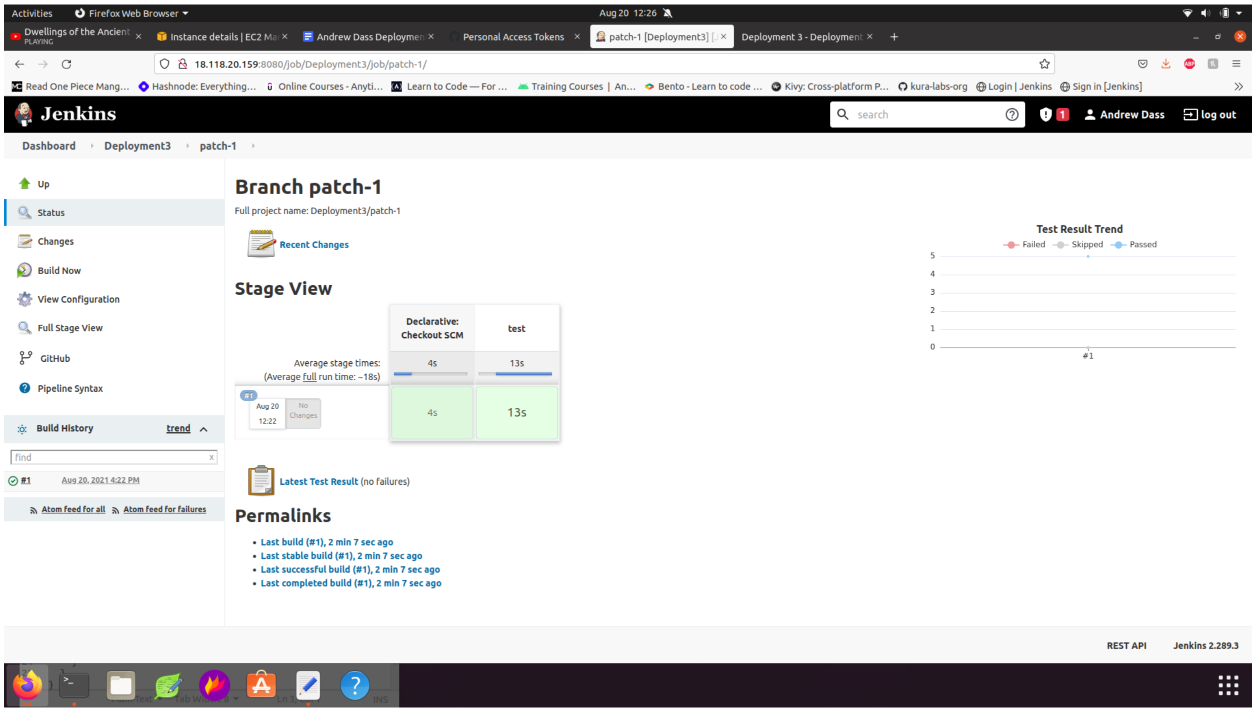
Andrew Dass 8/20/21

Deployment 3

Procedure:

1. Make a Amazon EC2 instance
2. Install Jenkins and Git
    - Installing Jenkins
        i. sudo yum update -y
        ii. sudo wget -O /etc/yum.repos.d/jenkins.repo https://pkg.jenkins.io/redhat-stable/jenkins.repo
        iii. sudo rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io.key
        iv. sudo yum upgrade
        v. sudo yum install jenkins java-1.8.0-openjdk-devel -y
        vi. sudo systemctl daemon-reload
        vii. sudo systemctl start jenkins
    - Installing Git
        i. sudo yum install git -y
3. Log into the created EC2 instance
4. Log into Jenkins
5. Log in to your Github account, and create a token under Settings in Developer Settings in Personal Access Tokens
6. Select Multi-pipeline
7. Add Multi Pipeline credentials and add Github and then select Jenkins. Fill in the boxes below with your information
    - Username: Insert your Github username
    - Password: Github Token
    - ID: Name of Jenkins item you made
8. Under Repository HTTPS URL, add the url of the repository you want to integrate
9. Select Repository Scan, enter your username and afterwards, select the repository you want integrated
10. Go back to the Github Repository in your account and add “Jenkinsfile”
11. The Jenkinsfile should have the following code shown down below
12. On Jenkins, go to the created item and run build now

