:8080/newView

Search

Jenkins

New Item

Build Pipeline View

View name: Edureka_Pipeline

Build Pipeline View: Shows the jobs in a build pipeline view. The complete pipeline of jobs that a version propagates through are shown as a row in the view.

List View: Shows items in a simple list format. You can choose which jobs are to be displayed in which view.

My View: This view automatically displays all the jobs that the current user has an access to.

Build Queue: No builds in the queue.

Build Executor Status: 1 Idle, 2 Idle

ed you rekha underscore pipeline and click

SUBSCRIBE

Edit View [Jenkins] - Mozilla Firefox 11:22 AM

Edit View [Jenkins] +

localhost:8080/view/Edureka_Pipeline/configure

Search

Jenkins

New Item

Name: Edureka_Pipeline

Description

Filter build queue

Filter build executors

Build Pipeline View Title

[Plain text] Preview

Layout: Based on upstream/downstream relationship

This layout mode derives the pipeline structure based on the upstream/downstream trigger relationship between jobs. This is the only out-of-the-box supported layout mode, but is open for extension.

Pipeline Flow

Layout

Upstream / downstream config

Select Initial Job: Code_Review

click on OK now over here

SUBSCRIBE

Edit View [Jenkins] × + i

localhost:8080/view/Edureka_Pipeline/configure

Jenkins > Edureka_Pipeline > Build Queue

No builds in the queue.

Build Executor Status

1 Idle
2 Idle

Pipeline Flow

Layout

Based on upstream/downstream relationship

This layout mode derives the pipeline structure based on the upstream/downstream trigger relationship between jobs. This is the only out-of-the-box supported layout mode, but is open for extension.

