Jenkins

Jenkins is a powerful application that allows continuous integration and continuous delivery of projects, regardless of the platform you are working on. It is a free source that can handle any kind of build or continuous integration. You can integrate Jenkins with a number of testing and deployment technologies. In this tutorial, we would explain how you can use Jenkins to build and test your software projects continuously.

Use of Jenkins:

It deploys code instantly, produces a report after deployment, shows an error in code or tests and a lot of issues are detected and resolved in almost real-time. It is also great for integration as integration is automated. The great support community is also available.

Advantages of Jenkins:

- It is open source, and it is user-friendly, easy to install and does not require additional installations or components.
- It is free of cost.
- Easily Configurable. Jenkins can be easily modified and extended. It deploys code instantly, generates test reports. Jenkins can be configured according to the requirements for continuous integrations and continuous delivery.
- Platform Independent. Jenkins is available for all platforms and different operating systems, whether OS X, Windows or Linux.
- Rich Plugin ecosystem. The extensive pool of plugins makes Jenkins flexible and allows building, deploying and automating across various platforms.
- Easy support. Because it is open source and widely used, there is no shortage of support from large online communities of agile teams.

Features of Jenkins:

- **Adoption:** Jenkins is widespread, with more than 147,000 active installations and over 1 million users around the world.
- **Plugins:** Jenkins is interconnected with well over 1,000 plugins that allow it to integrate with most of the development, testing and deployment tools.

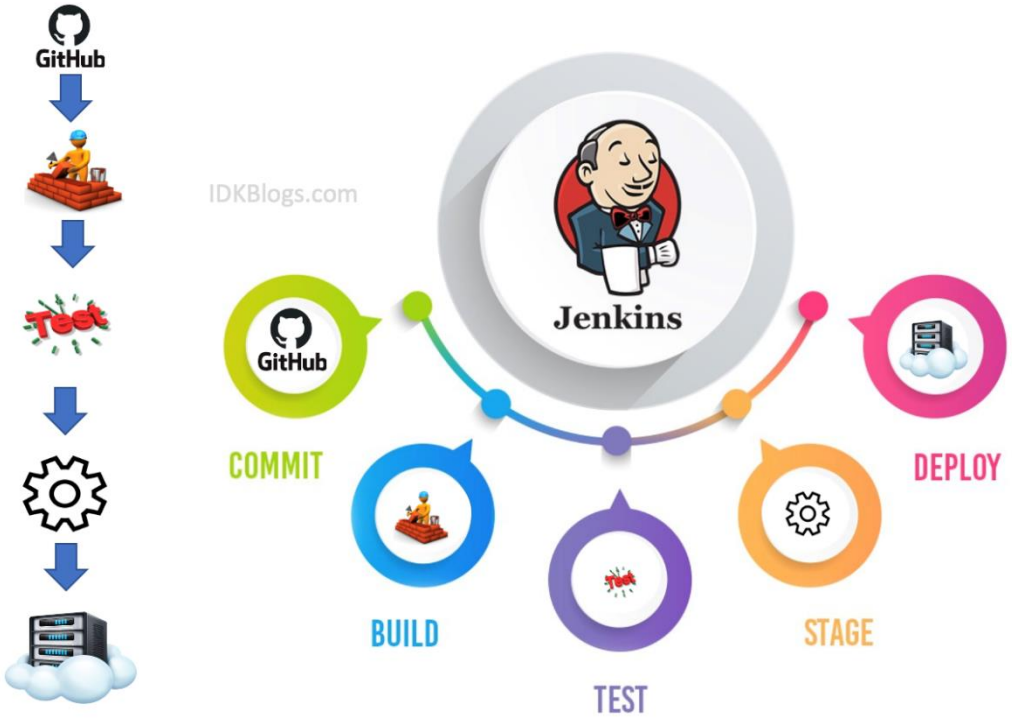
Continuous Integration with Jenkins:

Continuous Integration is a software development process where a code is continuously tested after a commit to ensure there are no bugs.

