Module 4:Continuous Integration Using Jenkins

Demo Document - 1

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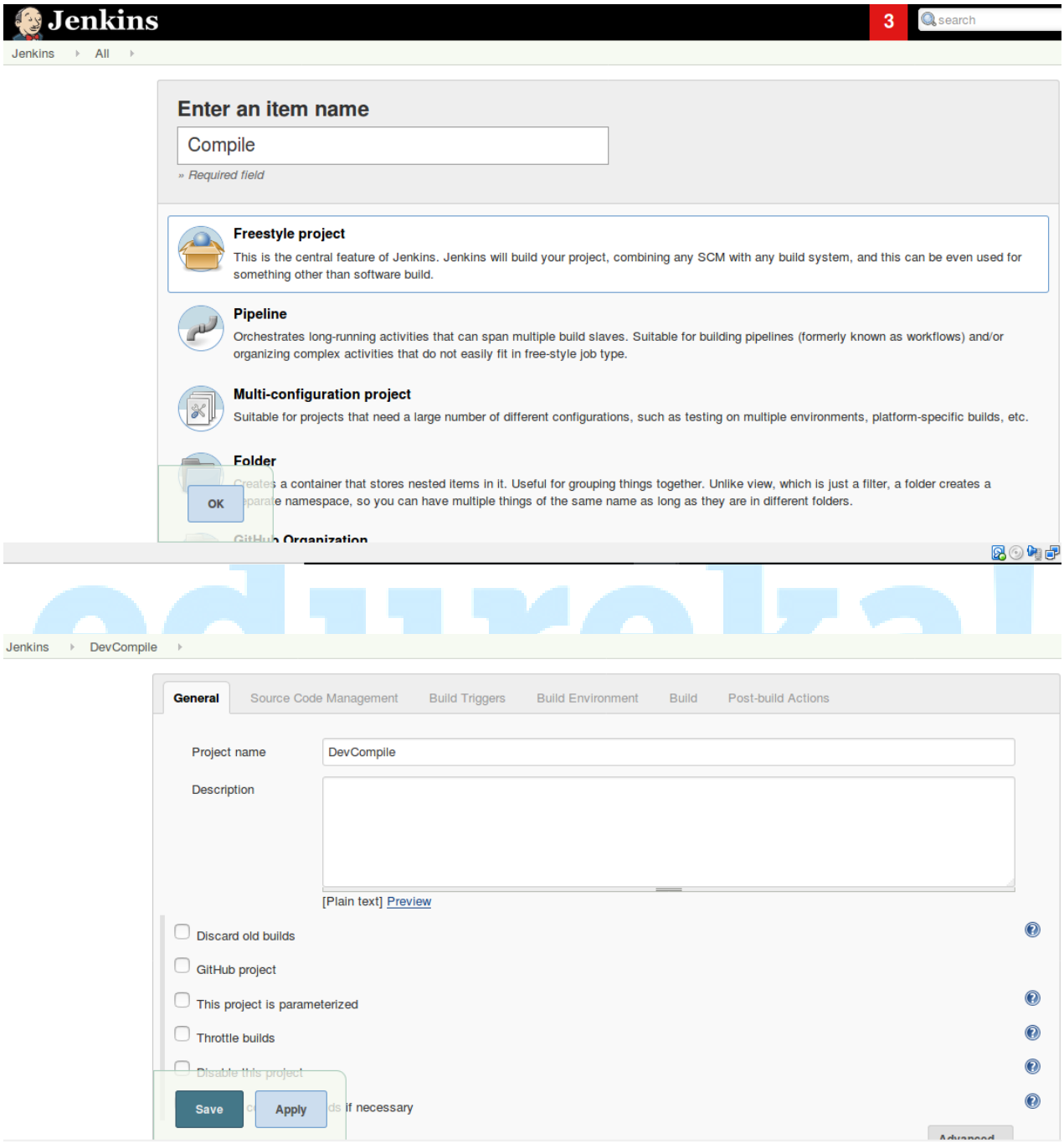
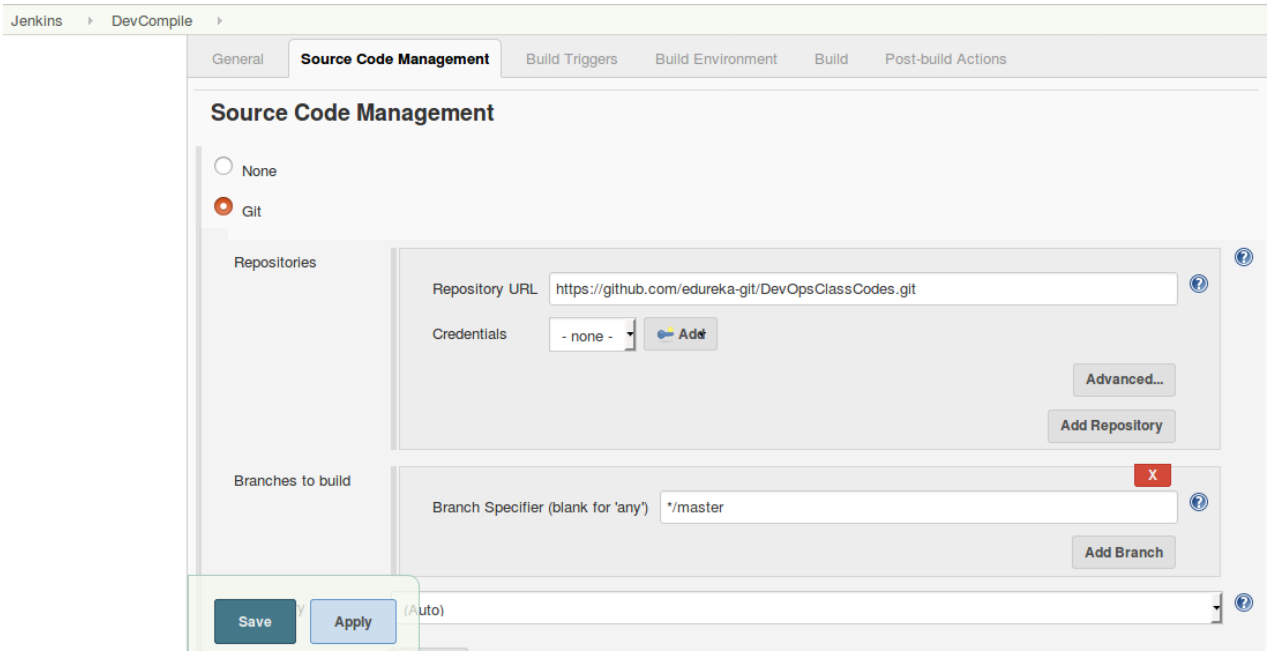
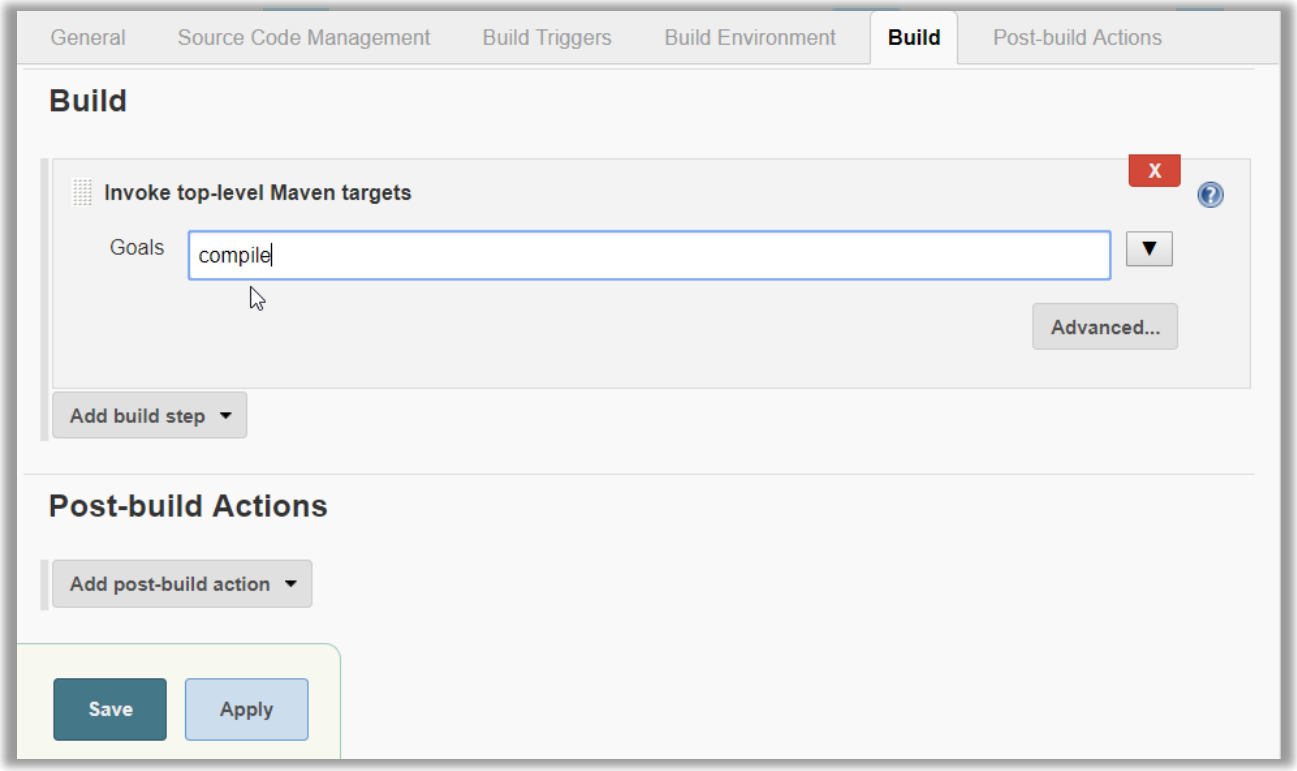
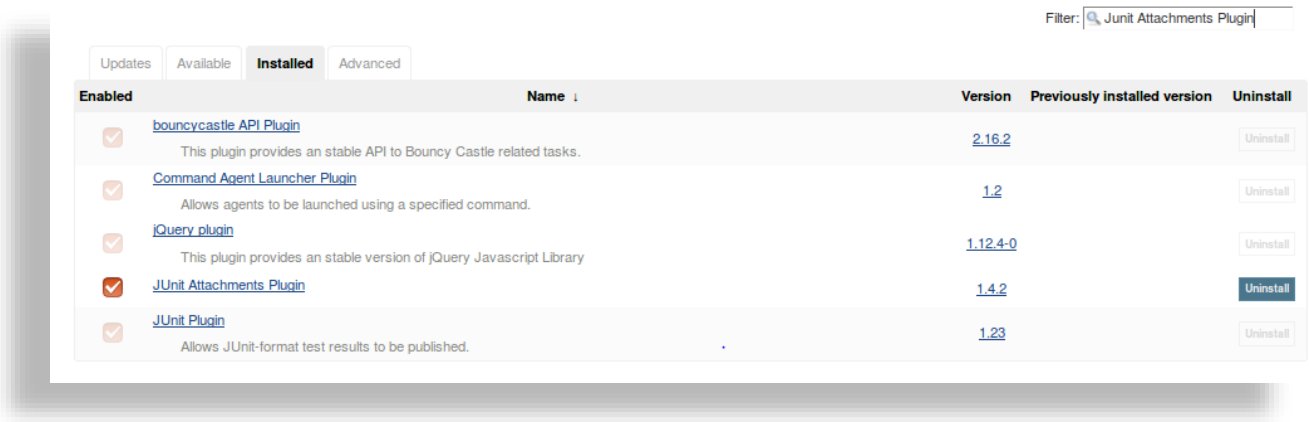
Demo – 1: Create Pipeline view using DevCompile and QAUnitTest



