CICD pipelines

developer

github

Stage 1
Here we will checkout the code from github

Maven — compile

Stage 2

Stage 3

Run the test cases

QA → package — deploy

Jenkins

Script

Pipeline (Script)

Declarative pipeline

- Easier to read, validate, & maintain
- uses modern approach
- DSL (Domain specific language) based on Groovy
- 95% projects are using declarative pipeline.

Scripted pipeline

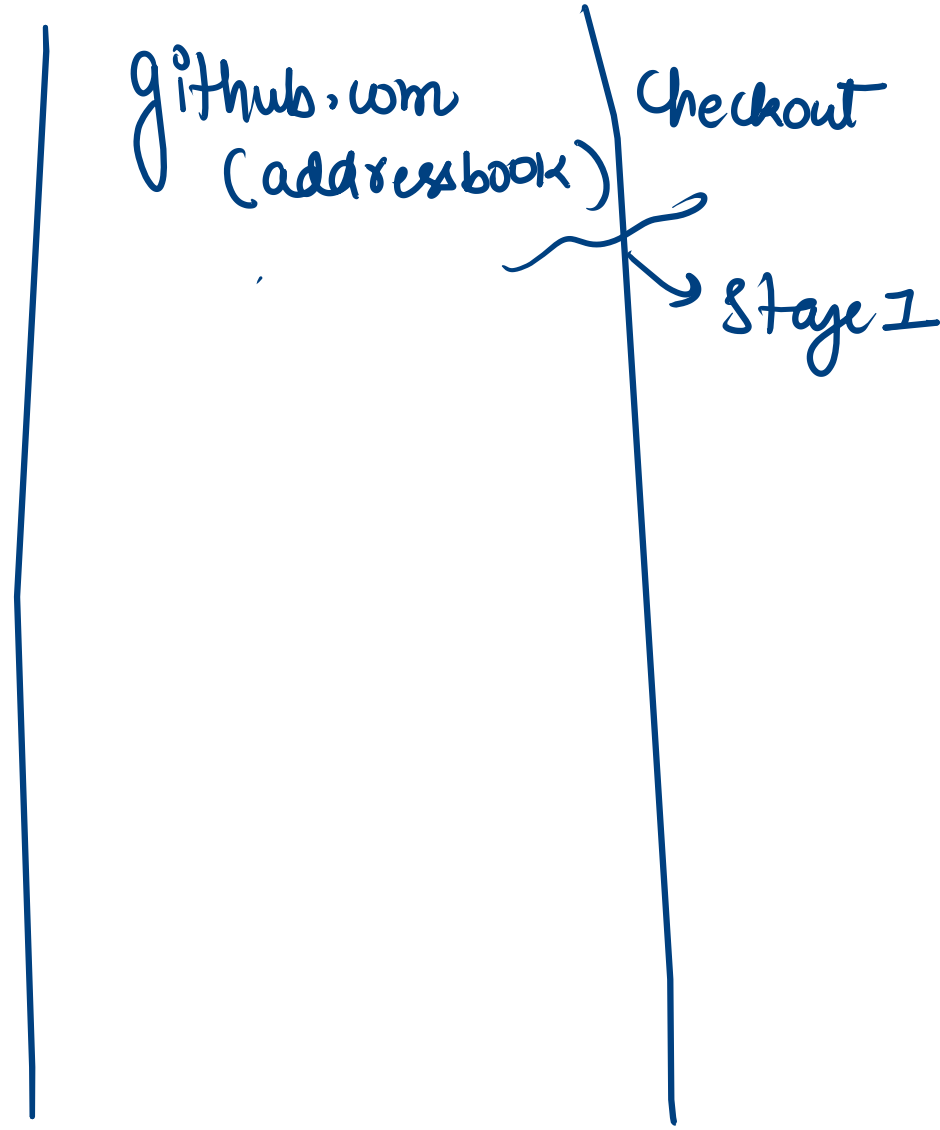
- More diffiunt to write, read & validate
- Java knowledge is required
- Purely Groovy scripty
- Not much used now.

```
pipeline {
  agent any
  stages{
    stage("checking out code from github"){
      steps{
        git url: "giturl"
      }
    }
```

Stage1

name of the stage (any name)

Here your project url will come.