In large teams, many developers work on the same code base. Thus, any of the multiple commits can have a bug. With continuous integration, bugs can be identified early and

fixed before pushing changes to production. Any new code is integrated into one executable form, termed a build. The executable artifact can be deployed if the build is green (i.e., all ok). If not, the bug must be fixed, and the new build must be tested.

Continuous Integration with Jenkins:



The above diagram is depicting the following functions:

- First, a developer commits the code to the source code repository. Meanwhile, the Jenkins server checks the repository at regular intervals for changes.
- Soon after a commit occurs, the Jenkins server detects the changes that have occurred in the source code repository. Jenkins will pull those changes and will start preparing a new build.
- If the build fails, then the concerned team will be notified.
- If built is successful, then Jenkins deploys the built in the test server.
- After testing, Jenkins generates feedback and then notifies the developers about the build and test results.
- It will continue to check the source code repository for changes made in the source code and the whole process keeps on repeating.

Email Notifications from Jenkins:

Jenkins email notifications is the way to notify based on event occurred or some action happened. Jenkins email notifications is kind of message that is automatically sent to you and update that, there has been activity on one of your social media accounts like Google, slack. As email is the primary means of notification among other social media for Jenkins email notifications. Jenkins provided a plugin to extend functionality of e-mail notifications. It's basically informing users about some event or status or any information's that needs to be update to their concern users.

- **Triggers:** This is a defined condition which causes an e-mail notification to be sent.
- **Content:** Basically, defined content for email subject and body.
- **Recipients:** We can mention the concerned user who is supposed to receive an e-mail when any event occurs.

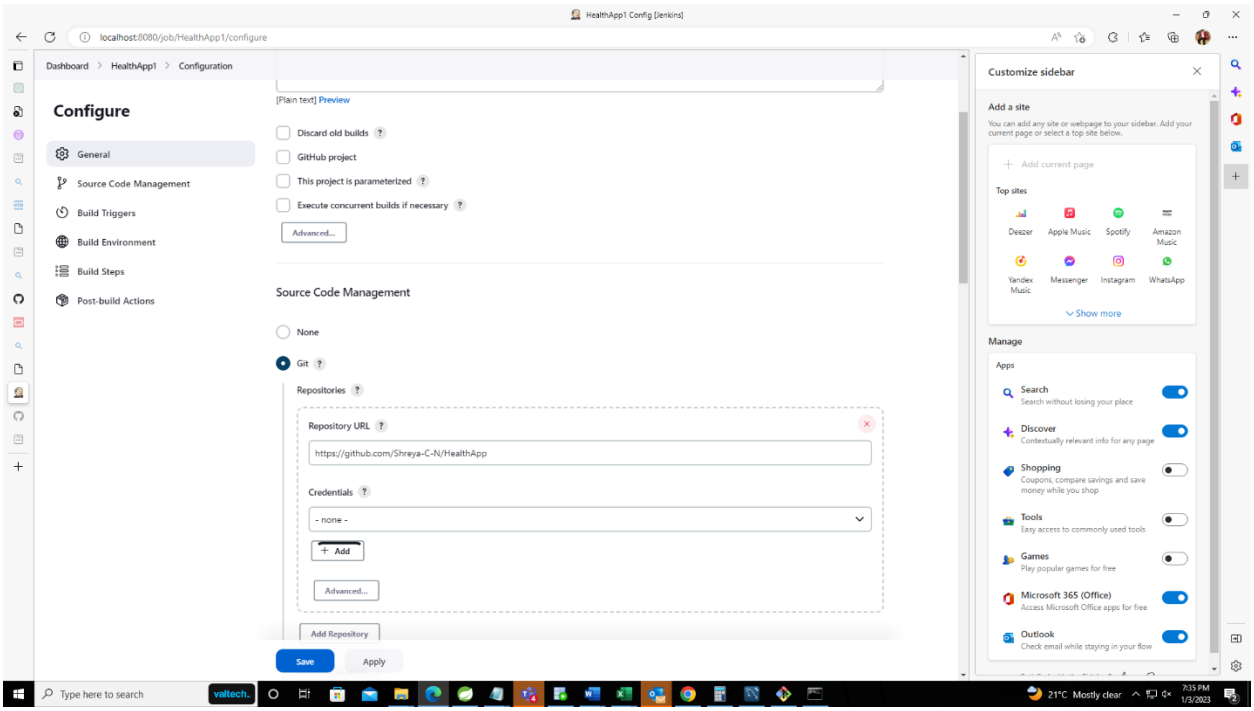
Configure Gmail SMTP Server in Jenkins:

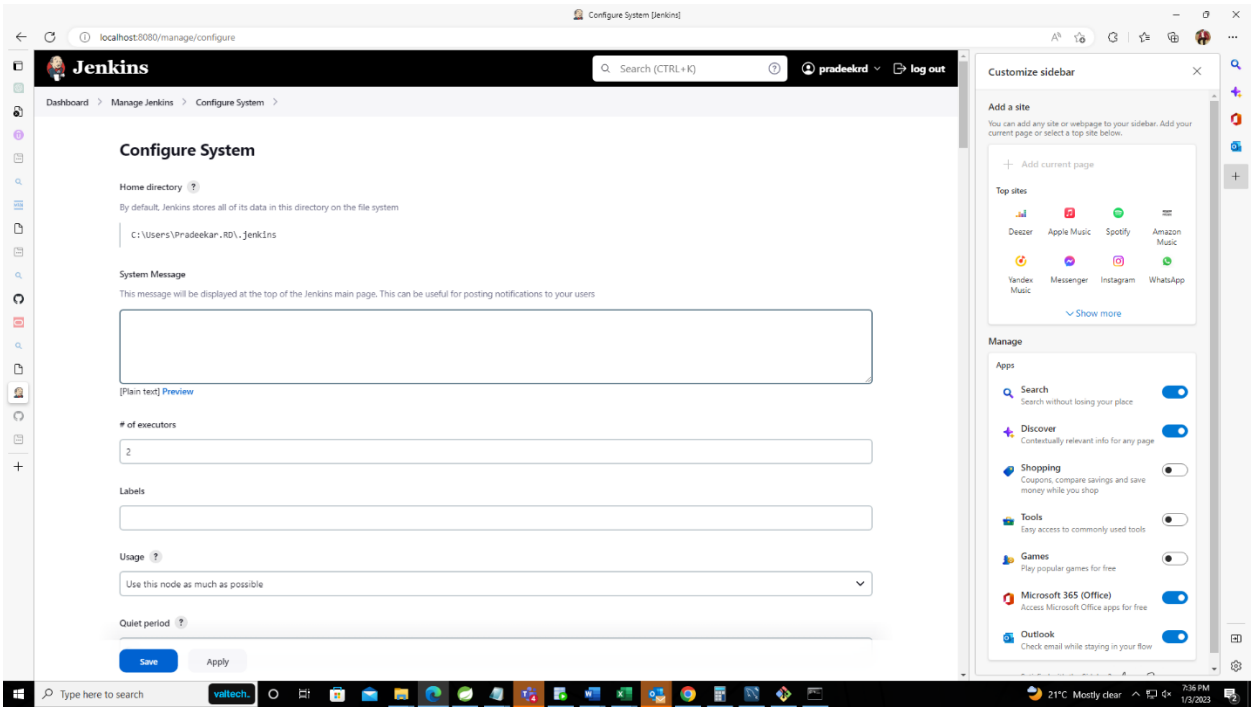
Jenkins email notifications are a good approach to inform people when an event or action occurs. Jenkins email notifications are a type of message that are automatically delivered to you and inform you when one of your social media accounts, such as Google or Slack, has been active. Jenkins emails are the main form of notification, as opposed to other social media. A plugin for Jenkins was made available to increase the usefulness of email notifications. In essence, users are being informed about an event, a status, or any other information that needs to be updated for their respective users.