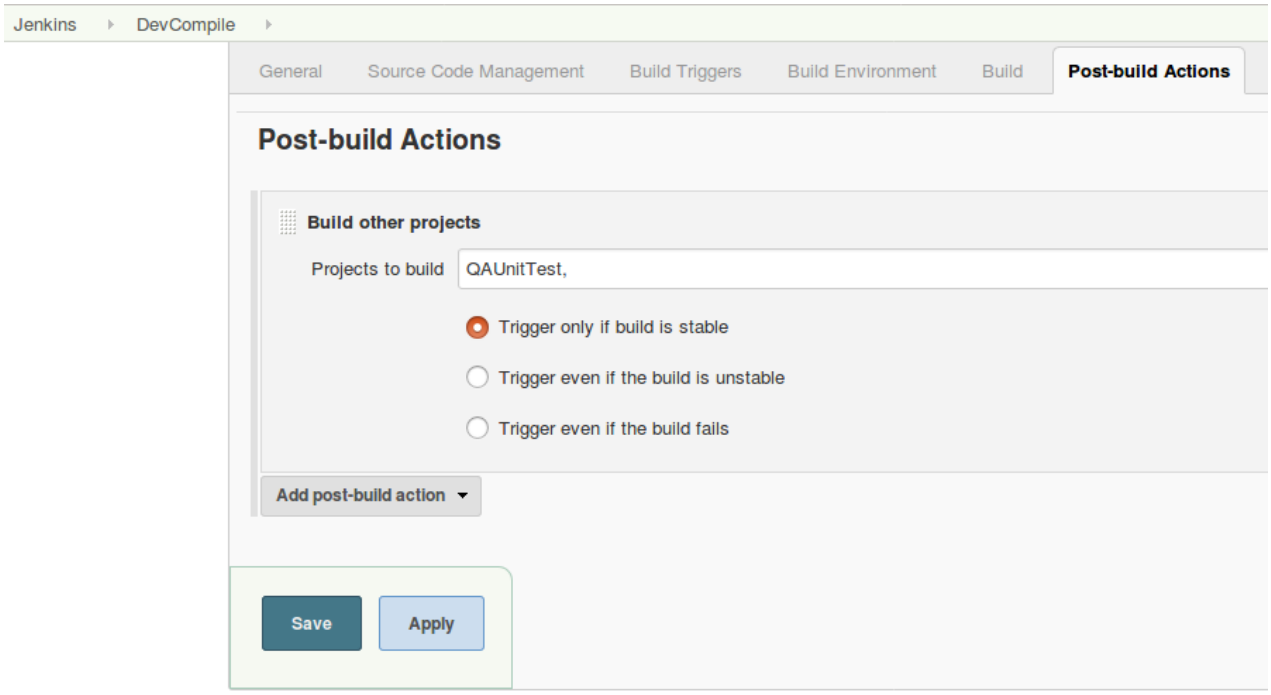

Jenkins
DevCompile
General
Source Code Management
Build Triggers
Build Environment
Build
Post-build Actions
Source Code Management
None
Git
Repositories
Repository URL
https://github.com/edureka-git/DevOpsClassCodes.git
Credentials
- none -
Add
Advanced...
Add Repository
Branches to build
Branch Specifier (blank for 'any')
*/master
Add Branch
Save
Apply
(Auto)

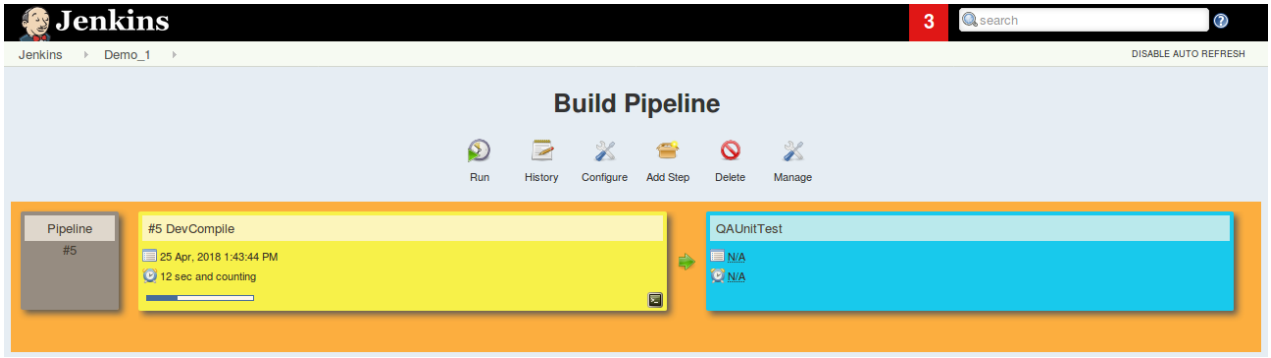

General
Source Code Management
Build Triggers
Build Environment
Build
Post-build Actions
Build
Invoke top-level Maven targets
Goals
compile
Advanced...
Add build step
Post-build Actions
Add post-build action
Save
Apply

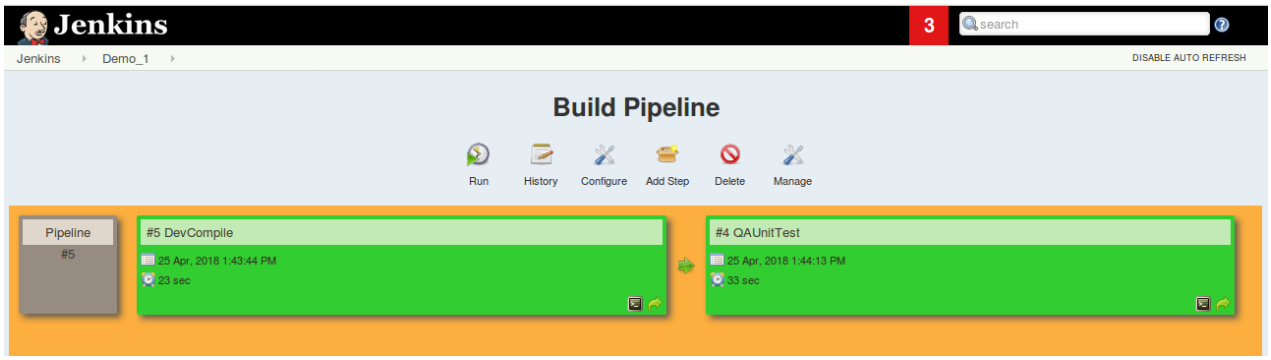
- Create QAunitTest project and provide the same SCM path and execute it after DevCompile Action by setting build.



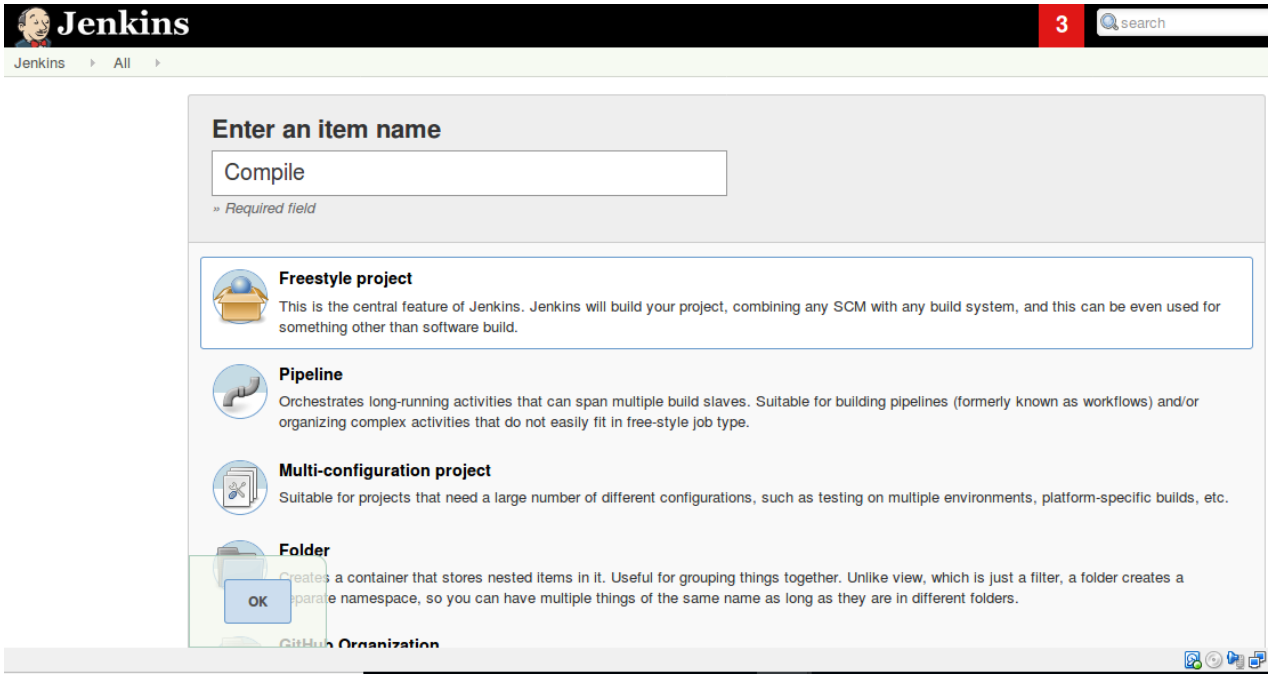
- Configure DevCompile project and set post build action as QAUnitTest