Upstream / downstream config

Select Initial Job: **Compile**

Trigger Options

Restrict triggers to most recent successful builds: Yes No

Always allow manual trigger on pipeline steps: Yes No

Display Options

No Of Displayed Builds: **1**

Row Headers: Just the pipeline number

Show just the build pipeline number

Column Headers: No header

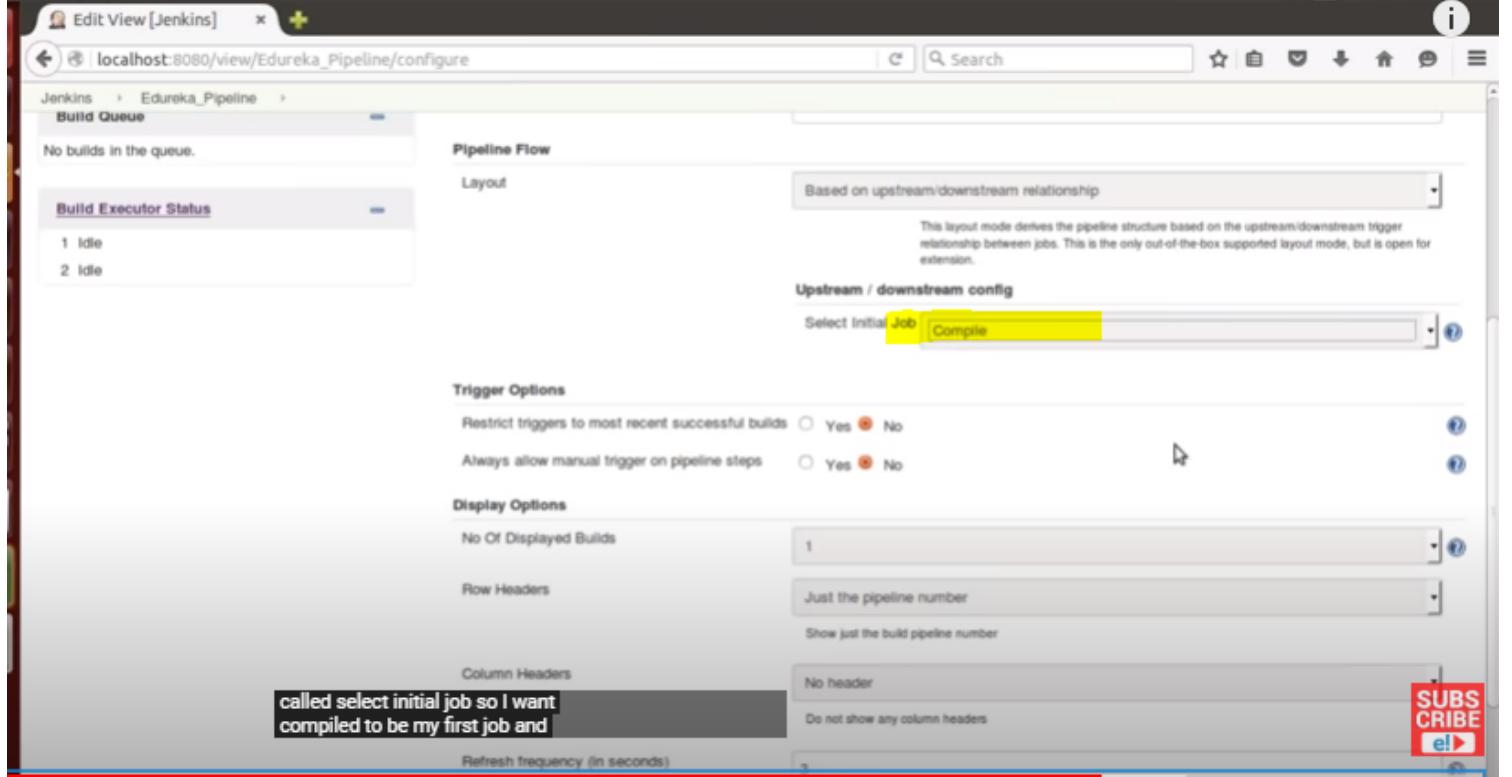
No header

Do not show any column headers

Refresh frequency (in seconds): 3

called select initial job so I want compiled to be my first job and

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Edit View [Jenkins] - Mozilla Firefox

