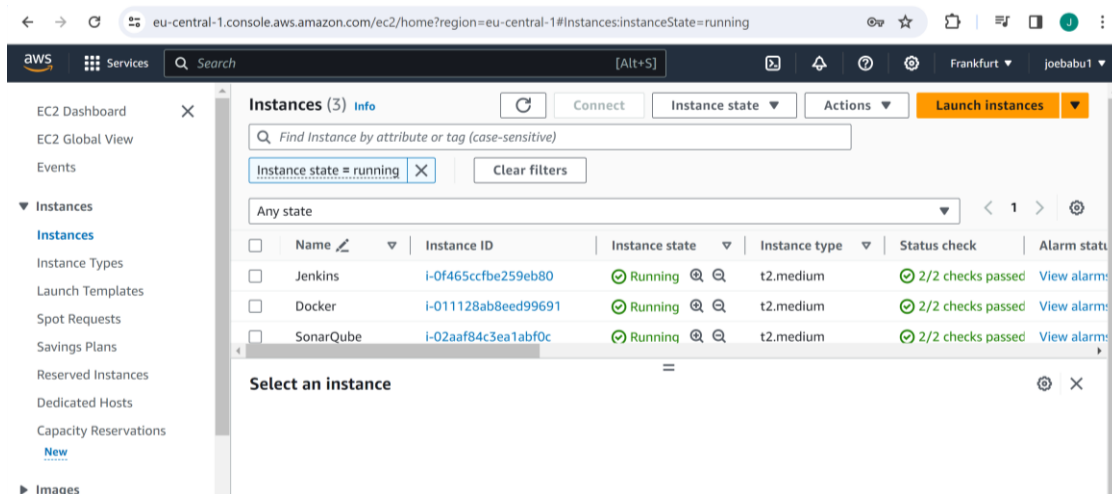


Screenshots for Build Management and Continuous Integration and Continuous Development in Jenkins for MaswaliYote Quiz Management System

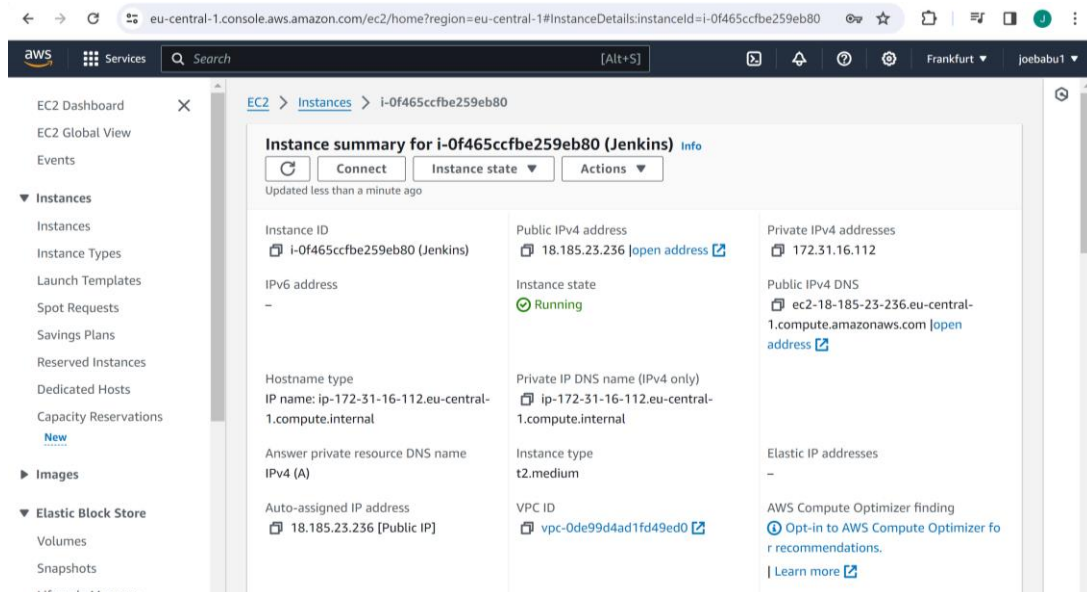
Background

The Jenkins server was hosted on AWS EC2 instance that runs on a Linux Ubuntu platform. Configuration and manipulation of the Jenkins server was done through SSH on a Linux command-based machine. The AWS EC2 instance allocated Jenkins a Public IP address for easier access. Jenkins uses port 8080 which had to be given access on the Jenkins server.