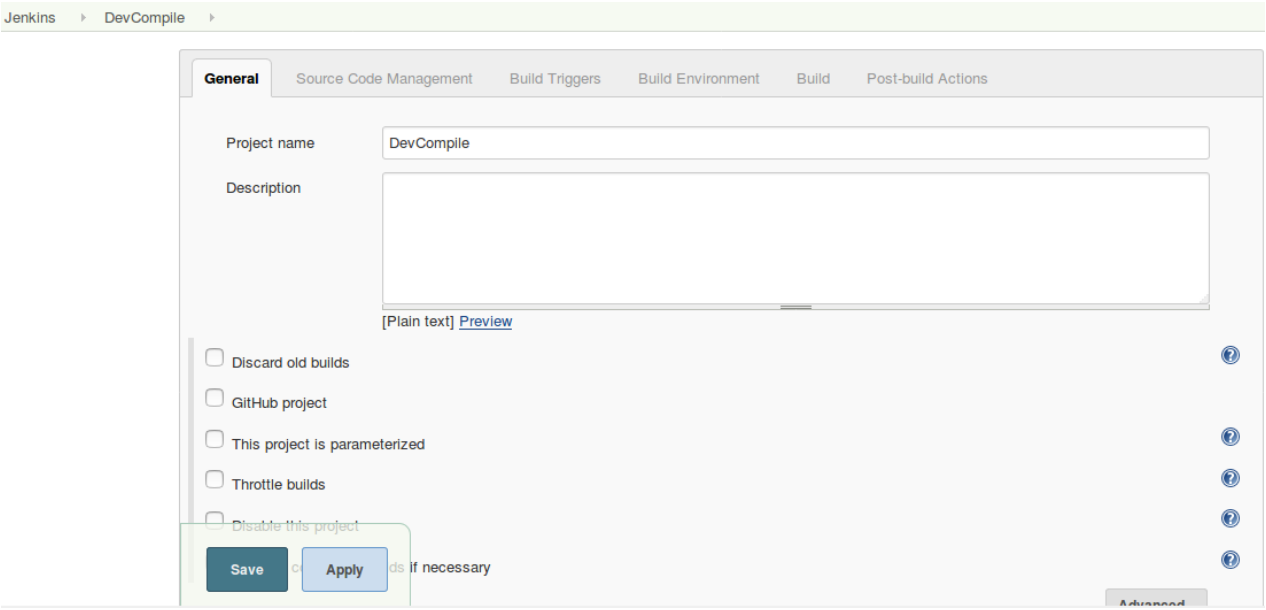


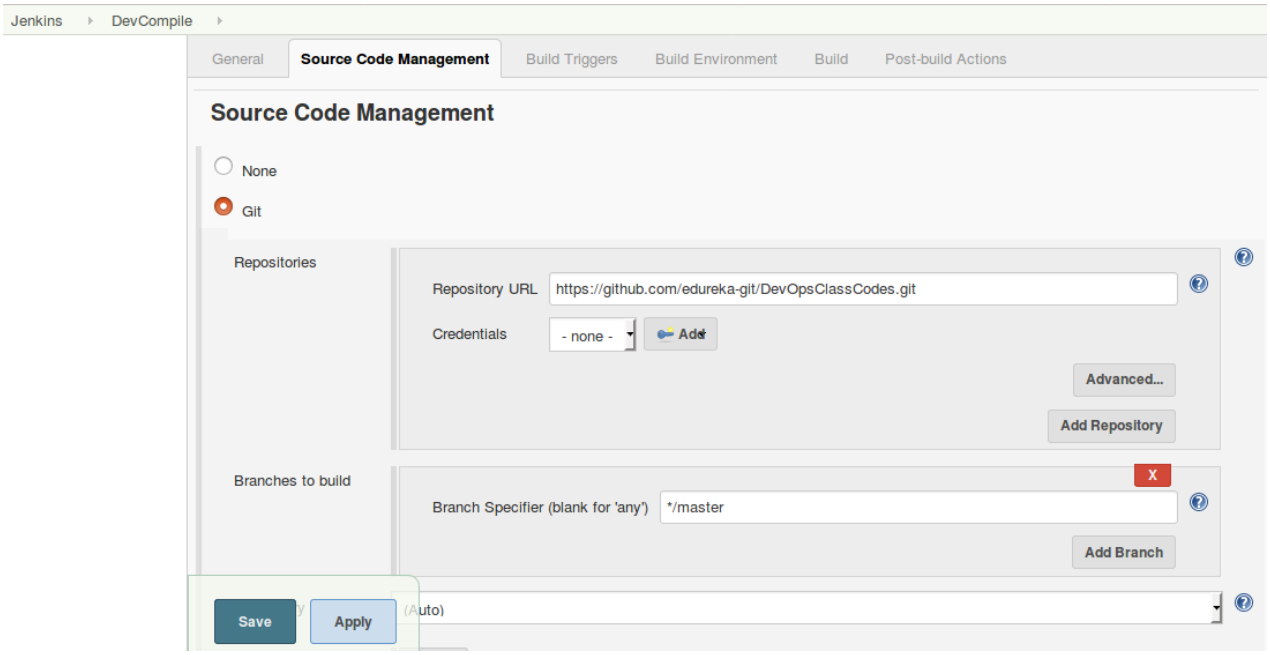


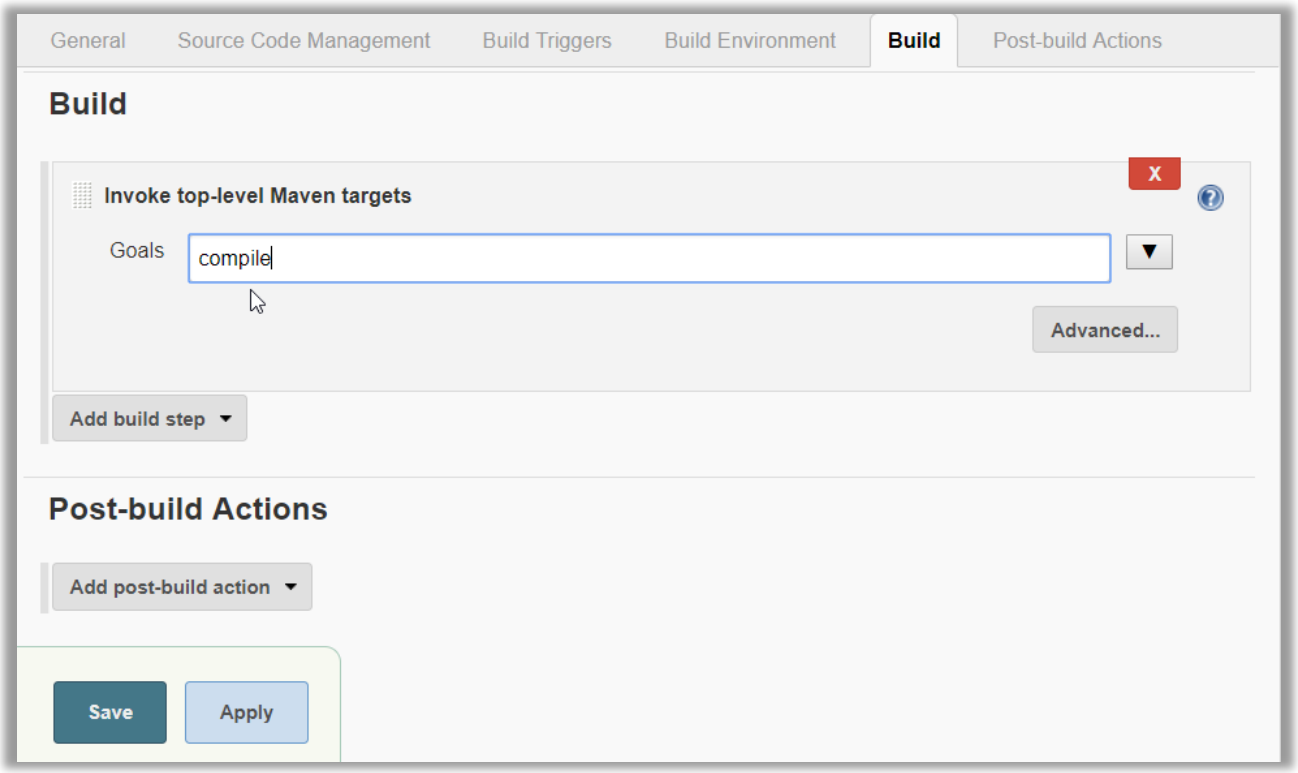


Demo – 2 : Create The Whole Delivery Pipeline View

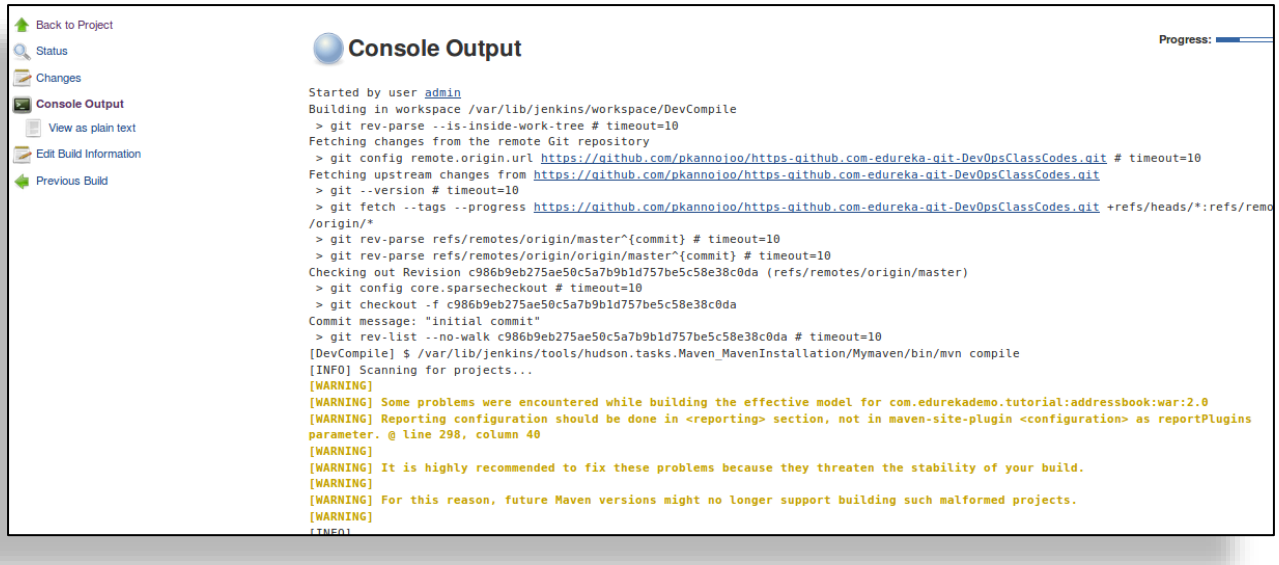


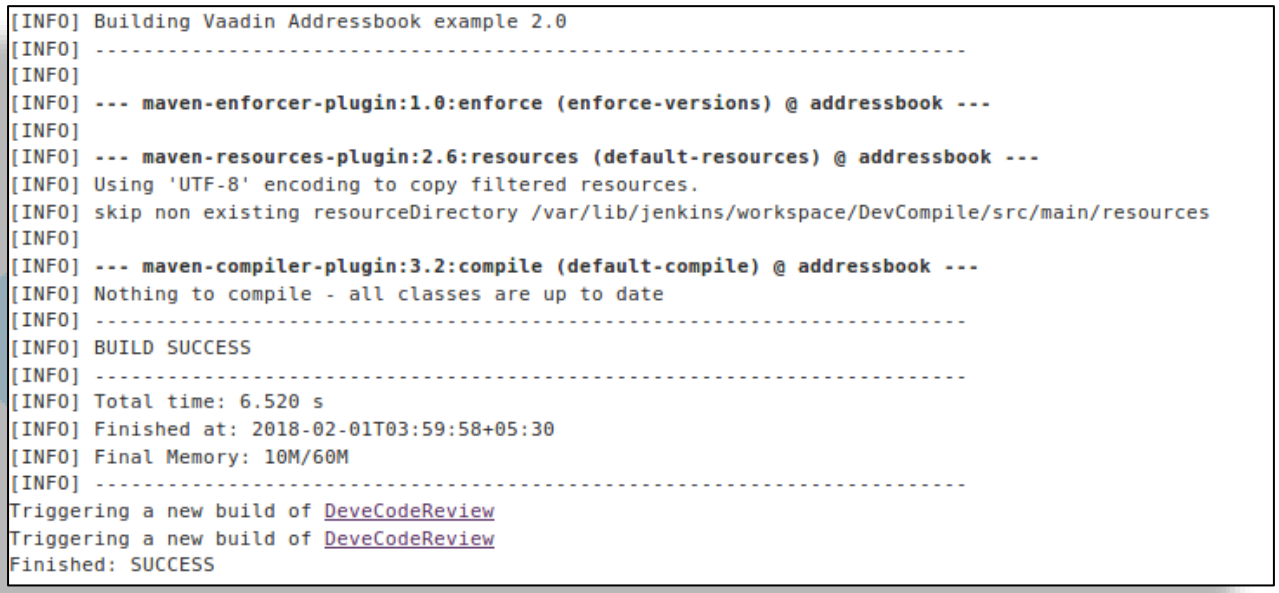

Jenkins
DevCompile
General
Source Code Management
Build Triggers
Build Environment
Build
Post-build Actions
Project name
DevCompile
Description
[Plain text] Preview
Discard old builds
GitHub project
This project is parameterized
Throttle builds
Save
Apply