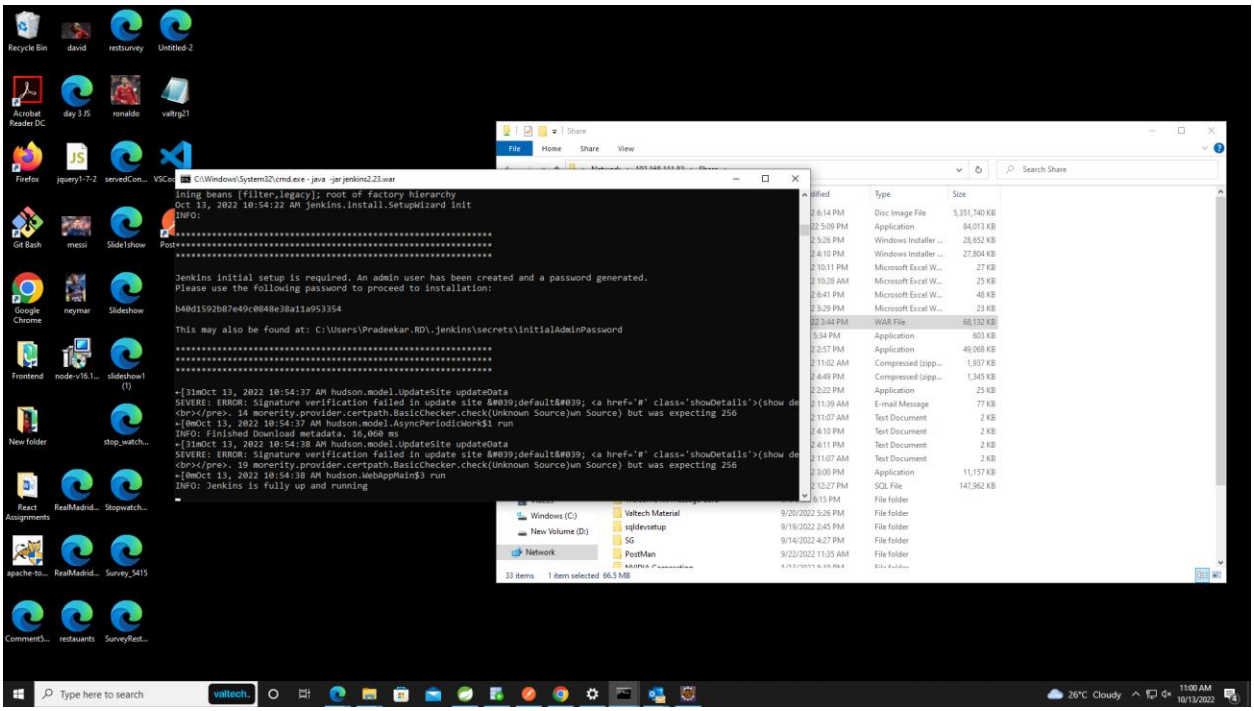
There are basically two ways to configure email notifications in Jenkins.