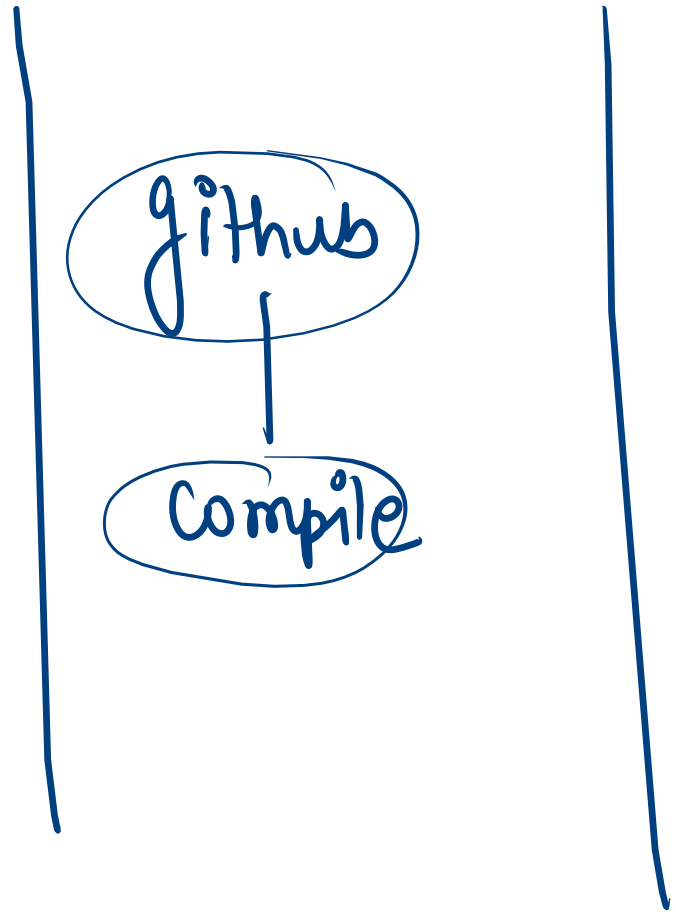

```
}
```

```
pipeline {
   agent any
   stages{
     stage("checking out code from github"){
        steps{
            git url: "giturl"
      }
     }
     stage("compling the project"){
      steps{
          sh "mvn compile"
      }
     }
}
```