localhost:8080/view/Edureka_Pipeline/configure

Jenkins > Edureka_Pipeline > Build Queue

1 Idle
2 Idle

Upstream / downstream config

Select Initial Job: **Compile**

Trigger Options

Restrict triggers to most recent successful builds: Yes No

Always allow manual trigger on pipeline steps: Yes No

Display Options

No Of Displayed Builds: **5**

Row Headers: Just the pipeline number

Show just the build pipeline number

Column Headers: No header

No header

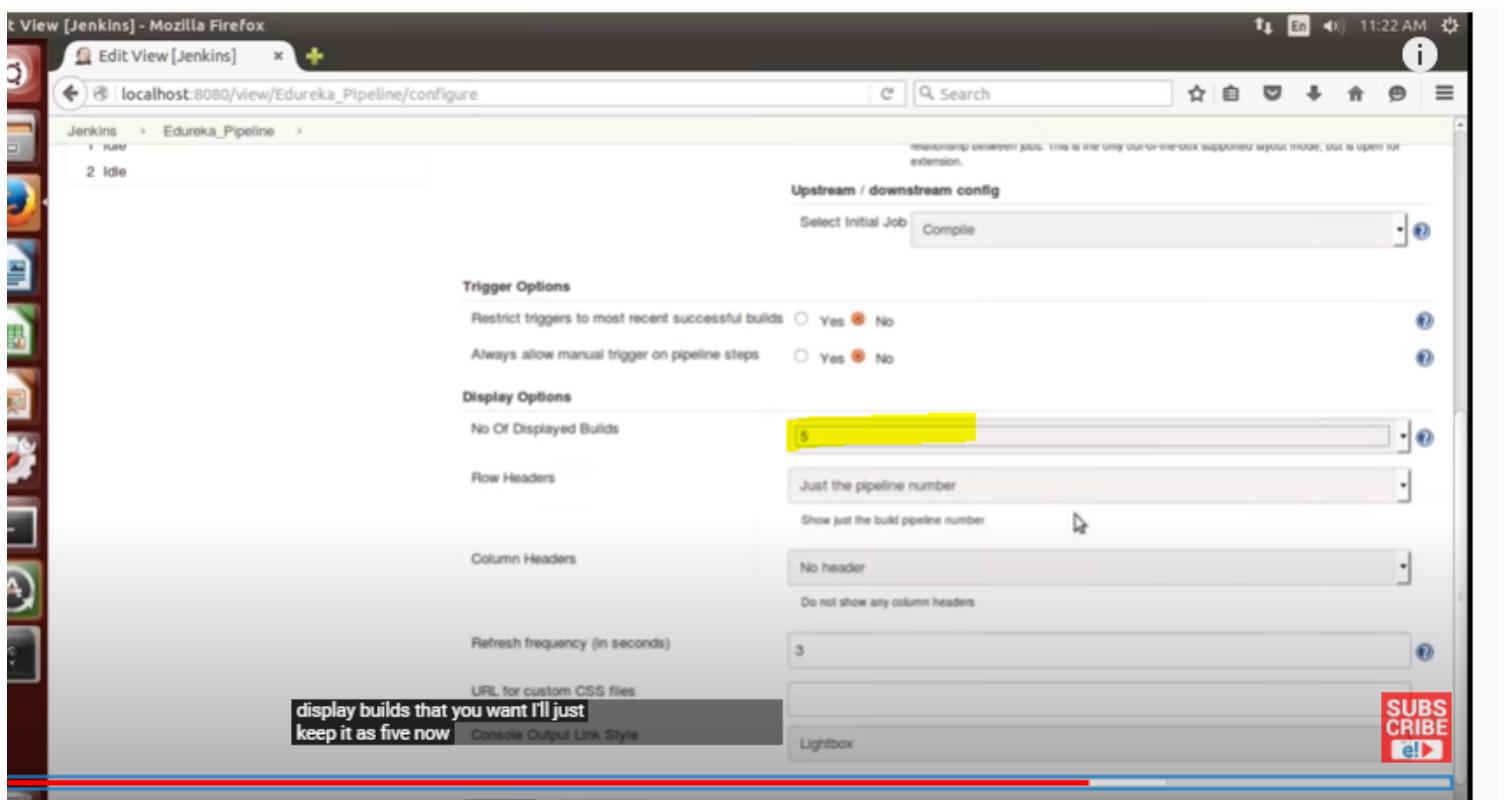
Do not show any column headers

Refresh frequency (in seconds): 3

display builds that you want I'll just keep it as five now

Console Output Link Style: Lightbox

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Edureka_Pipeline [Jenkins] - Mozilla Firefox

localhost:8080/view/Edureka_Pipeline/ Jenkins Edureka | log out DISABLE AUTO REFRESH

Build Pipeline

Run History Configure Add Step Delete Manage

Pipeline #1 #1 Compile 15 Jan, 2017 10:59:29 AM 38 sec edureka

now finally click on apply and okay now currently

SUBSCRIBE

This screenshot shows the Jenkins Build Pipeline interface. It displays a single build step named '#1 Compile' with the status 'edureka'. Below the pipeline list, there is a message: 'now finally click on apply and okay now currently'. In the bottom right corner, there is a red 'SUBSCRIBE' button.

Now we need to add more to this pipe line

Dashboard [Jenkins] localhost:8080 Jenkins Edureka | log out DISABLE AUTO REFRESH

New Item People Build History Manage Jenkins My Views Credentials

All Edureka_Pipeline +

S	W	Name	Last Success	Last Failure	Last Duration
●	●	Code Review	18 min - #1	N/A	26 sec
●	●		23 min - #1	N/A	38 sec
●	●		5 min 9 sec - #1	N/A	25 sec

Icon: S M L

Changes Workspace Build Now Delete Project Configure Move PMD Warnings

Legend RSS for all RSS for failures RSS for just latest builds

that I go back to my Jenkins dashboard and over here a large code review

SUBSCRIBE

27:22 / 35:49

Page generated on 15. 12. 2017 12:34 IST CC TAP ins v 2.9.4

This screenshot shows the Jenkins dashboard. On the left, there are links for New Item, People, Build History, Manage Jenkins, My Views, and Credentials. The main area displays a table of build items. A context menu is open over the 'Code Review' item, listing options like Changes, Workspace, Build Now, Delete Project, Configure, Move, and PMD Warnings. At the bottom, there is a message: 'that I go back to my Jenkins dashboard and over here a large code review'. In the bottom right corner, there is a red 'SUBSCRIBE' button.

Review Config [Jenkins] - Mozilla Firefox

Connecting... 11:24 AM

localhost:8080/job/Code_Review/configure

Search

Jenkins > Code_Review >

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

Build Triggers

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

Build after other projects are built ?

Projects to watch: Compile, Edit

Trigger only if build is stable ?

Trigger even if the build is unstable ?

Trigger even if the build fails ?

Build periodically ?