Snapshots:


Activities Firefox Web Browser Aug 20 12:26

18.118.20.159:8080/job/Deployment3/job/patch-1/

Jenkins search Andrew Dass log out

Dashboard › Deployment3 › patch-1 ›

Up
Status
Changes
Build Now
View Configuration
Full Stage View
GitHub
Pipeline Syntax

Build History trend

#1 Aug 20, 2021 4:22 PM

Atom feed for all Atom feed for failures

Branch patch-1

Full project name: Deployment3/patch-1

Recent Changes

Stage View

	Declarative: Checkout SCM	test
Average stage times: (Average full run time: ~18s)	4s	13s
#1 Aug 20 12:22 No Changes	4s	13s

Test Result Trend

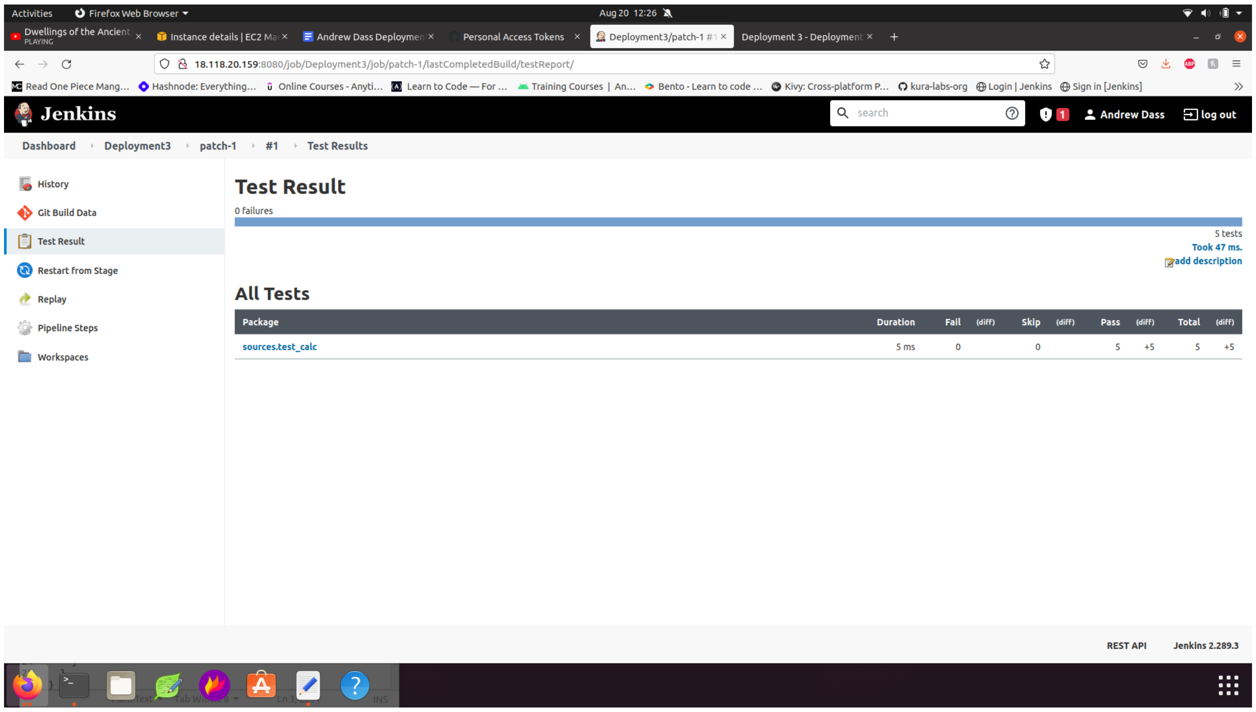
Failed Skipped Passed

Latest Test Result (no failures)

Permalinks

- Last build (#1), 2 min 7 sec ago
- Last stable build (#1), 2 min 7 sec ago
- Last successful build (#1), 2 min 7 sec ago
- Last completed build (#1), 2 min 7 sec ago