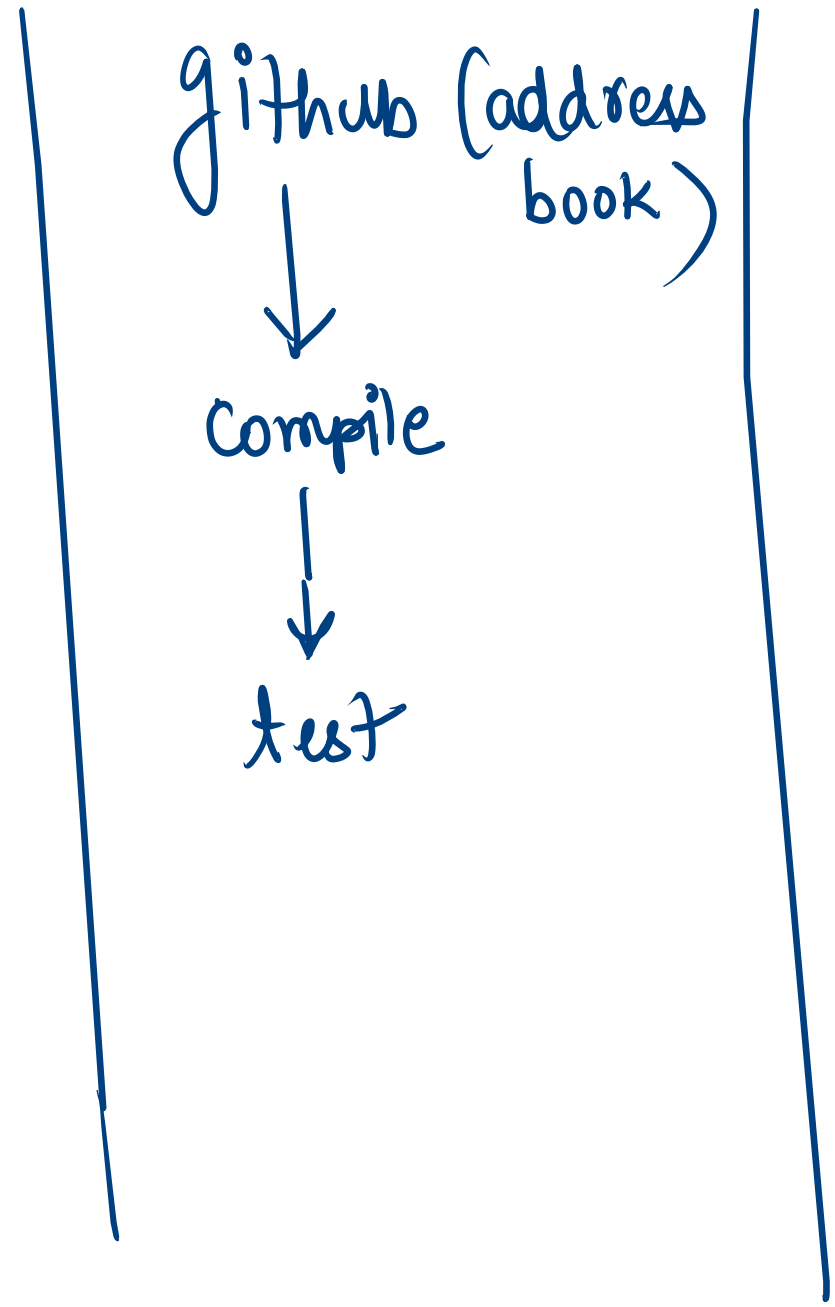
Stage 1

Stage 2

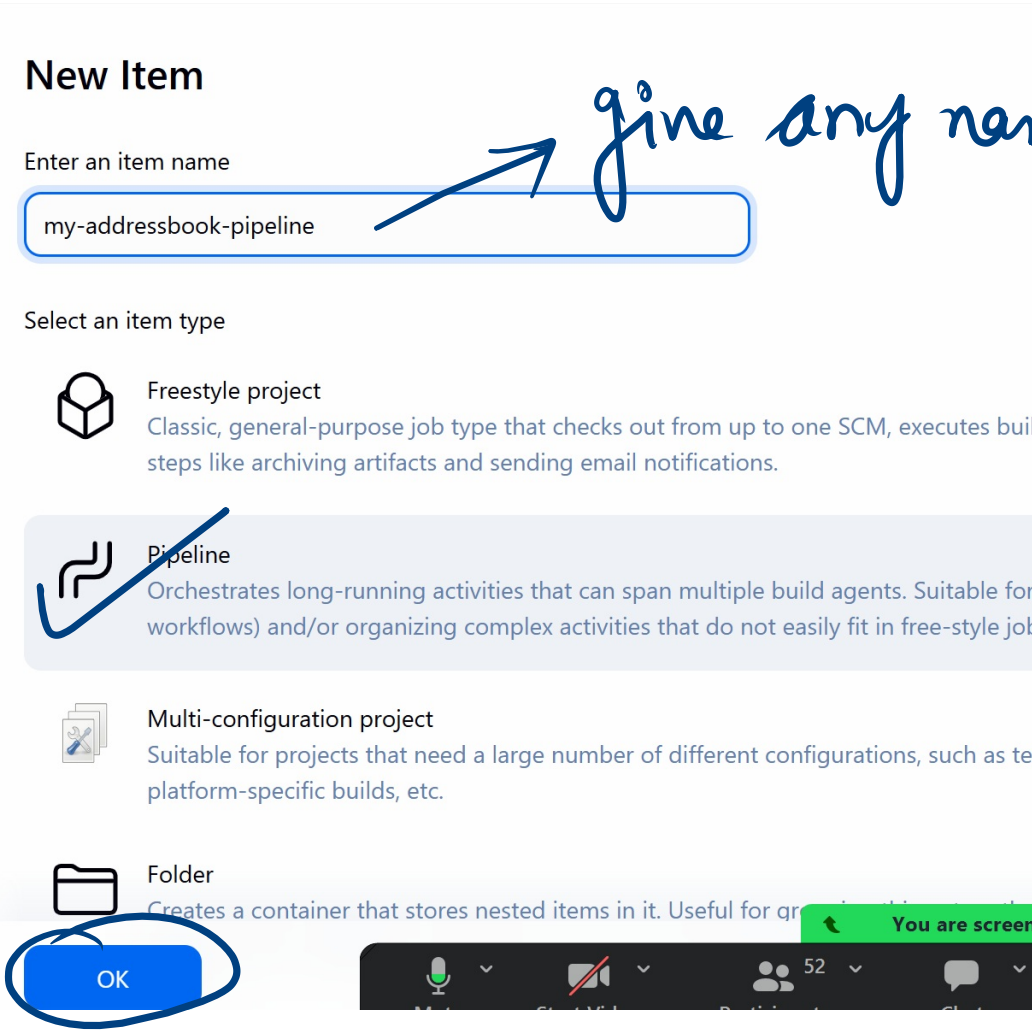
Shell terminal of machine.