Jenkins
DevCompile
General
Source Code Management
Build Triggers
Build Environment
Build
Post-build Actions
Source Code Management
None
Git
Repositories
Repository URL
https://github.com/edureka-git/DevOpsClassCodes.git
Credentials
- none -
Advanced...
Add Repository
Branches to build
Branch Specifier (blank for 'any')
*/master
Add Branch
Save
Apply

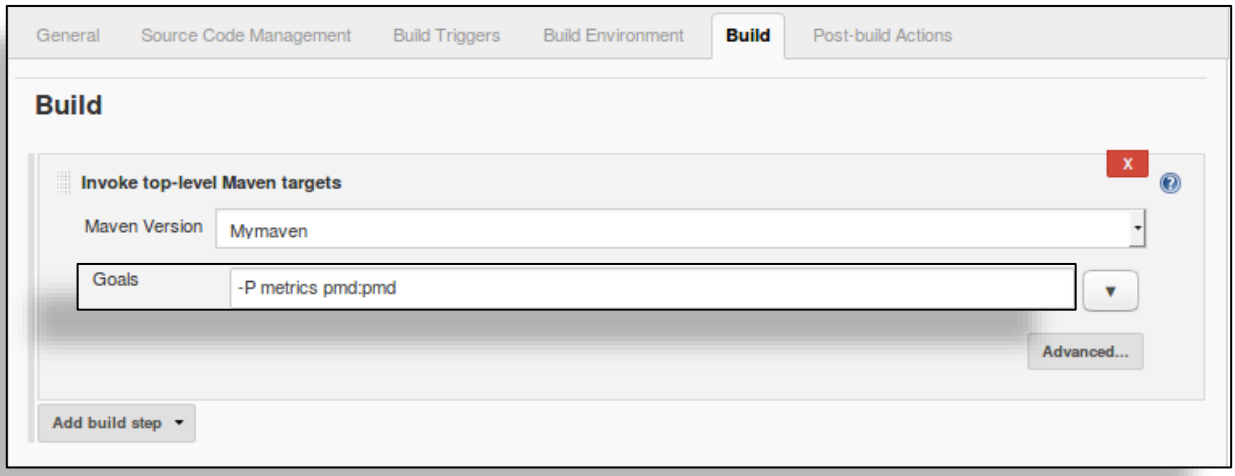

General
Source Code Management
Build Triggers
Build Environment
Build
Post-build Actions
Build
Invoke top-level Maven targets
Goals
compile
Advanced...
Add build step
Post-build Actions
Add post-build action
Save
Apply

edureka!





- Provide the same Source Code Management Path DevCodereview



Filter: PMD Plug-in

Updates | Available | **Installed** | Advanced

Enabled	Name ↓	Version	Previously installed version	Uninstall
✓	bouncycastle API Plugin This plugin provides an stable API to Bouncy Castle related tasks.	2.16.2		Uninstall
✓	Command Agent Launcher Plugin Allows agents to be launched using a specified command.	1.2		Uninstall
✓	Matrix Project Plugin Multi-configuration (matrix) project type.	1.12		Uninstall
✓	Maven Integration plugin This plug-in provides, for better and for worse, a deep integration of Jenkins and Maven: Automatic triggers between projects depending on SNAPSHOTs, automated configuration of various Jenkins publishers (Junit, ...).	3.1		Uninstall
✓	PMD Plug-in This plug-in collects the PMD analysis results of the project modules and visualizes the found warnings.	3.50		Uninstall
✓	Static Analysis Utilities This plug-in provides utilities for the static code analysis plug-ins.	1.94		Uninstall
✓	Token Macro Plugin This plug-in adds reusable macro expansion capability for other plug-ins to use.	2.3		Uninstall

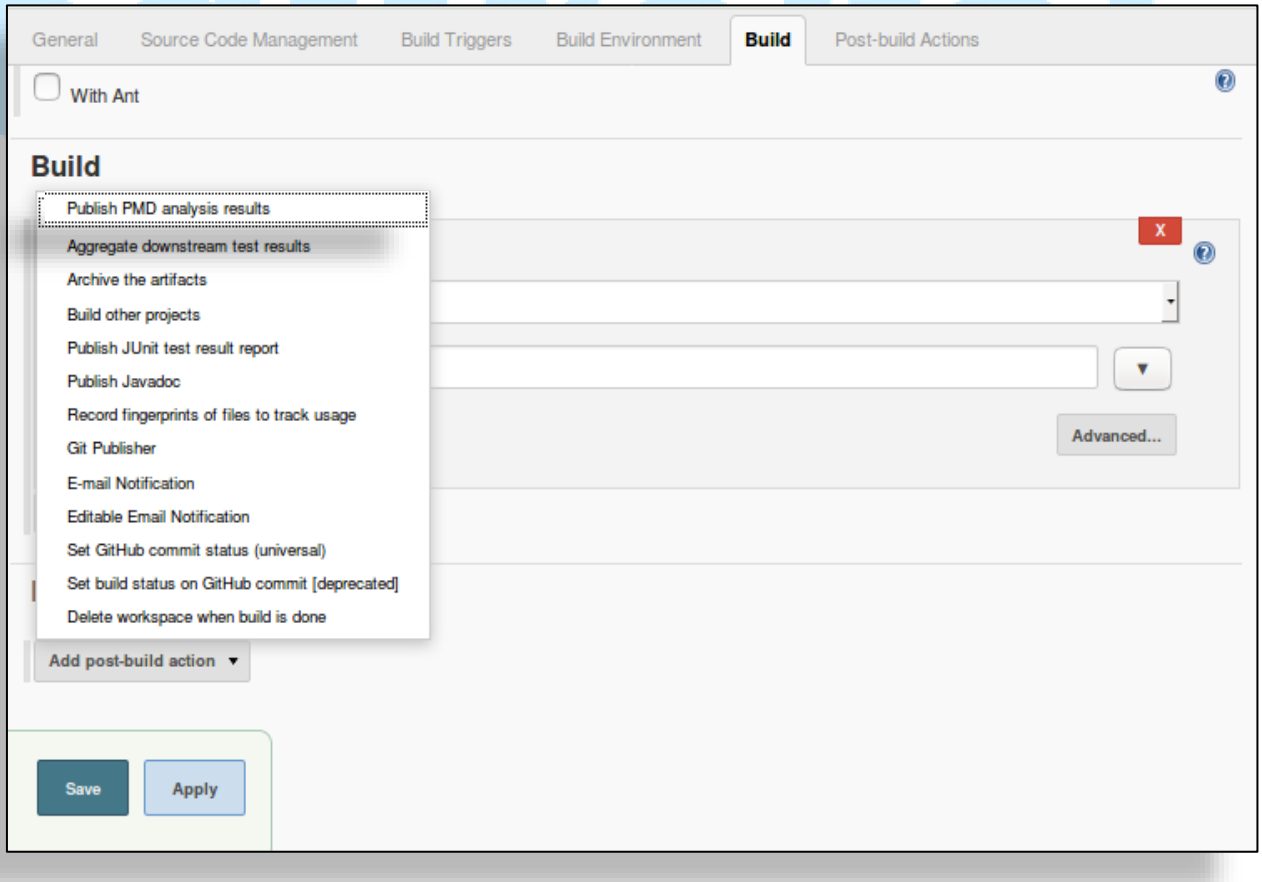
Back to Project
Status
Changes
Console Output
View as plain text
Edit Build Information

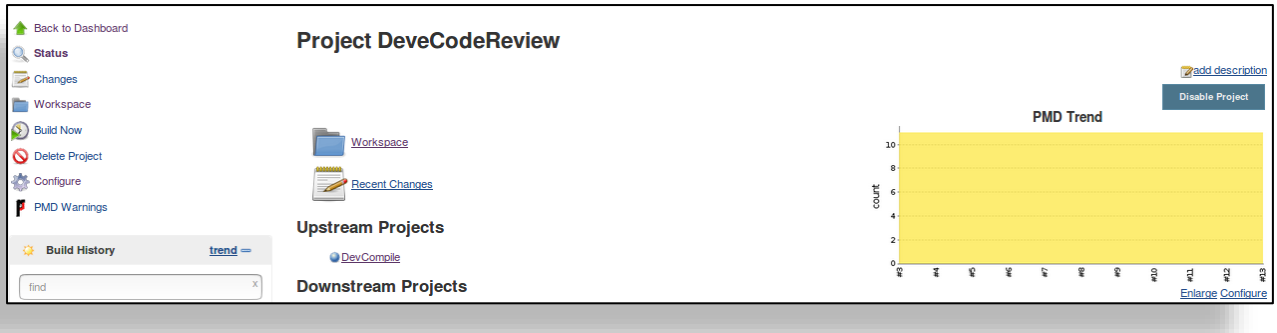
Console Output

Progress:

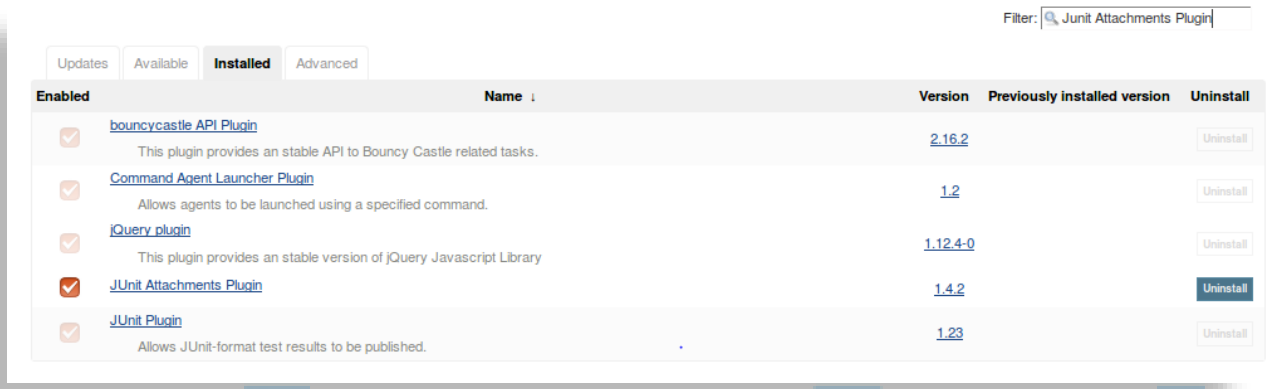
```
Started by user admin
Building in workspace /var/lib/jenkins/workspace/DeveCodeReview
Cloning the remote Git repository
Cloning repository https://github.com/pkannojoo/https-github.com-edureka-git-DevOpsClassCodes.git
 > git init /var/lib/jenkins/workspace/DeveCodeReview # timeout=10
Fetching upstream changes from https://github.com/pkannojoo/https-github.com-edureka-git-DevOpsClassCodes.git
 > git --version # timeout=10
 > git fetch --tags --progress https://github.com/pkannojoo/https-github.com-edureka-git-DevOpsClassCodes.git +refs/heads/*:refs/remotes
/origin/*
 > git config remote.origin.url https://github.com/pkannojoo/https-github.com-edureka-git-DevOpsClassCodes.git # timeout=10
 > git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
 > git config remote.origin.url https://github.com/pkannojoo/https-github.com-edureka-git-DevOpsClassCodes.git # timeout=10
Fetching upstream changes from https://github.com/pkannojoo/https-github.com-edureka-git-DevOpsClassCodes.git
 > git fetch --tags --progress https://github.com/pkannojoo/https-github.com-edureka-git-DevOpsClassCodes.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 c986b9eb275ae50c5a7b9b1d757be5c58e38c0da (refs/remotes/origin/master)
 > git config core.sparsecheckout # timeout=10
 > git checkout -f c986b9eb275ae50c5a7b9b1d757be5c58e38c0da
Commit message: "initial commit"
First time build. Skipping changelog.
[DeveCodeReview] $ /var/lib/jenkins/tools/hudson.tasks.Maven_MavenInstallation/Mymaven/bin/mvn -P metrics pmd:pmd
[INFO] Scanning for projects...
Downloading: https://repo.maven.apache.org/maven2/org/eclipse/jetty/jetty-maven-plugin/9.2.3.v20140905/jetty-maven-plugin-
9.2.3.v20140905.pom
Progress (1): 2.1/5.4 kB
```

```
Progress (1): 290/358 kB
Progress (1): 294/358 kB
Progress (1): 298/358 kB
Progress (1): 302/358 kB
Progress (1): 307/358 kB
Progress (1): 311/358 kB
Progress (1): 315/358 kB
Progress (1): 319/358 kB
Progress (1): 323/358 kB
Progress (1): 327/358 kB
Progress (1): 331/358 kB
Progress (1): 335/358 kB
Progress (1): 339/358 kB
Progress (1): 343/358 kB
Progress (1): 348/358 kB
Progress (1): 352/358 kB
Progress (1): 356/358 kB
Progress (1): 358 kB

Downloaded: https://repo.maven.apache.org/maven2/log4j/log4j/1.2.12/log4j-1.2.12.jar (358 kB at 115 kB/s)
[INFO] No sources to compile
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time: 05:59 min
[INFO] Finished at: 2018-01-31T21:25:09+05:30
[INFO] Final Memory: 13M/60M
[INFO] ------------------------------------------------------------------------
Finished: SUCCESS
```

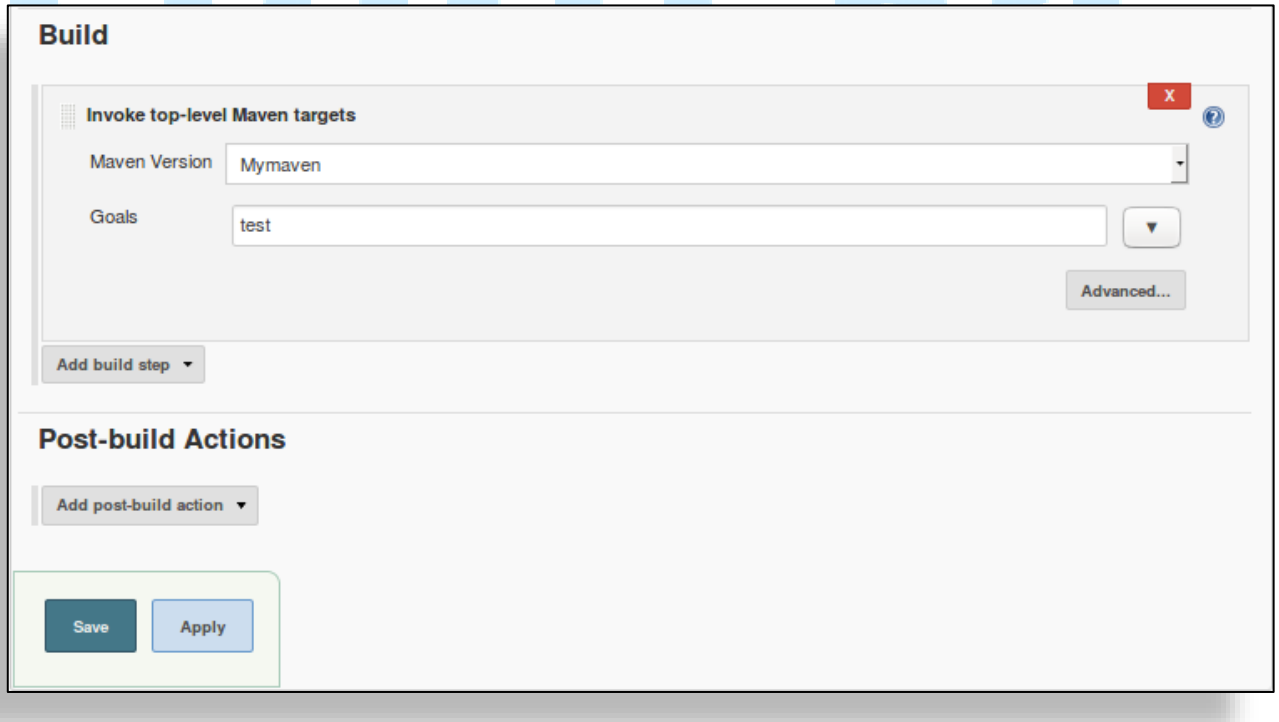




Create a New project QAUnitTest



edureka!



Console Output

```
Started by upstream project "QAMetricCheck" build number 14
originally caused by:
 Started by user admin
Started by upstream project "QAMetricCheck" build number 14
originally caused by:
 Started by user admin
Building in workspace /var/lib/jenkins/workspace/QAPackage
 > git rev-parse --is-inside-work-tree # timeout=10
Fetching changes from the remote Git repository
 > git config remote.origin.url https://github.com/pkannojoo/https-github.com-edureka-git-DevOpsClassCodes.git # timeout=10
Fetching upstream changes from https://github.com/pkannojoo/https-github.com-edureka-git-DevOpsClassCodes.git
 > git --version # timeout=10
 > git fetch --tags --progress https://github.com/pkannojoo/https-github.com-edureka-git-DevOpsClassCodes.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 c986b9eb275ae50c5a7b9b1d757be5c58e38c0da (refs/remotes/origin/master)
 > git config core.sparsecheckout # timeout=10
 > git checkout -f c986b9eb275ae50c5a7b9b1d757be5c58e38c0da
Commit message: "initial commit"
 > git rev-list --no-walk c986b9eb275ae50c5a7b9b1d757be5c58e38c0da # timeout=10
[QAPackage] $ /var/lib/jenkins/tools/hudson.tasks.Maven_MavenInstallation/Mymaven/bin/mvn package
[INFO] Scanning for projects...
[WARNING]
[WARNING] Some problems were encountered while building the effective model for com.edurekademo.tutorial:addressbook:war:2.0
[WARNING] Reporting configuration should be done in <reporting> section, not in maven-site-plugin <configuration> as reportPlugins
parameter. @ line 298, column 40
```

```
Results :

Tests run: 23, Failures: 0, Errors: 0, Skipped: 0

[INFO]
[INFO] --- maven-war-plugin:2.2:war (default-war) @ addressbook ---
[INFO] Packaging webapp
[INFO] Assembling webapp [addressbook] in [/var/lib/jenkins/workspace/QAPackage/target/addressbook]
[INFO] Processing war project
[INFO] Webapp assembled in [806 msecs]
[INFO] Building war: /var/lib/jenkins/workspace/QAPackage/target/addressbook.war
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time: 21.879 s
[INFO] Finished at: 2018-02-01T05:15:54+05:30
[INFO] Final Memory: 13M/60M
[INFO] ------------------------------------------------------------------------
Finished: SUCCESS
```

- Back to Project
- Status
- Changes
- Console Output
- Edit Build Information
- History
- Git Build Data
- No Tags
- Test Result
- Previous Build