REST API Jenkins 2.289.3


Activities Firefox Web Browser Aug 20 12:26

18.118.20.159:8080/job/Deployment3/job/patch-1/lastCompletedBuild/testReport/

Jenkins search Andrew Dass log out

Dashboard › Deployment3 › patch-1 › #1 › Test Results

History
Git Build Data
Test Result
Restart from Stage
Replay
Pipeline Steps
Workspaces

Test Result

0 failures

5 tests
Took 47 ms.
add description

All Tests

Package	Duration	Fail	(diff)	Skip	(diff)	Pass	(diff)	Total	(diff)
sources.test_calc	5 ms	0		0		5	+5	5	+5

REST API Jenkins 2.289.3

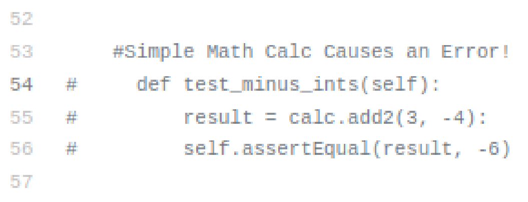
Jenkinsfile Code in GitHub Repo:

```
#!/bin/bash
pipeline {
  agent any
  stages {
        stage ('test') {
        steps {
        sh '''
        python3 -m venv test3
        source3 test3/bin/activate
        pip install pip --upgrade
        pip install pytest
        py.test --verbose --junit.xml test-reports/results.xml sources/test_calc.py
        '''
        }
        post {
        always {
        junit 'test-reports/results.xml'
        }
        }
        }
  }
}
```

Breaking the Code:

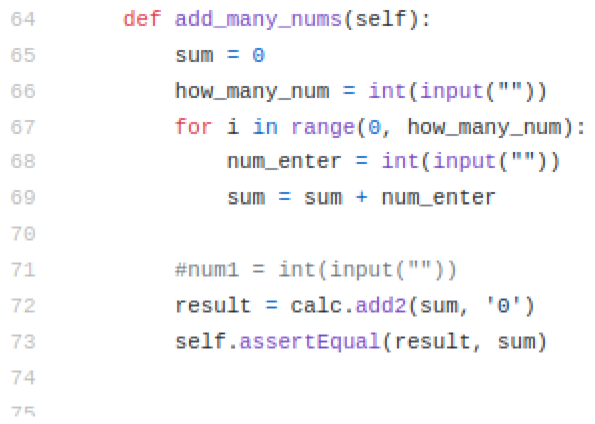
1. Re-edited the Jenkinsfile
2. Removed #!/bin/bash and placed it onto the first line of the program and ran it
3. Then removed the } for steps { sh. Received an error, was necessary in the program.
4. Did random lines of editing and troubleshooting
5. Removed the line source3… and ran the program received an error
6. Inputted source test3/bin/activate and it ran it, received an error
7. Overall new Changes:
    a. Wanted to condense the lines of the code as much as possible
    b. Removed #!bin/bash line, empty lines, pip install pip --upgrade
    c. Renamed python3 -m venv **test3 to test**, next line shows text
8. New code for Jenkinsfile shown below
9. In test calc.py, added two new functions:
    a. test_minus_integers - Add an integer to a larger negative integer to give back the right output. Test ran successfully.
    b. Error - Same as a self.assertEqual gives wrong output on purpose. Wanted to see if the file would catch an Error.

Error:



```
    #Simple Math Calc Causes an Error!
#     def test_minus_ints(self):
#         result = calc.add2(3, -4):
#         self.assertEqual(result, -6)
```

c. Alternative to Error - I decided to make a function that would add as many numbers the user would want or input, called def add_many_nums. Along the way, I had an indentation issue, so I did a lot of troubleshooting to fix it, but the problem was the def was out of place, so I backspaced it to align it properly within the class and other functions.