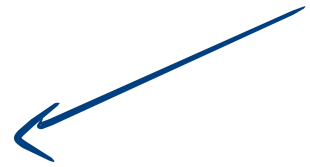


```
pipeline {
   agent any
   stages{
      stage("checking out code from github"){
         steps{
              git url: "giturl"
        }
      }
     stage("compling the project"){
       steps{
           sh "mvn compile"
       }
     }
    stage("test the project"){
      steps{
          sh "mvn test"
      }
    }
}
```



Create Item in Jenkins



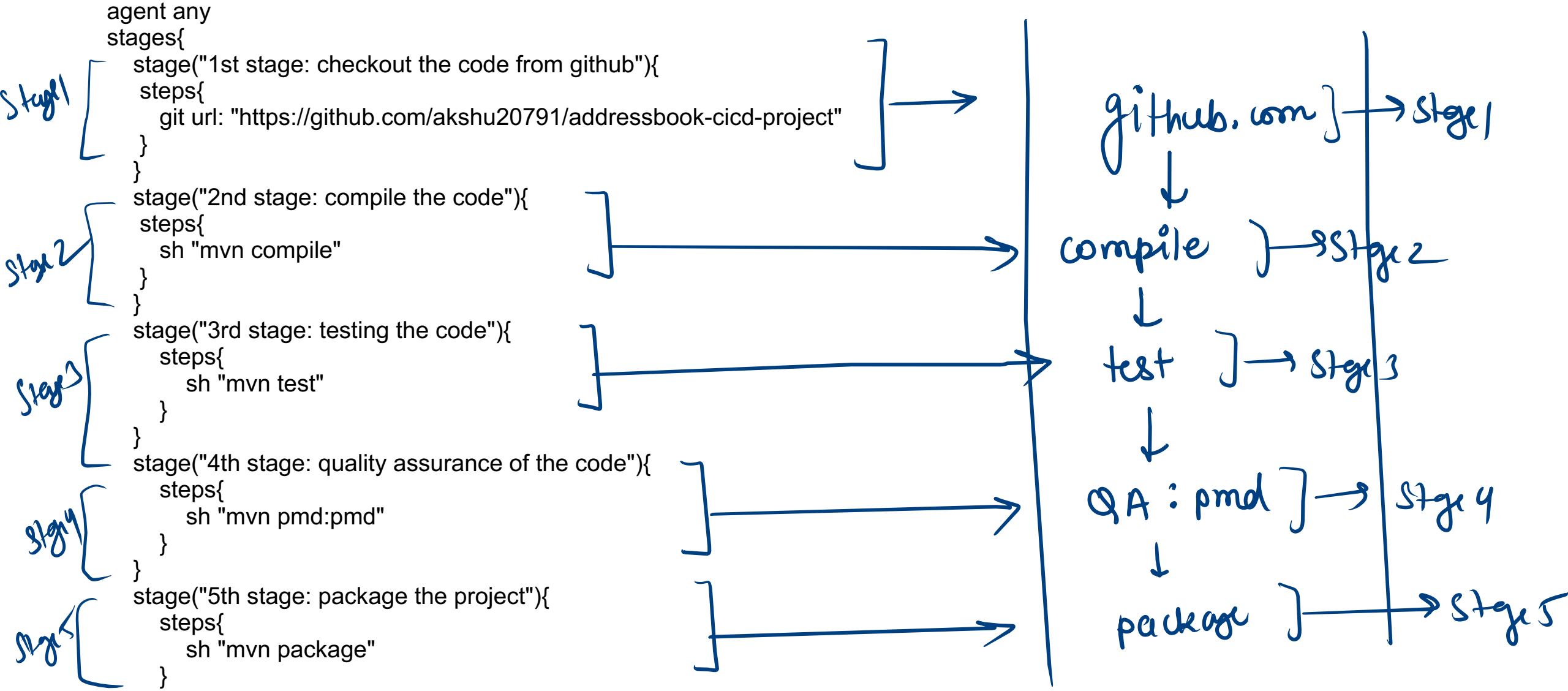


Click on pipeline on left panel

```
pipeline{
    agent any
    stages{
        stage("1st stage: checkout the code from github"){
         steps{
            git url: "https://github.com/akshu20791/addressbook-cicd-project"
         }
        }
        stage("2nd stage: compile the code"){
         steps{
            sh "mvn compile"
         }
        }
    }
}
```

Save & lets see if the code is running properly or not

```
pipeline{
    agent any
    stages{
        stage("1st stage: checkout the code from github"){
         steps{
            git url: "https://github.com/akshu20791/addressbook-cicd-project"
         }
        }
        stage("2nd stage: compile the code"){
         steps{
            sh "mvn compile"
         }
        }
        stage("3rd stage: testing the code"){
            steps{
                sh "mvn test"
            }
        }
        stage("4th stage: quality assurance of the code"){
            steps{
                sh "mvn pmd:pmd"
            }
        }
        stage("5th stage: package the project"){