Test Result

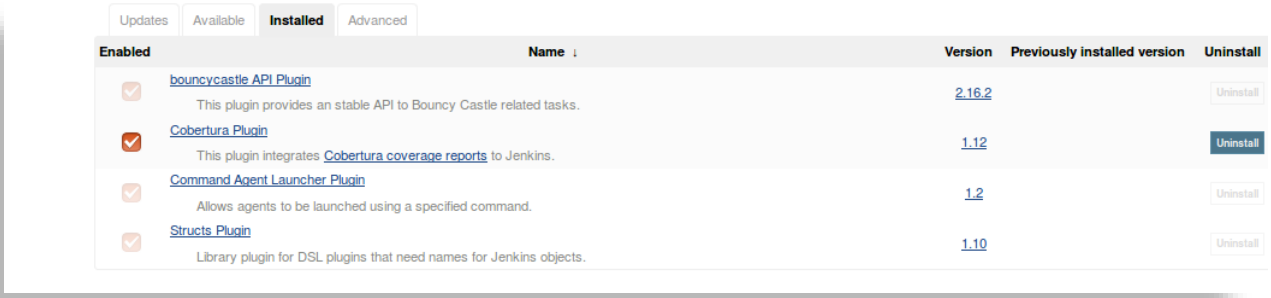
0 failures

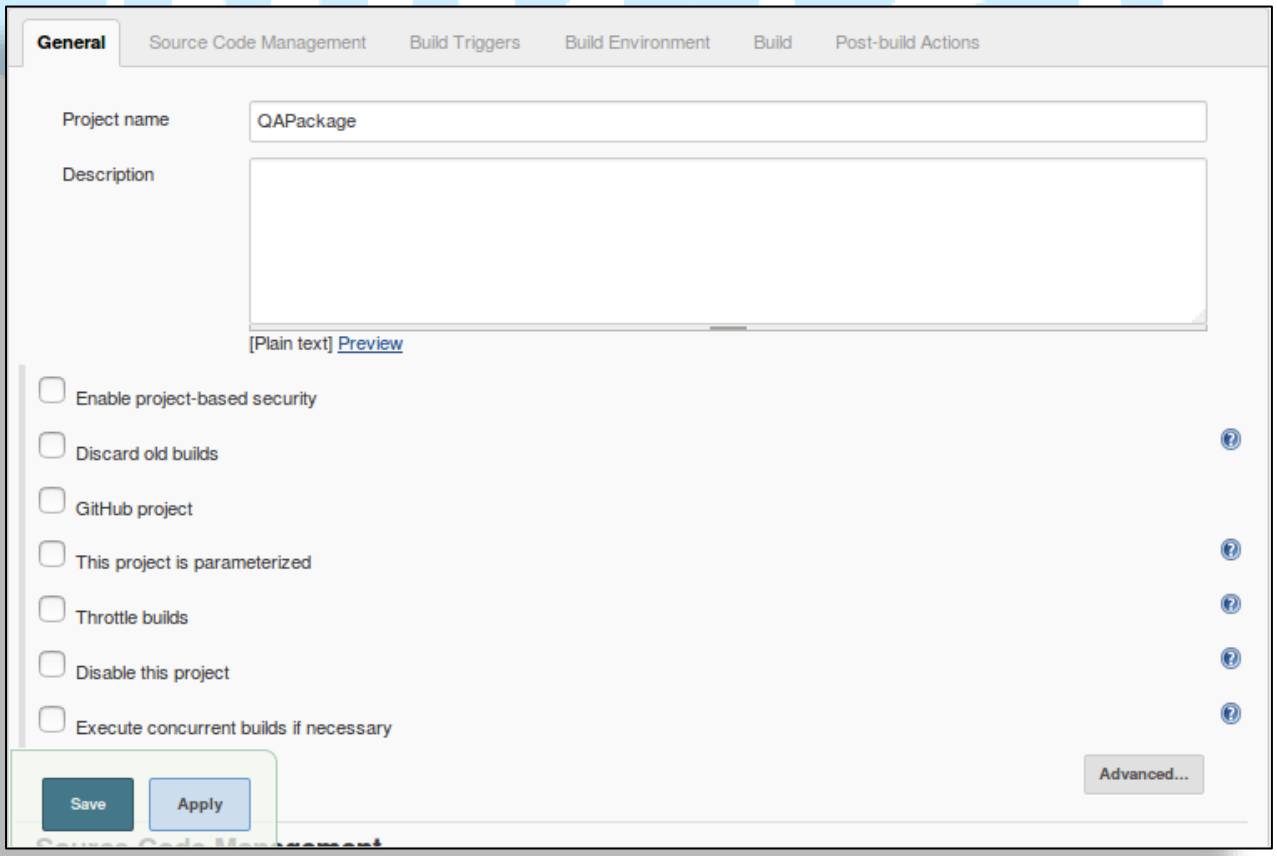
23 tests
Took 0.38 sec.
add description

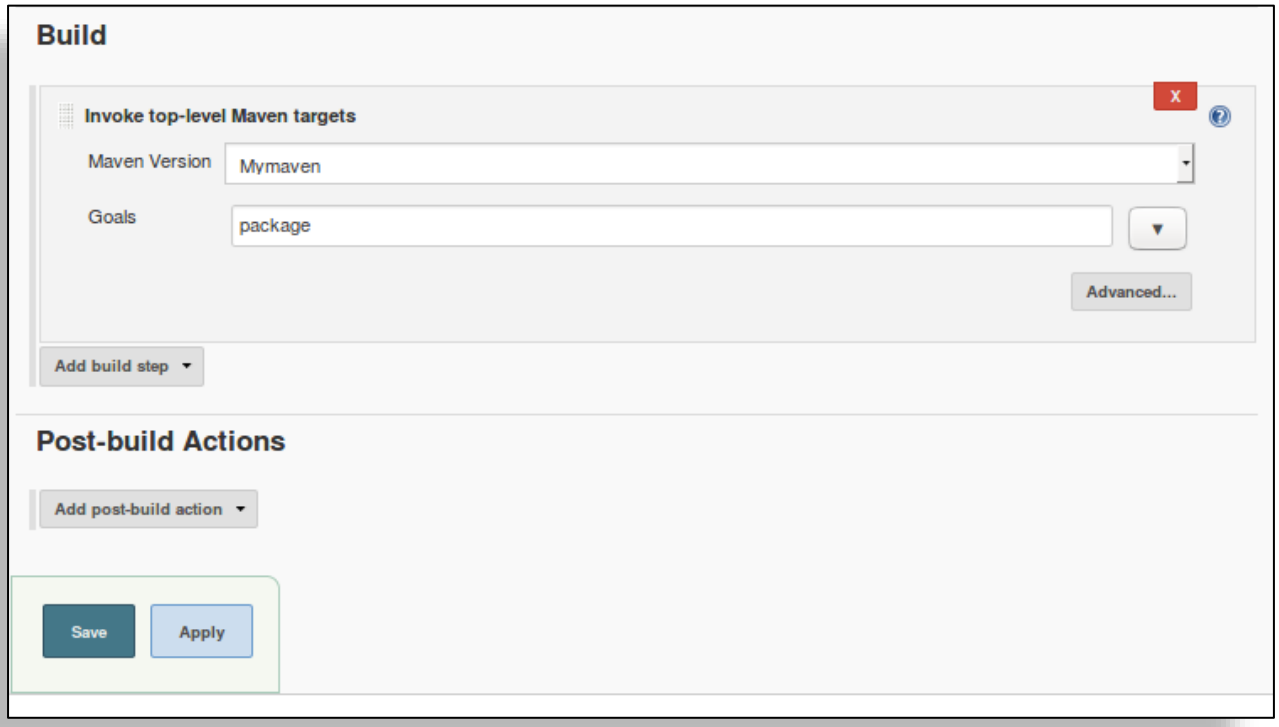
All Tests

Package	Duration	Fail (diff)	Skip (diff)	Pass (diff)	Total (diff)
com.edurekademo.utilities	0.38 sec	0	0	23 +23	23 +23

Build
Invoke top-level Maven targets
Maven Version
Mymaven
Goals
cobertura:cobertura
Advanced...
Add build step


Updates
Available
Installed
Advanced
Enabled
Name
Version
Previously installed version
Uninstall
bouncycastle API Plugin
This plugin provides an stable API to Bouncy Castle related tasks.
2.16.2
Cobertura Plugin
This plugin integrates Cobertura coverage reports to Jenkins.
1.12
Uninstall
Command Agent Launcher Plugin
Allows agents to be launched using a specified command.
1.2
Structs Plugin
Library plugin for DSL plugins that need names for Jenkins objects.
1.10

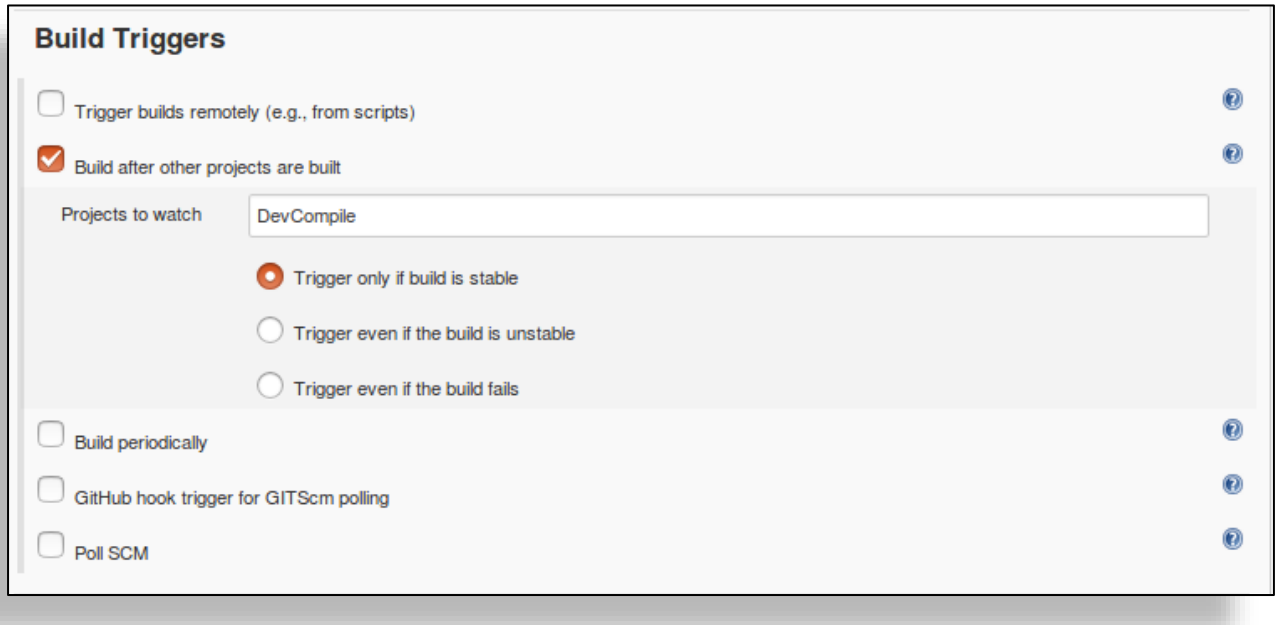

General
Source Code Management
Build Triggers
Build Environment
Build
Post-build Actions
Project name
QAPackage
Description
[Plain text] Preview
Enable project-based security
Discard old builds
GitHub project
This project is parameterized
Throttle builds
Disable this project
Execute concurrent builds if necessary
Advanced...
Save
Apply

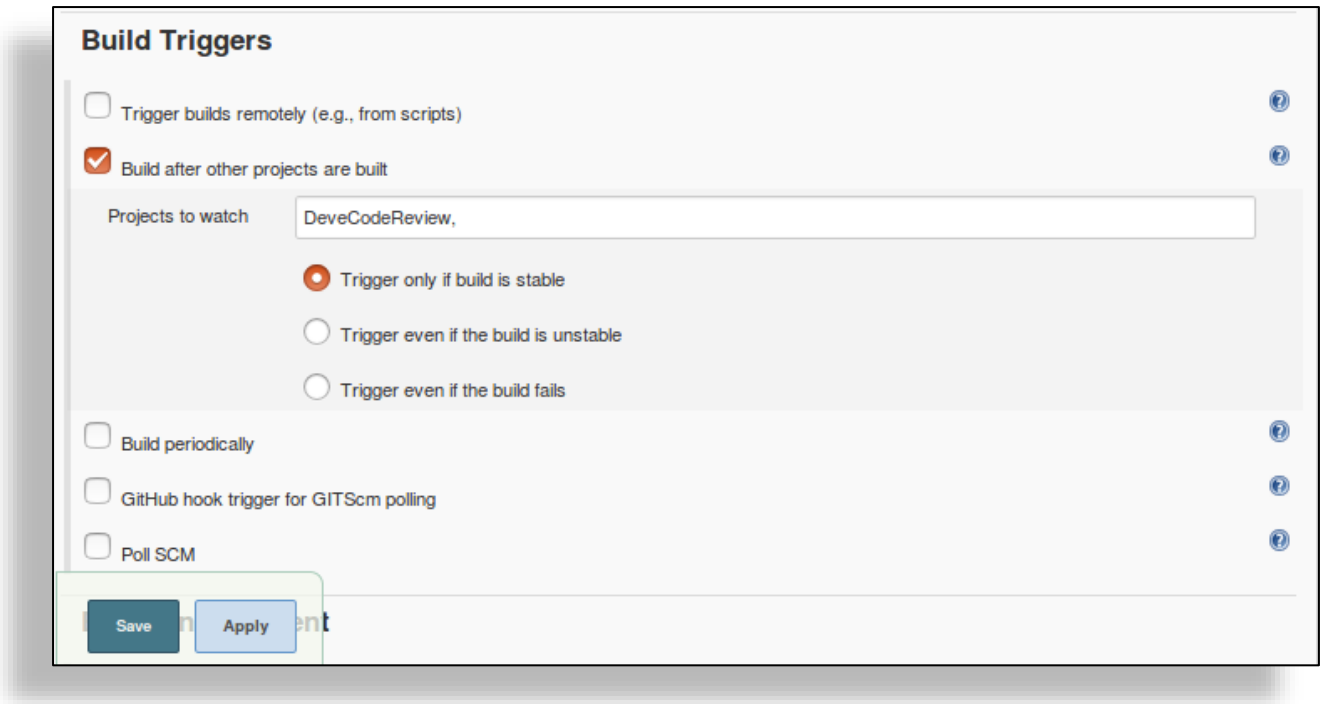

Build
Invoke top-level Maven targets
Maven Version
Mymaven
Goals
package
Advanced...
Add build step
Post-build Actions
Add post-build action
Save
Apply