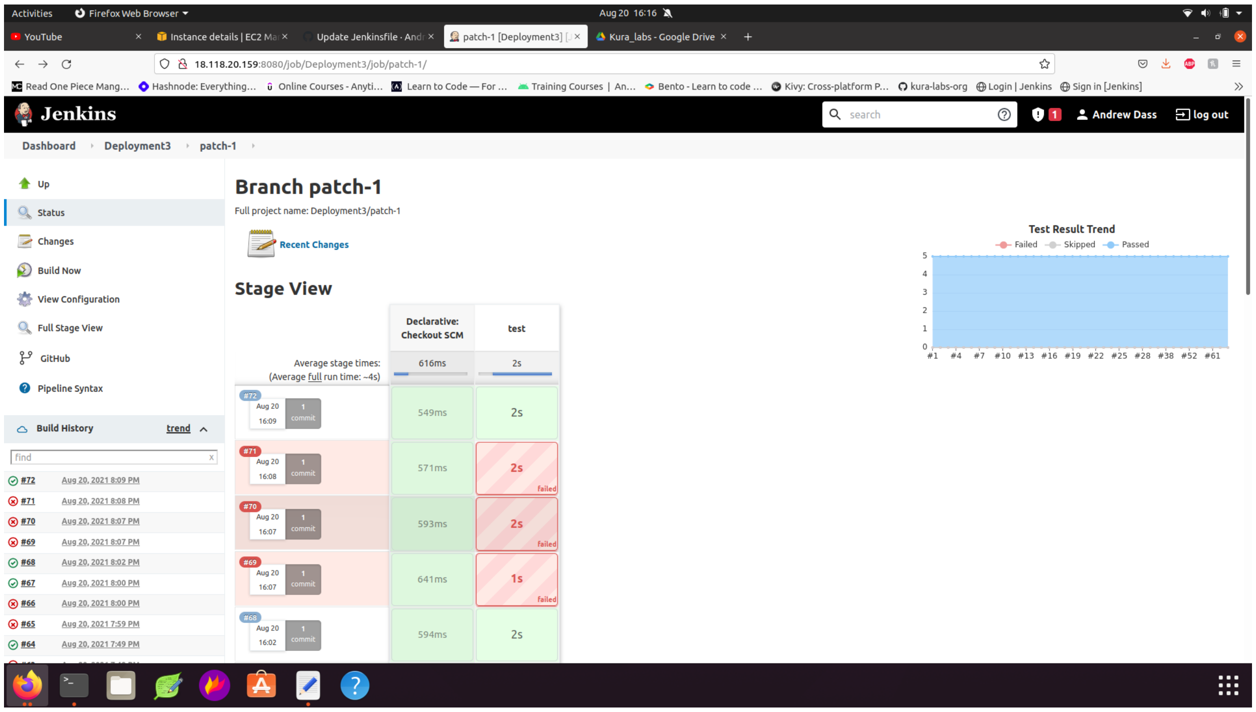
```
    def add_many_nums(self):
        sum = 0
        how_many_num = int(input(""))
        for i in range(0, how_many_num):
            num_enter = int(input(""))
            sum = sum + num_enter

        #num1 = int(input(""))
        result = calc.add2(sum, '0')
        self.assertEqual(result, sum)
```

New code:

```
pipeline {
  agent any
  stages {
    stage ('test') {
      steps{
        sh '''
       python3 -m venv test
       source test/bin/activate
       pip install pytest
       py.test --verbose --junit-xml test-reports/results.xml sources/test_calc.py
       '''
      }
      post {
        always {
          junit 'test-reports/results.xml'
        }
      }
    }
  }
}
```

Snapshots:



18.118.20.159:8080/job/Deployment3/job/patch-1/

Dashboard › Deployment3 › patch-1

Branch patch-1

Full project name: Deployment3/patch-1

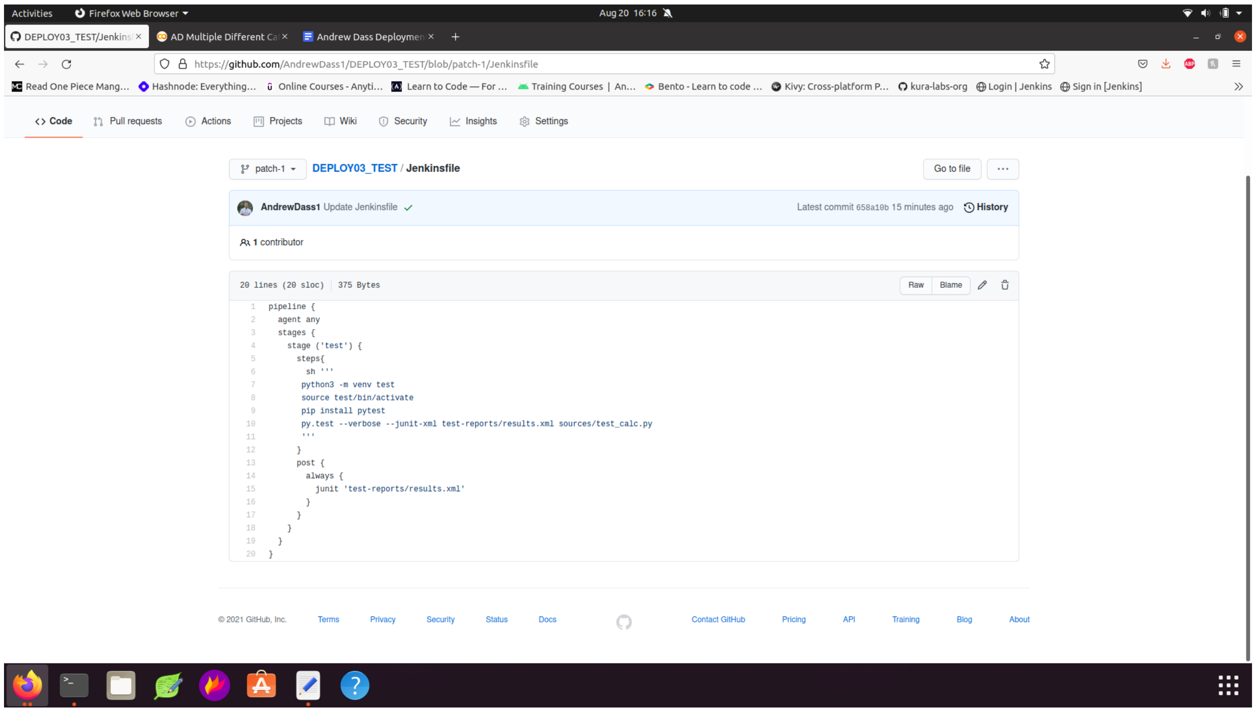
Recent Changes

Stage View

	Declarative: Checkout SCM	test
Average stage times: (Average full run time: ~4s)	616ms	2s
#72 Aug 20 16:09 1 commit	549ms	2s
#71 Aug 20 16:08 1 commit	571ms	2s failed
#70 Aug 20 16:07 1 commit	593ms	2s failed
#69 Aug 20 16:07 1 commit	641ms	1s failed
#68 Aug 20 16:02 1 commit	594ms	2s

Build History

✓ #72	Aug 20, 2021 8:09 PM
✗ #71	Aug 20, 2021 8:08 PM
✗ #70	Aug 20, 2021 8:07 PM
✗ #69	Aug 20, 2021 8:07 PM
✓ #68	Aug 20, 2021 8:02 PM
✓ #67	Aug 20, 2021 8:00 PM
✗ #66	Aug 20, 2021 8:00 PM
✗ #65	Aug 20, 2021 7:59 PM
✓ #64	Aug 20, 2021 7:49 PM