a) AWS EC2 instances created

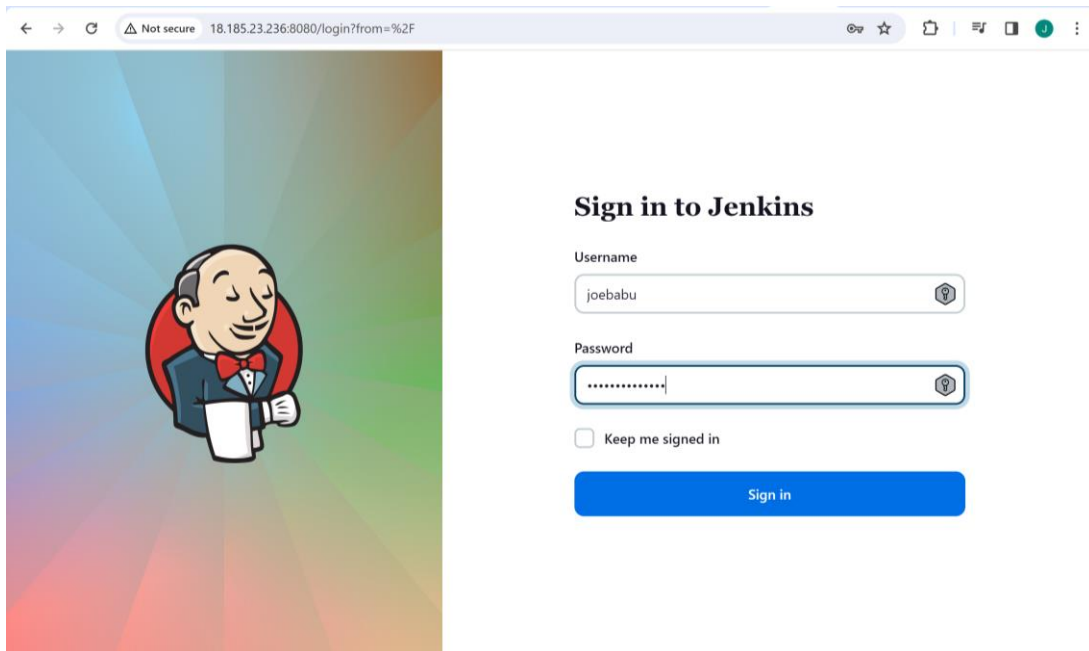


b) Jenkins Public IP address Page

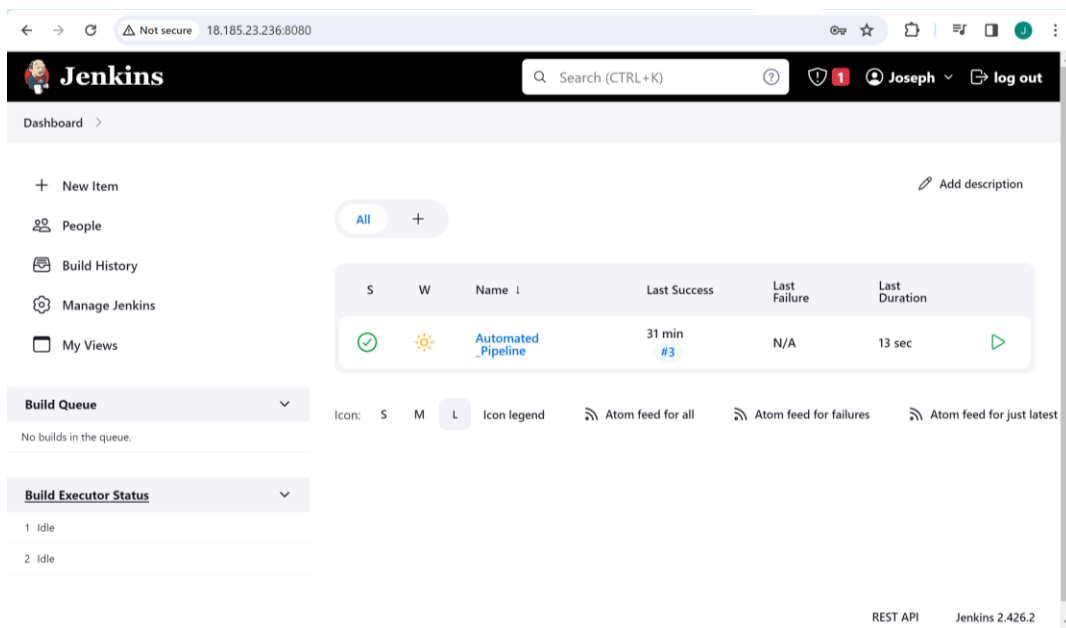