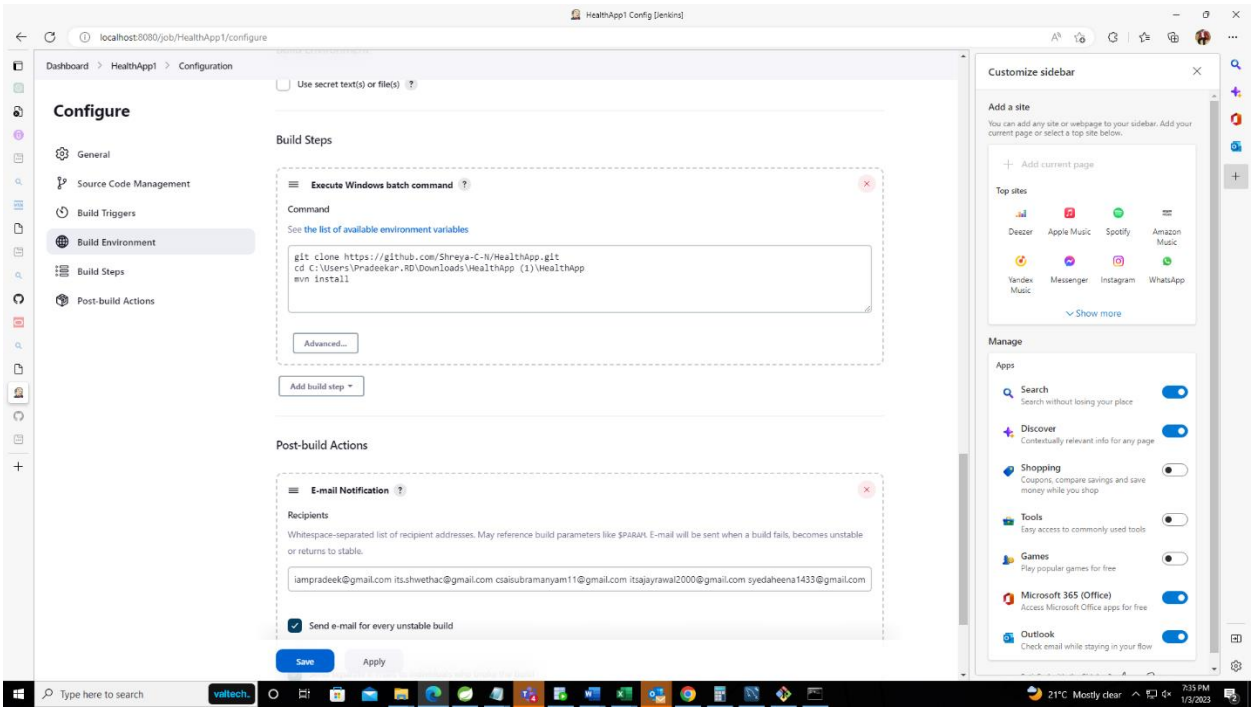
1. **Using Email Extension Plugin** – This plugin lets you configure every aspect of email notifications. You can customize things such as when to send the email, who receives it, and what the email says.
2. **Using Default Email Notifier** – This comes with Jenkins by default. It has a default message consisting of a build number and status.