https://github.com/AndrewDass1/DEPLOY03_TEST/blob/patch-1/Jenkinsfile

patch-1 DEPLOY03_TEST / Jenkinsfile

AndrewDass1 Update Jenkinsfile ✓ Latest commit 658a10b 15 minutes ago History

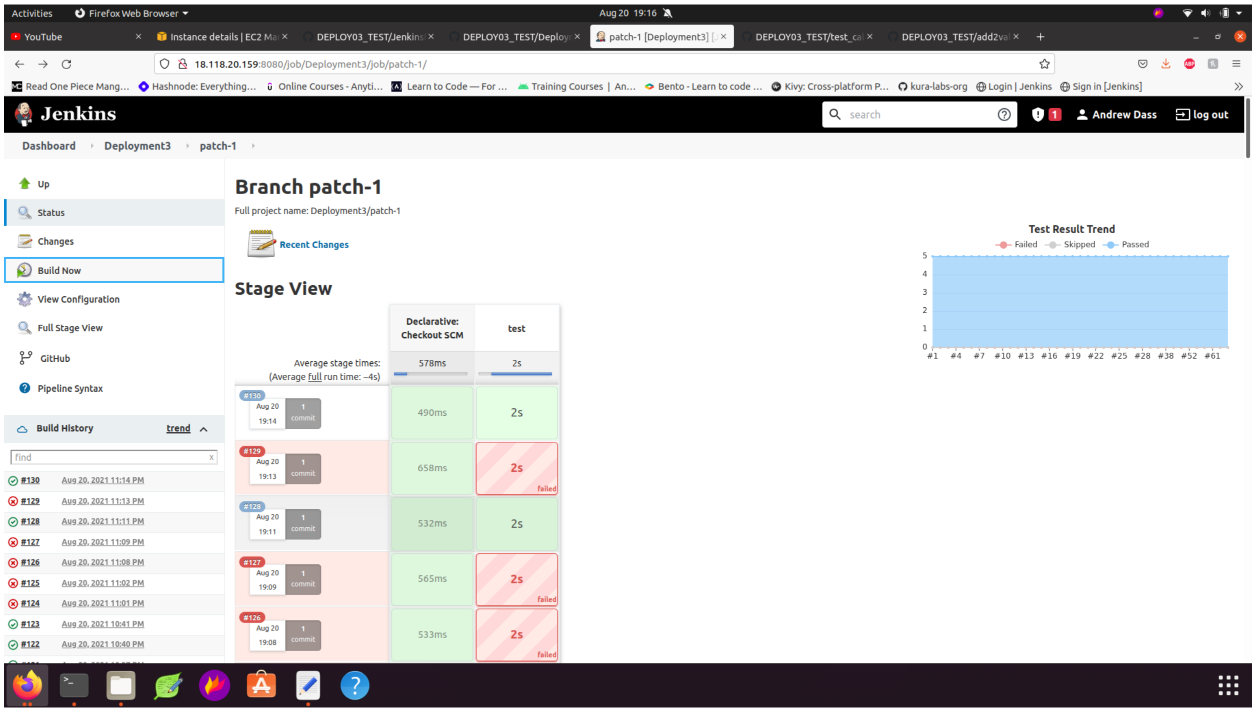
1 contributor

20 lines (20 sloc) | 375 Bytes

```
pipeline {
  agent any
  stages {
    stage ('test') {
      steps{
        sh '''
       python3 -m venv test
       source test/bin/activate
       pip install pytest
       py.test --verbose --junit-xml test-reports/results.xml sources/test_calc.py
       '''
      }
      post {
        always {
          junit 'test-reports/results.xml'
        }
      }
    }
  }
}
```

© 2021 GitHub, Inc.

More Changes After New Implementations to add2vals.py and test_calc.py:


18.118.20.159:8080/job/Deployment3/job/patch-1/

Dashboard › Deployment3 › patch-1

Branch patch-1

Full project name: Deployment3/patch-1

Recent Changes

Stage View

	Declarative: Checkout SCM	test
Average stage times: (Average full run time: ~4s)	578ms	2s
#130 Aug 20 19:14 1 commit	490ms	2s
#129 Aug 20 19:13 1 commit	658ms	2s failed
#128 Aug 20 19:11 1 commit	532ms	2s
#127 Aug 20 19:09 1 commit	565ms	2s failed
#126 Aug 20 19:08 1 commit	533ms	2s failed

Build History

✓ #130	Aug 20, 2021 11:14 PM
✗ #129	Aug 20, 2021 11:13 PM
✓ #128	Aug 20, 2021 11:11 PM
✗ #127	Aug 20, 2021 11:09 PM
✗ #126	Aug 20, 2021 11:08 PM
✗ #125	Aug 20, 2021 11:02 PM
✗ #124	Aug 20, 2021 11:01 PM
✓ #123	Aug 20, 2021 10:41 PM
✓ #122	Aug 20, 2021 10:40 PM

Comments/Reflection on Deployment 3:

I realized when making the Jenkinsfile, some commands needed to be spaced properly such as sh ‘’’. The ‘’’ cannot be on the next line after sh, they must be on the same line together. Overall, it was a nice experience just messing around and doing a lot of troubleshooting to become more familiar using Jenkins again and also with GitHub.

Questions:

What is Junit?

Where can we learn more on how to write our own code into a Jenkinsfile?