Accessing Jenkins through the IP Address

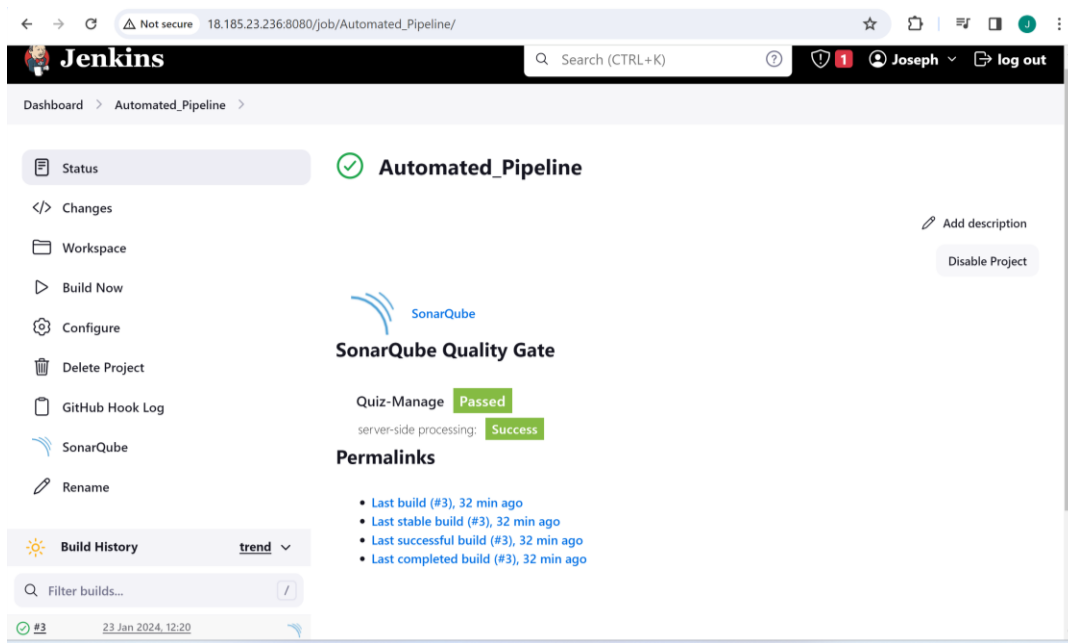
1. Jenkins login page after accessing through the public IP address provided by AWS EC2 instance