            steps{
                sh "mvn package"
            }
        }
    }
}
```



```
pipeline{
    agent any
    stages{
        stage("1st stage: checkout the code from github"){
         steps{
            git url: "https://github.com/akshu20791/addressbook-cicd-project"
         }
        }
        stage("2nd stage: compile the code"){
         steps{
            sh "mvn compile"
         }
        }
        stage("3rd stage: testing the code"){
            steps{
                sh "mvn test"
            }
        }
        stage("4th stage: quality assurance of the code"){
            steps{
                sh "mvn pmd:pmd"
            }
        }
        stage("5th stage: package the project"){
            steps{
                sh "mvn package"
            }
        }
    }
}
```

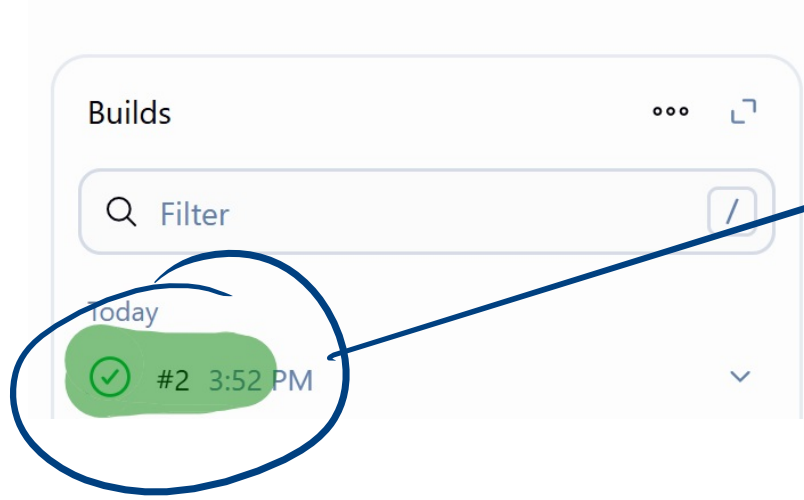
Build now

Status
Changes
Build Now
Configure
Delete Pipeline
Stages
Rename
Pipeline Syntax

my-addressbook-pipeline

Permalinks

- Last build (#1), 9 min 19 sec ago
- Last stable build (#1), 9 min 19 sec ago
- Last successful build (#1), 9 min 19 sec ago
- Last completed build (#1), 9 min 19 sec ago



Click on latest build to see the logs created

Dashboard > my-addressbook-pipeline > #2

- Status
- Changes
- Console Output
- Edit Build Information
- Delete build '#2'
- Timings
- Git Build Data
- Pipeline Overview
- Restart from Stage

#2 (Jun 5, 2025, 3:52:27 PM)

Started by user admin

This run spent:

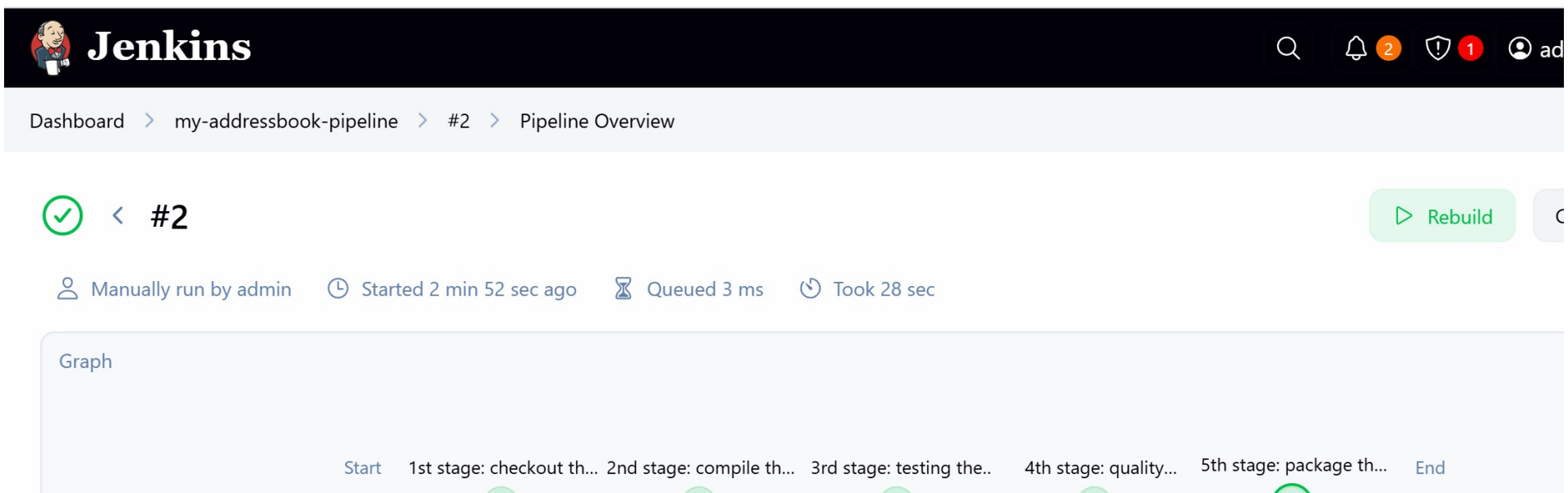
- 20 ms waiting;
- 28 sec build duration;
- 28 sec total from scheduled to completion.

Revision: c7153b53bc451125ec84fb2d067583008485e154
Repository: https://github.com/akshu20791/addressbook-cicd-project

- refs/remotes/origin/master

No changes.

You would be able to see the steps done in pipeline



Bottom of this page we can even see the logs of each step.

To see the location where package is created (war)

Dashboard > my-addressbook-pipeline > #2 > Pipeline Overview

Search

1st stage: checkout the code from git
2nd stage: compile the code 3.5 sec
3rd stage: testing the code 6 sec
4th stage: quality assurance of the co
5th stage: package the project 6.6 s

5th stage: package the project 6.6 sec Started 3 min 40 sec ago

mvn package

```
0  + mvn package
1  [INFO] Scanning for projects...
2  [WARNING]
3  [WARNING
   ] Some problems were encountered while building the effective model for
   com.edurekademo.tutorial:addressbook:war:2.0
4  [WARNING
   ] Reporting configuration should be done in <reporting> section, not in maven-site-plugin <<
   as reportPlugins parameter. @ line 314, column 40
5  [WARNING]
```

Scroll down

```
73 Tests run: 23, Failures: 0, Errors: 0, Skipped: 0
74
75 [INFO]
76 [INFO] --- maven-war-plugin:3.3.2:war (default-war) @ addressbook ---
77 [INFO] Packaging webapp
78 [INFO
   ] Assembling webapp [addressbook] in [/var/lib/jenkins/workspace/my-addressbook-
   pipeline/target/addressbook]
79 [INFO] Processing war project
80 [INFO] Building war: /var/lib/jenkins/workspace/my-addressbook-pipeline/target/addressbook.war
81 [INFO] ------------------------------------------------------------------------
82 [INFO] BUILD SUCCESS
83 [INFO] ------------------------------------------------------------------------
84 [INFO] Total time:  4.709 s
85 [INFO] Finished at: 2025-06-05T15:52:55Z
86 [INFO] ------------------------------------------------------------------------
```