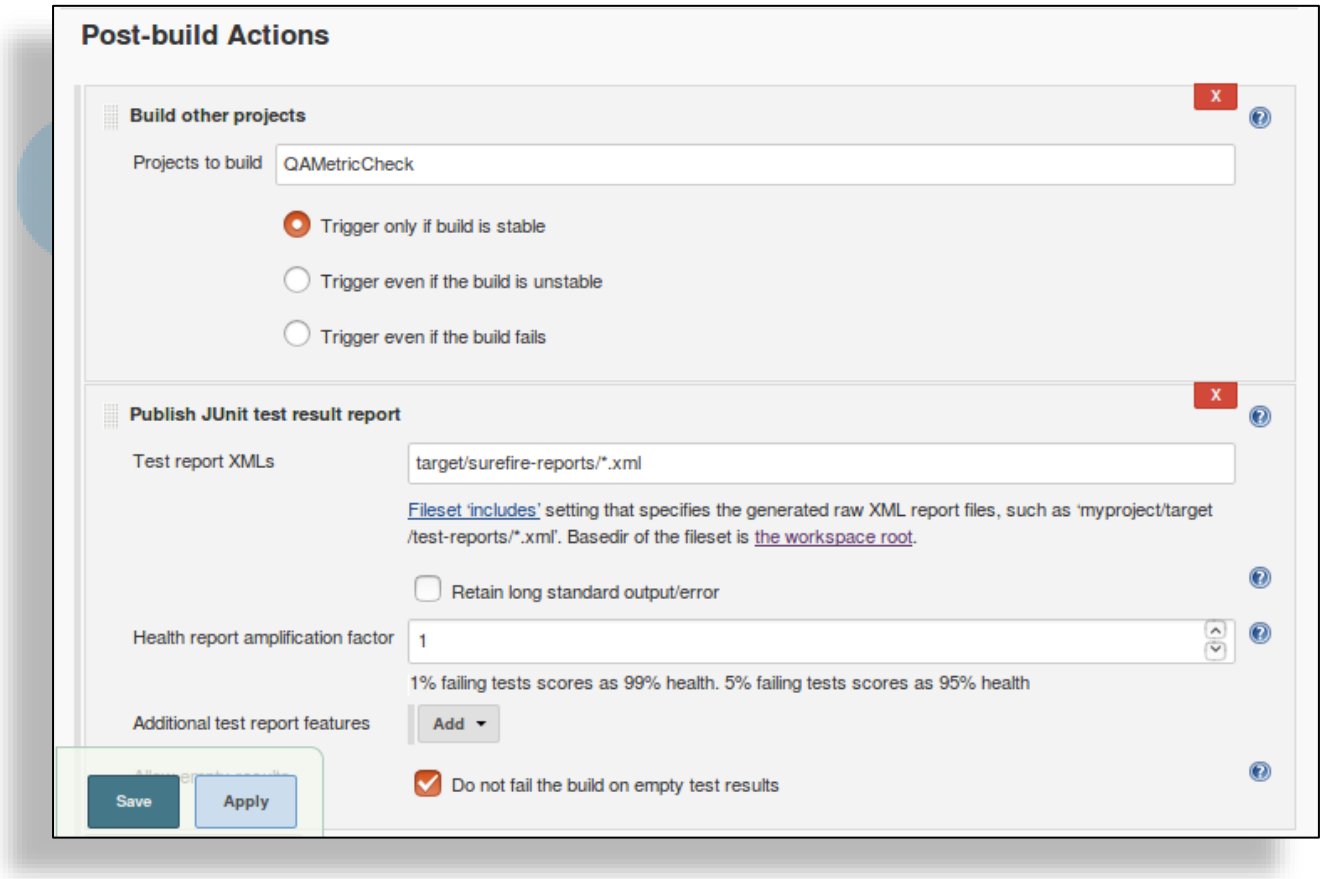
Console Output
Started by upstream project "QAMetricCheck" build number 14
originally caused by:
Started by user admin
Started by upstream project "QAMetricCheck" build number 14
originally caused by:
Started by user admin
Building in workspace /var/lib/jenkins/workspace/QAPackage
> git rev-parse --is-inside-work-tree # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/pkannojoo/https-github.com-edureka-git-DevOpsClassCodes.git # timeout=10
Fetching upstream changes from https://github.com/pkannojoo/https-github.com-edureka-git-DevOpsClassCodes.git
> git --version # timeout=10
> git fetch --tags --progress https://github.com/pkannojoo/https-github.com-edureka-git-DevOpsClassCodes.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 c986b9eb275ae50c5a7b9b1d757be5c58e38c0da (refs/remotes/origin/master)
> git config core.sparsecheckout # timeout=10
> git checkout -f c986b9eb275ae50c5a7b9b1d757be5c58e38c0da
Commit message: "initial commit"
> git rev-list --no-walk c986b9eb275ae50c5a7b9b1d757be5c58e38c0da # timeout=10
[QAPackage] $ /var/lib/jenkins/tools/hudson.tasks.Maven_MavenInstallation/Mymaven/bin/mvn package
[INFO] Scanning for projects...
[WARNING]
[WARNING] Some problems were encountered while building the effective model for com.edurekademo.tutorial:addressbook:war:2.0
[WARNING] Reporting configuration should be done in <reporting> section, not in maven-site-plugin <configuration> as reportPlugins
parameter. @ line 298, column 40

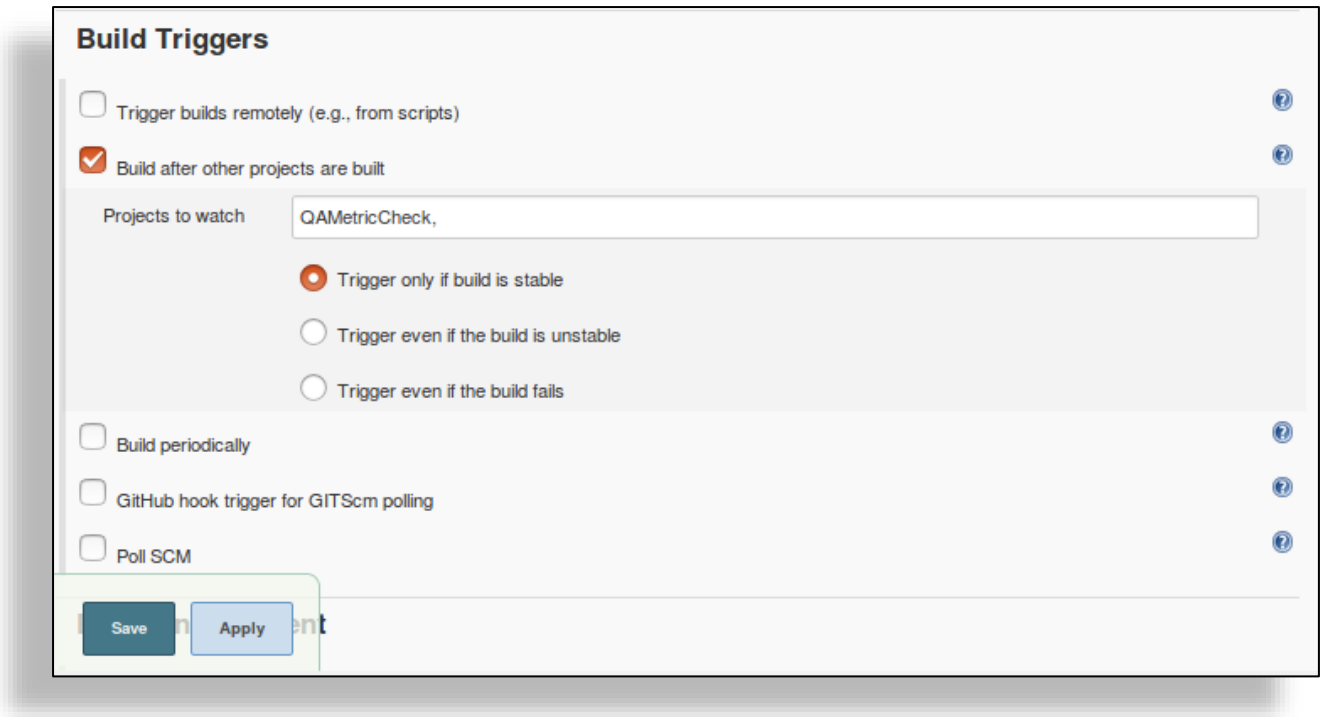
```
Results :

Tests run: 23, Failures: 0, Errors: 0, Skipped: 0

[INFO]
[INFO] --- maven-war-plugin:2.2:war (default-war) @ addressbook ---
[INFO] Packaging webapp
[INFO] Assembling webapp [addressbook] in [/var/lib/jenkins/workspace/QAPackage/target/addressbook]
[INFO] Processing war project
[INFO] Webapp assembled in [806 msecs]
[INFO] Building war: /var/lib/jenkins/workspace/QAPackage/target/addressbook.war
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time: 21.879 s
[INFO] Finished at: 2018-02-01T05:15:54+05:30
[INFO] Final Memory: 13M/60M
[INFO] ------------------------------------------------------------------------
Finished: SUCCESS
```

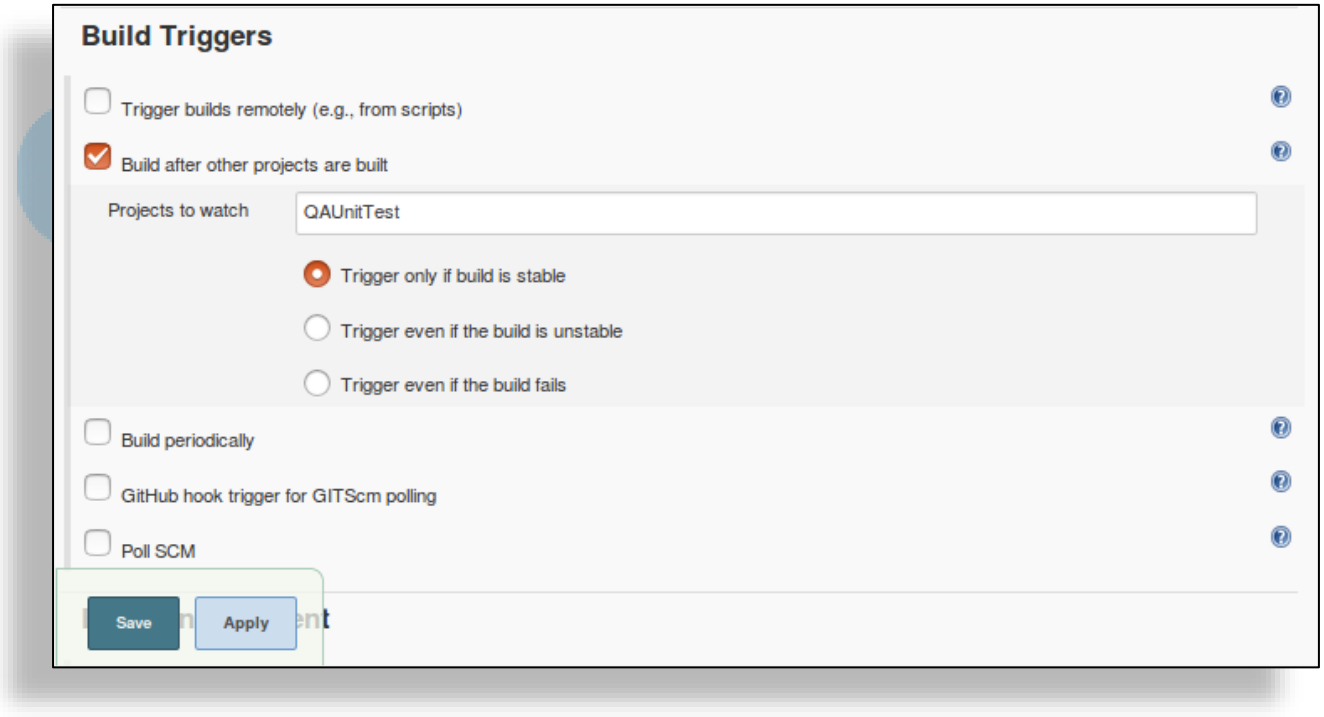
```
shubham@shubham-VirtualBox:/var/lib/jenkins/workspace/QAPackage/target$ ls
addressbook      classes            generated-test-sources  maven-status      test-classes
addressbook.war  generated-sources  maven-archiver          surefire-reports
shubham@shubham-VirtualBox:/var/lib/jenkins/workspace/QAPackage/target$
```