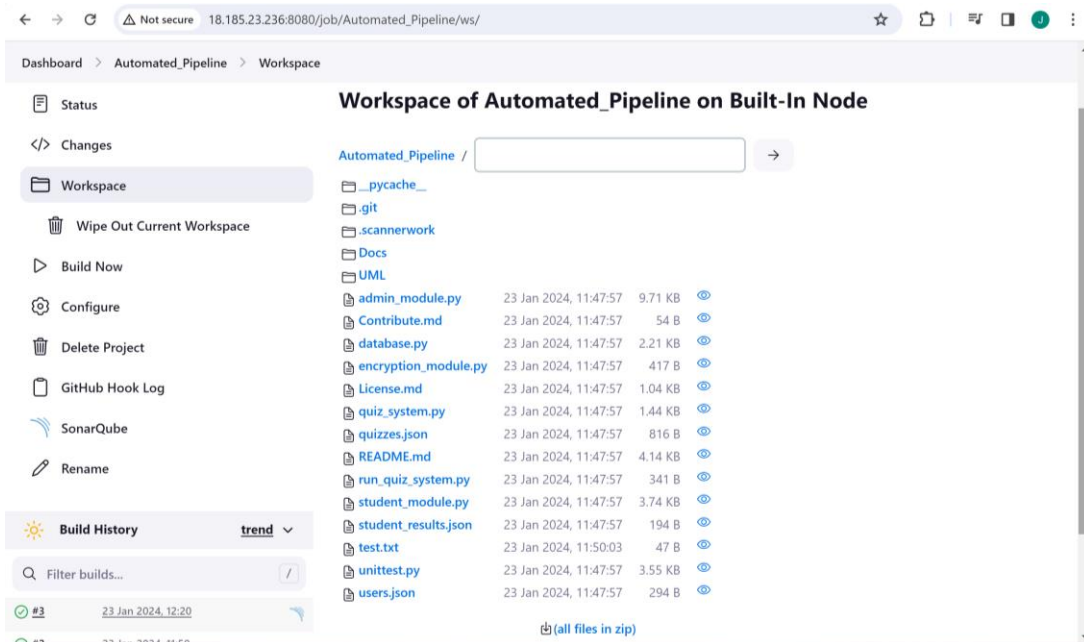
2. Jenkins Landing page – My Dashboard



3. I created a pipeline called “***Automated_Pipeline***” to use for my project. The Build was successful as shown below



4. The Workspace page – shows all the files in my GitHub repository



5. Status page – Shows the last successful build

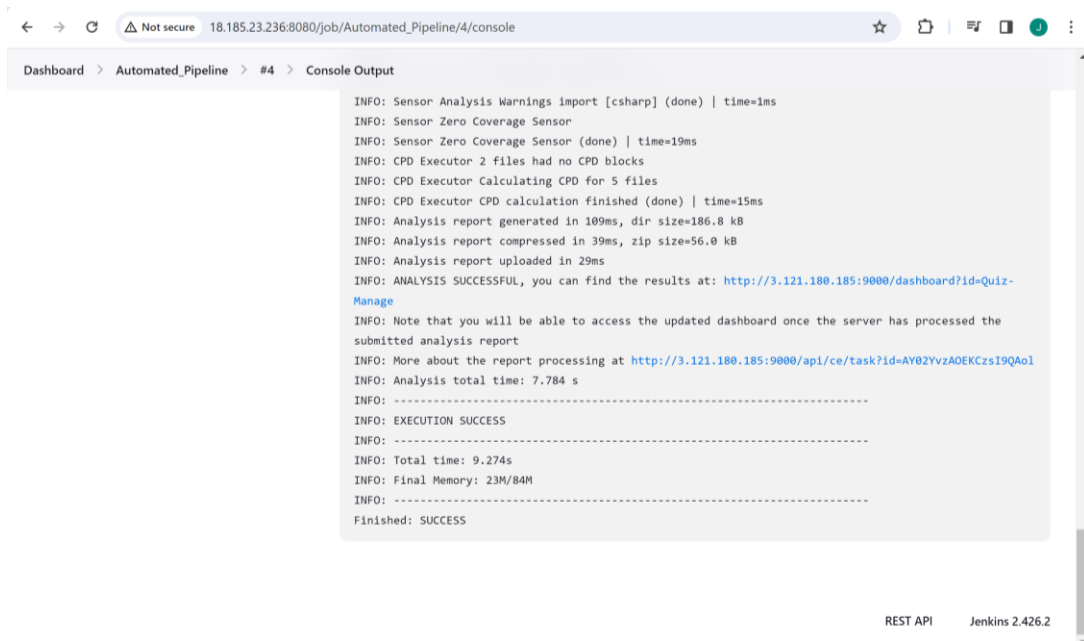
The screenshot shows the Jenkins web interface. The browser address bar indicates the URL is `18.185.23.236:8080/job/Automated_Pipeline/4/`. The Jenkins header includes a search bar, a user profile for 'Joseph', and a 'log out' button. The breadcrumb trail is 'Dashboard > Automated_Pipeline > #4'. The left sidebar contains links to 'Status', 'Changes', 'Console Output', 'Edit Build Information', 'Delete build '#4'', 'Git Build Data', and 'Previous Build'. The main content area shows the 'Status' tab selected, displaying a green checkmark and the build number '#4 (23 Jan 2024, 12:54:23)'. A 'Keep this build forever' button is visible. Below this, there are links to 'Add description', 'Started 14 sec ago', and 'Took 10 sec'. The 'Changes' section shows 'No changes.' The 'Started by user' section shows 'Started by user Joseph'. The 'git' section shows the 'Revision: e532feb8f1ec0d1fdcaee21dcc247b82a64e93f0' and the 'Repository: https://github.com/Joebabu1/Maswali.git'. A list of refs is shown: 'refs/remotes/origin/master'. At the bottom right, the text 'REST API Jenkins 2.426.2' is displayed.