Build when a change is pushed to GitHub ?

Poll SCM ?

Build Environment

Delete workspace before build starts ?

Abort the build if it's stuck ?

A fails ?

A alright finally click on apply and save ?

Use secret text(s) or file(s) ?

SUBSCRIBE e!

Similar way we can add Test Project as well :

Test Config [Jenkins] - Mozilla Firefox

localhost:8080/job/Test/configure

Search

Jenkins > Test >

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

Build Triggers

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

Build after other projects are built ?

Build periodically ?

Build when a change is pushed to GitHub ?

Poll SCM ?

Build Environment

Delete workspace before build starts ?

Abort the build if it's stuck ?

Add timestamps to the Console Output ?

Use secret text(s) or file(s) ?

Build

and again the build triggers tab I'll click on the build ?

Goals Save

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Test Config [Jenkins] × +

localhost:8080/job/Test/configure

Jenkins > Test >

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

Build Triggers

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

Build after other projects are built

Projects to watch: `Code_Review,`

Trigger only if build is stable

Trigger even if the build is unstable

Trigger even if the build fails

Build periodically

Build when a change is pushed to GitHub

Poll SCM

Build Environment

Delete workspace before build starts

Abort the build if it's stuck

A code review so let us click over there trigger even if the build fails

Use secret text(s) or file(s)

SUBSCRIBE e!

This screenshot shows the Jenkins configuration interface for a job named 'Test'. The 'Build Triggers' tab is selected, displaying options like 'Trigger builds remotely' and 'Build after other projects are built'. Under 'Build Environment', there are checkboxes for workspace deletion and build abort. A prominent red box highlights the 'trigger even if the build fails' option under triggers and the 'trigger even if the build fails' checkbox under environment. A 'SUBSCRIBE e!' button is visible in the bottom right.

This is how our pipeline will look like

Edureka_Pipeline [J... × +

localhost:8080/view/Edureka_Pipeline/

Jenkins > Edureka_Pipeline >

Build Pipeline

Run History Configure Add Step Delete Manage

```
graph LR; Pipeline["Pipeline #1"] --> Compile["#1 Compile  
15 Jan, 2017 10:59:29 AM  
38 sec  
edureka"]; Compile --> Review["Code_Review  
NA  
NA"]; Review --> Test["Test  
NA  
NA"]
```

dashboard and see how our pipeline looks like so this is our

SUBSCRIBE e!

This screenshot shows the Jenkins pipeline dashboard for 'Edureka_Pipeline'. It displays a sequence of three stages: '#1 Compile', 'Code_Review', and 'Test'. Each stage has its status and duration listed. A red box highlights the 'Code_Review' stage. A message at the bottom encourages users to 'see how our pipeline looks like so this is our'. A 'SUBSCRIBE e!' button is in the bottom right.