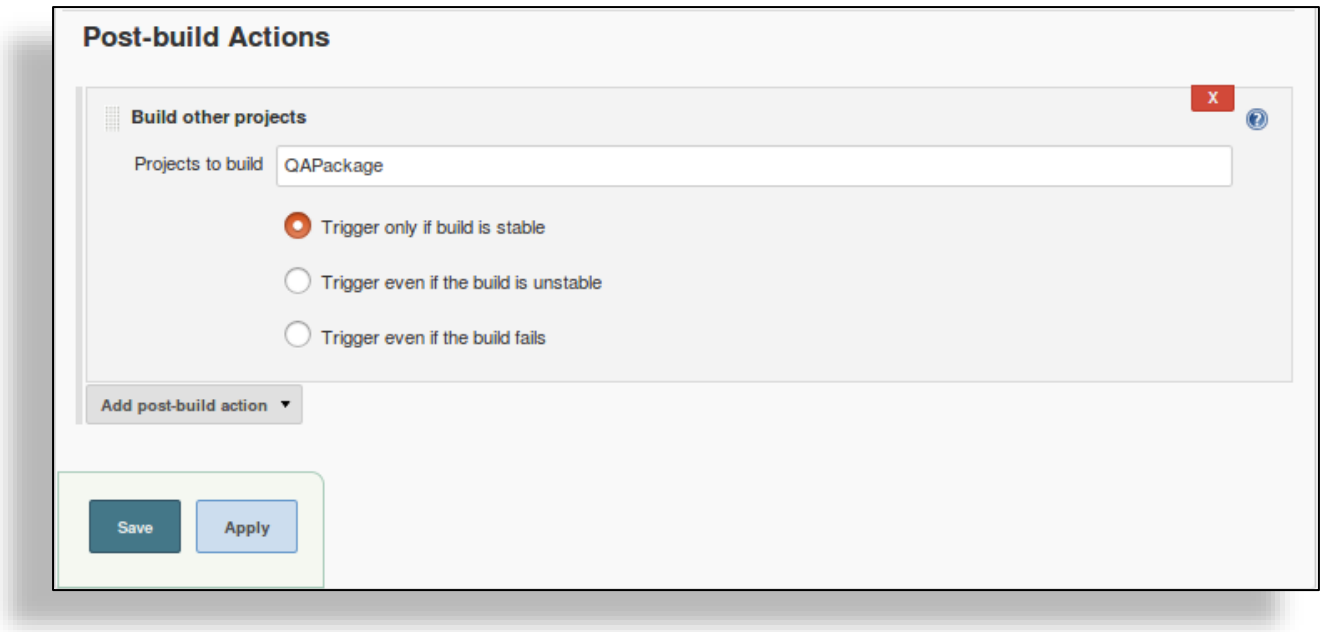



Build Triggers
Trigger builds remotely (e.g., from scripts)
Build after other projects are built
Projects to watch
DeveCodeReview,
Trigger only if build is stable
Trigger even if the build is unstable
Trigger even if the build fails
Build periodically
GitHub hook trigger for GITScm polling
Poll SCM
Save
Apply

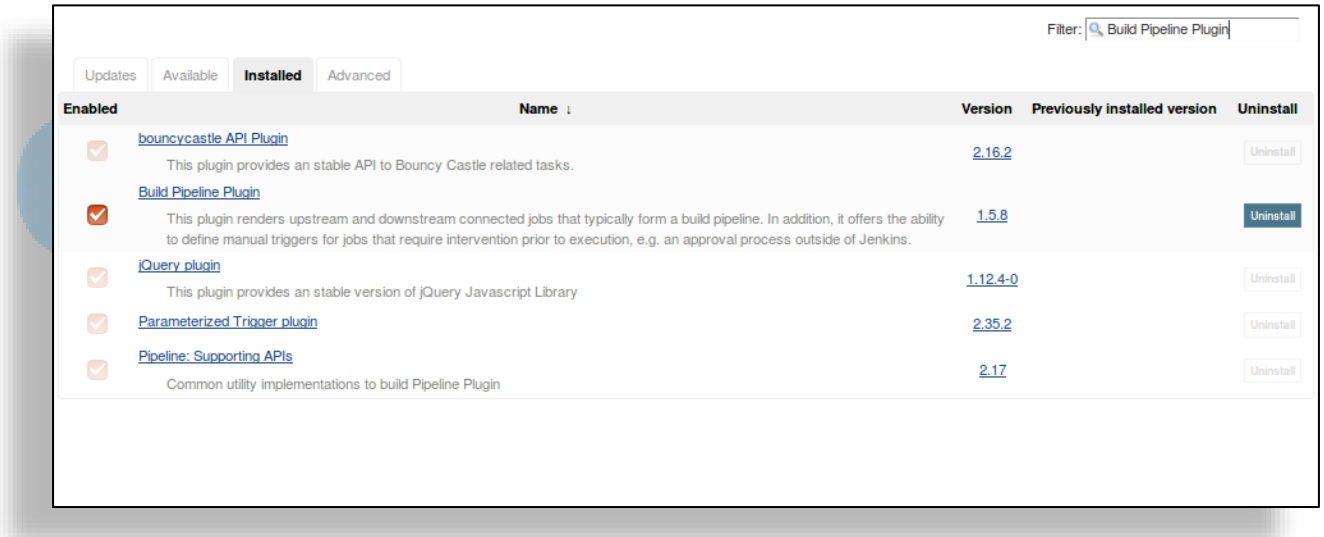

Post-build Actions
Build other projects
Projects to build
QAMetricCheck
Trigger only if build is stable
Trigger even if the build is unstable
Trigger even if the build fails
Publish JUnit test result report
Test report XMLs
target/surefire-reports/*.xml
Fileset 'includes' setting that specifies the generated raw XML report files, such as 'myproject/target /test-reports/*.xml'. Basedir of the fileset is the workspace root.
Retain long standard output/error
Health report amplification factor
1
1% failing tests scores as 99% health. 5% failing tests scores as 95% health
Additional test report features
Add
Do not fail the build on empty test results
Save
Apply


Build Triggers
Trigger builds remotely (e.g., from scripts)
Build after other projects are built
Projects to watch
QAMetricCheck,
Trigger only if build is stable
Trigger even if the build is unstable
Trigger even if the build fails
Build periodically
GitHub hook trigger for GITScm polling
Poll SCM
Save
Apply


Build Triggers
Trigger builds remotely (e.g., from scripts)
Build after other projects are built
Projects to watch
QAUnitTest
Trigger only if build is stable
Trigger even if the build is unstable
Trigger even if the build fails
Build periodically
GitHub hook trigger for GITScm polling
Poll SCM
Save
Apply



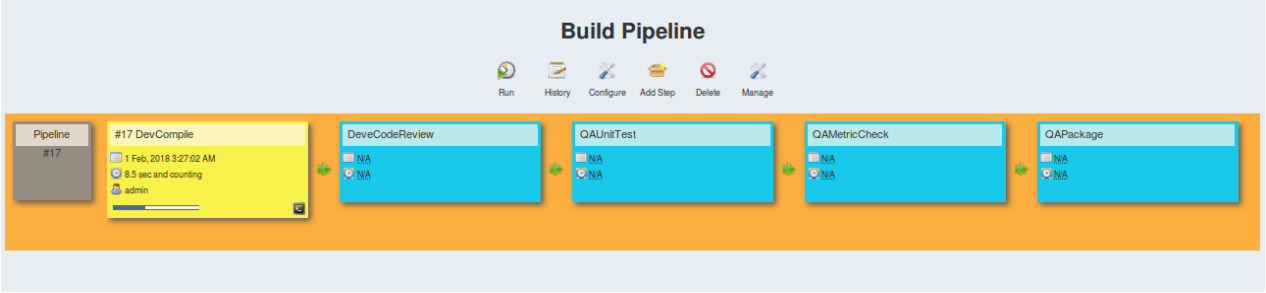
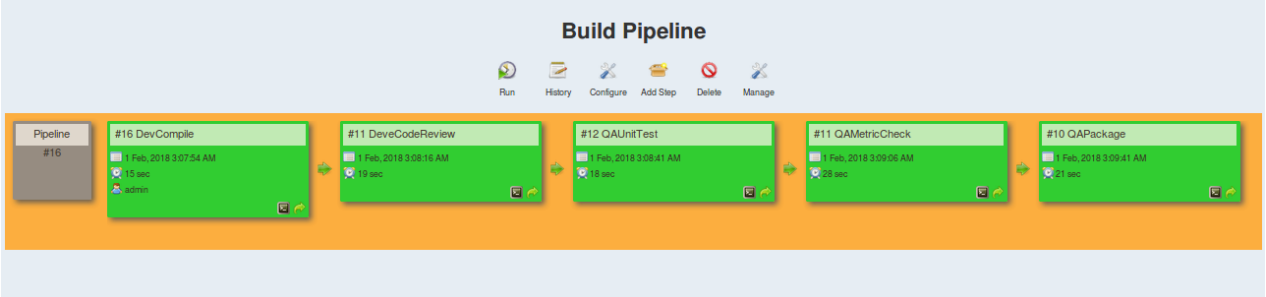
- Install Build Pipeline Plugin



- Create a Pipeline View

All | DevOps | +

S	W	Name ↓	Last Success	Last Failure	Last Duration
		DevCompile	9 hr 46 min - #18	19 hr - #5	27 sec
		DeveCodeReview	9 hr 45 min - #13	N/A	30 sec
		job1	2 days 17 hr - #1	N/A	0.45 sec
		job2	2 days 16 hr - #1	N/A	0.12 sec
		job3	N/A	N/A	N/A
		job4	22 hr - #5	1 day 0 hr - #3	9.4 sec
		QAMetricCheck	8 hr 31 min - #14	13 hr - #2	49 sec
		QAPackage	47 min - #14	N/A	27 sec
		QAUnitTest	9 hr 45 min - #14	13 hr - #3	27 sec

Icon: S M L

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