6. The console output after a successful build – Part 1

The screenshot shows the Jenkins web interface with the 'Console Output' tab selected. The browser address bar indicates the URL is `18.185.23.236:8080/job/Automated_Pipeline/4/console`. The Jenkins header is the same as in the previous screenshot. The breadcrumb trail is 'Dashboard > Automated_Pipeline > #4 > Console Output'. The left sidebar contains links to 'Status', 'Changes', 'Console Output', 'View as plain text', 'Edit Build Information', 'Delete build '#4'', 'Git Build Data', and 'Previous Build'. The main content area shows the 'Console Output' tab selected, displaying a green checkmark and the title 'Console Output'. The console output text is as follows:

```
Started by user Joseph
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/Automated_Pipeline
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/Automated_Pipeline/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/Joebabu1/Maswali.git # timeout=10
Fetching upstream changes from https://github.com/Joebabu1/Maswali.git
> git --version # timeout=10
> git --version # 'git version 2.34.1'
> git fetch --tags --force --progress -- https://github.com/Joebabu1/Maswali.git
+refs/heads/*:refs/remotes/origin/* # timeout=10
> git rev-parse refs/remotes/origin/master^{commit} # timeout=10
Checking out Revision e532feb8f1ec0d1fdcaee21dcc247b82a64e93f0 (refs/remotes/origin/master)
> git config core.sparsecheckout # timeout=10
> git checkout -f e532feb8f1ec0d1fdcaee21dcc247b82a64e93f0 # timeout=10
Commit message: "Create test.txt"
> git rev-list --no-walk e532feb8f1ec0d1fdcaee21dcc247b82a64e93f0 # timeout=10
[Automated_Pipeline] $
/var/lib/jenkins/tools/hudson.plugins.sonar.SonarRunnerInstallation/SonarScanner/bin/sonar-scanner -
```

7. The console output after a successful build – Last Part



The screenshot shows a web browser window with the address bar displaying "18.185.23.236:8080/job/Automated_Pipeline/4/console". The browser's address bar also shows "Not secure" and a star icon. The page title is "Dashboard > Automated_Pipeline > #4 > Console Output". The main content area displays the console output of a Jenkins build, which includes various informational messages (INFO) and a final "Finished: SUCCESS" status. The output details the execution of sensors, CPD calculations, report generation, and upload. It also provides a link to the dashboard for the results and a link to the REST API for more information. The build completed successfully with a total time of 9.274s and a final memory usage of 23M/84M.

```
INFO: Sensor Analysis Warnings import [csharp] (done) | time=1ms
INFO: Sensor Zero Coverage Sensor
INFO: Sensor Zero Coverage Sensor (done) | time=19ms
INFO: CPD Executor 2 files had no CPD blocks
INFO: CPD Executor Calculating CPD for 5 files
INFO: CPD Executor CPD calculation finished (done) | time=15ms
INFO: Analysis report generated in 109ms, dir size=186.8 kB
INFO: Analysis report compressed in 39ms, zip size=56.0 kB
INFO: Analysis report uploaded in 29ms
INFO: ANALYSIS SUCCESSFUL, you can find the results at: http://3.121.180.185:9000/dashboard?id=Quiz-Manager
INFO: Note that you will be able to access the updated dashboard once the server has processed the submitted analysis report
INFO: More about the report processing at http://3.121.180.185:9000/api/ce/task?id=AY02YvzAOEKczsI9QAol
INFO: Analysis total time: 7.784 s
INFO: -----
INFO: EXECUTION SUCCESS
INFO: -----
INFO: Total time: 9.274s
INFO: Final Memory: 23M/84M
INFO: -----
Finished: SUCCESS
```

REST API Jenkins 2.426.2