SO all 3 build job executed successfully

Jenkins

search Edureka | log out

Jenkins > Edureka_Pipeline >

DISABLE AUTO REFRESH

Build Pipeline

Run History Configure Add Step Delete Manage

Pipeline #2

#2 Compile
15 Jan, 2017 11:25:10 AM
12 sec
edureka

#2 Code_Review
15 Jan, 2017 11:25:31 AM
21 sec

#2 Test
15 Jan, 2017 11:26:01 AM
15 sec

Pipeline #1

#1 Compile
15 Jan, 2017 10:59:29 AM
38 sec
edureka

Code_Review
NA NA

Test
NA NA

executed the three build jobs that is combined

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```
graph LR; subgraph Pipeline_1 [Pipeline #1]; 1[Compile] --> 2[Code_Review]; 2 --> 3[Test]; end; subgraph Pipeline_2 [Pipeline #2]; 4[Compile] --> 5[Code_Review]; 5 --> 6[Test]; end; 4 --- 1; 5 --- 2; 6 --- 3;
```

Shortcomings Of Single Jenkins Server

edureka!



If you need to run web tests using Internet Explorer, you need to use a Windows machine.



Another build job may require Linux box.



How to manage spikes in build activity

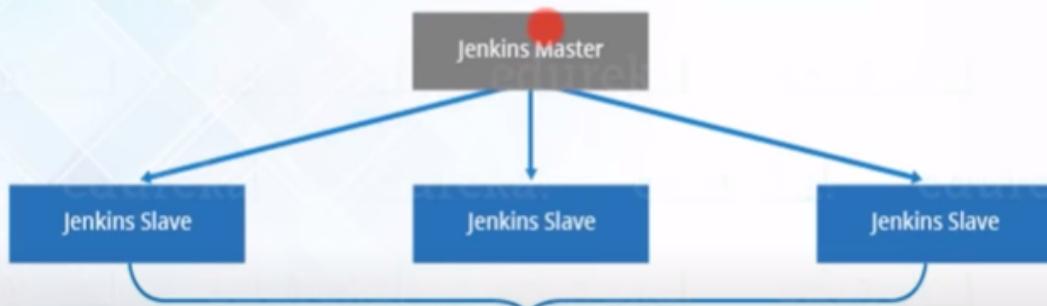
one single Jenkins over so there are two major disadvantages of using one single

SUBSCRIBE

Solution to the above problem:

Jenkins Master will distribute its workload to the Slaves

edureka!



architecture consists of a Jenkins master and

SUBSCRIBE
e! ▶

Now to add master slave architecture do as below

The screenshot shows the Jenkins Manage Jenkins interface. On the left, there's a sidebar with links like "New Item", "People", "Build History", "Manage Jenkins" (which is highlighted), "My Views", and "Credentials". Below that are sections for "Build Queue" (empty) and "Build Executor Status" (1 Idle, 2 Idle). The main content area is titled "Manage Jenkins". It features a message about a new Jenkins version available for download. Below this are several configuration links with icons: "Configure System", "Configure Global Security", "Configure Credentials", "Global Tool Configuration", "Reload Configuration from Disk", "Manage Plugins", and "System Information". A note at the bottom says "an option called manage Jenkins just click over there and". A red bar at the bottom contains the text "SUBSCRIBE e! ▶".

Go to manage nodes

The screenshot shows the Jenkins management interface at localhost:8080/manage. On the left, there's a sidebar with links for 'My Views' and 'Credentials'. Below it are two expandable sections: 'Build Queue' (No builds in the queue) and 'Build Executor Status' (1 Idle, 2 Idle). The main content area lists several Jenkins management functions with icons:

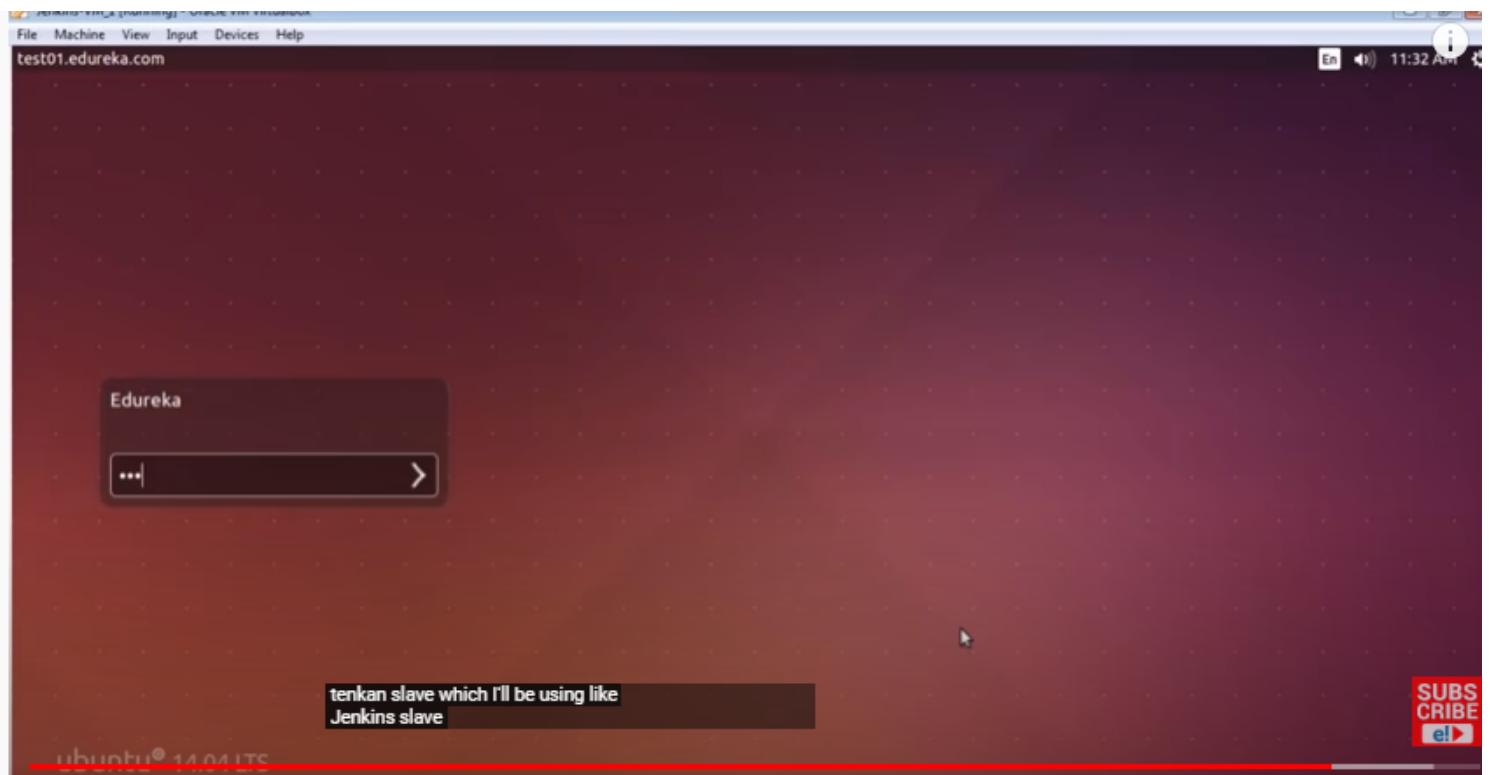
- Configure Global Security
- Configure Credentials
- Global Tool Configuration
- Reload Configuration from Disk
- Manage Plugins
- System Information
- System Log
- Load Statistics
- Jenkins CLI
- Script Console

A tooltip message is visible: "down you'll see an option called manage nodes on". A red box highlights the 'Manage Nodes' link under the 'Manage Jenkins' section.

The screenshot shows the Jenkins 'New Node' creation page at localhost:8080/computer/new. The left sidebar has links for 'Back to Dashboard', 'Manage Jenkins', 'New Node' (which is highlighted in yellow), and 'Configure'. The main form for creating a new node has the following fields:

- Node name: Slave_1
- Type: Permanent Agent (radio button selected)
- Description: Adds a plain, permanent agent to Jenkins. This is called "permanent" because Jenkins doesn't provide higher level of integration with these agents, such as dynamic provisioning. Select this type if no other agent types apply — for example such as when you are adding a physical computer, virtual machines managed outside Jenkins, etc.

A tooltip message is visible: "name to your slave I'll just give it as slaves underscore one click". A red box highlights the 'Slave_1' input field.



A screenshot of the Jenkins master node configuration page. The URL is "localhost:8080/computer/createItem". The left sidebar shows "Nodes" and "Manage Jenkins". The main form is for creating a new node:

- Name:** Slave_1
- Description:** (empty)
- # of executors:** 1
- Remote root directory:** /home/edureka
- Labels:** (empty)
- Usage:** Use this node as much as possible
- Launch method:** Launch slave agents via SSH
- Host:** 192.168.1.101
- Credentials:** - none - (highlighted with a yellow box) and a "Add" button. A red error message says "The selected credentials cannot be found".
- Availability:** Keep this agent online as much as possible

A red box highlights the text "Jenkins master and the host tab I'll just paste that IP address and". In the bottom right corner of the browser window, there is a "SUBSCRIBE" button with a play icon.

The screenshot shows the Jenkins 'Nodes' page at localhost:8080/computer/. The left sidebar includes links for Back to Dashboard, Manage Jenkins, New Node, and Configure. Below these are sections for Build Queue (empty) and Build Executor Status, which lists the status of the master and Slave_1 nodes.

S	Name	Architecture	Clock Difference	Free Disk Space	Free Swap Space	Free Temp Space	Response Time
1	master	Linux (amd64)	In sync	32.52 GB	0 B	32.52 GB	0ms
2	Slave_1	Linux (amd64)	In sync	32.61 GB	0 B	32.61 GB	2601ms

Build Queue
No builds in the queue. Refresh status

Build Executor Status

Node	Status
master	1 Idle 2 Idle
Slave_1	1 Idle