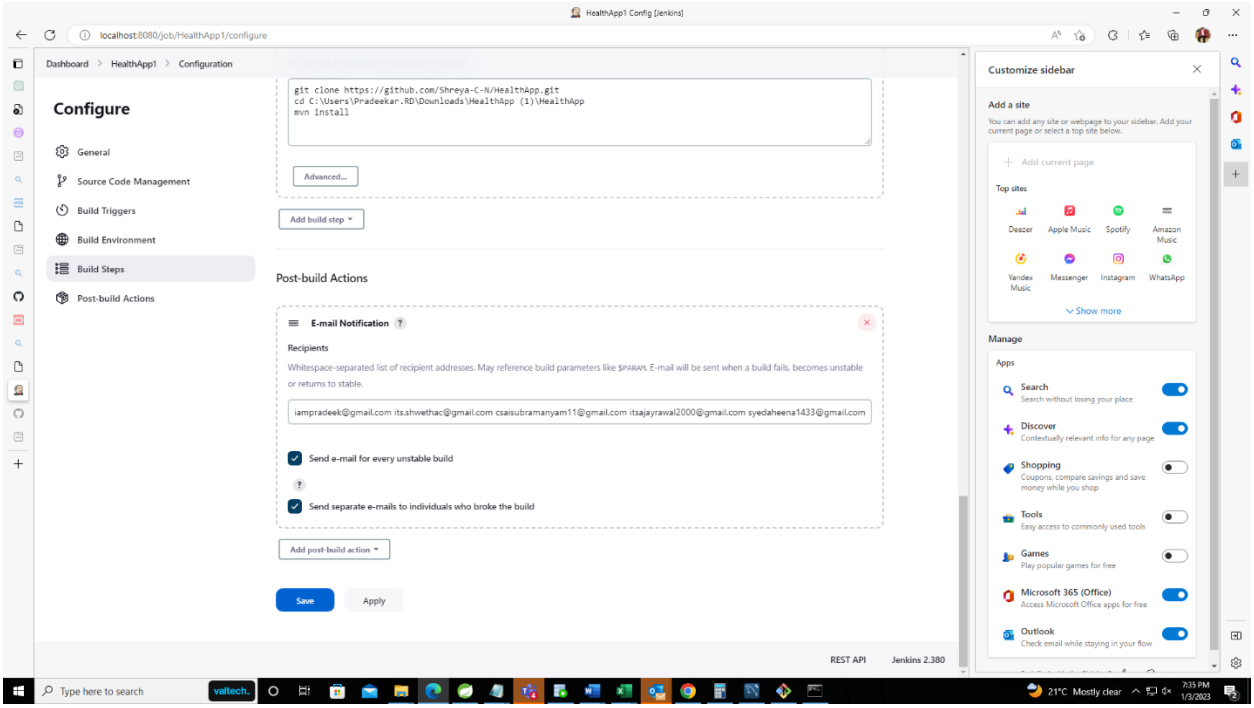
Steps:


HealthApp1 Config [Jenkins]
localhost:8080/job/HealthApp1/configure
Dashboard > HealthApp1 > Configuration
Configure
General
Source Code Management
Build Triggers
Build Environment
Build Steps
Post-build Actions
[Plain text] Preview
Discard old builds
GitHub project
This project is parameterized
Execute concurrent builds if necessary
Advanced...
Source Code Management
None
Git
Repositories
Repository URL
https://github.com/Shreya-C-N/HealthApp
Credentials
- none -
Add
Advanced...
Add Repository
Save
Apply
Customize sidebar
Add a site
Add current page
Top sites
Deezer
Apple Music
Spotify
Amazon Music
Yandex Music
Messenger
Instagram
WhatsApp
Show more
Manage
Apps
Search
Discover
Shopping
Tools
Games
Microsoft 365 (Office)
Outlook
Type here to search
21°C Mostly clear


Configure System [Jenkins]
localhost:8080/manage/configure
Jenkins
Search (CTRL+K)
pradeekrd
log out
Dashboard > Manage Jenkins > Configure System
Configure System
Home directory
By default, Jenkins stores all of its data in this directory on the file system
C:\Users\Pradeekar.RD\.jenkins
System Message
This message will be displayed at the top of the Jenkins main page. This can be useful for posting notifications to your users
[Plain text] Preview
# of executors
2
Labels
Usage
Use this node as much as possible
Quiet period
Save
Apply
Customize sidebar
Add a site
Add current page
Top sites
Deezer
Apple Music
Spotify
Amazon Music
Yandex Music
Messenger
Instagram
WhatsApp
Show more
Manage
Apps
Search
Discover
Shopping
Tools
Games
Microsoft 365 (Office)
Outlook
Type here to search
21°C Mostly clear


C:\Windows\System32\cmd.exe - java -jar jenkins2.23.war
Jenkins initial setup is required. An admin user has been created and a password generated.
Please use the following password to proceed to installation:
b40d1592b87e49c0848e38a11a953354
This may also be found at: C:\Users\Pradeekar.RD\.jenkins\secrets\initialAdminPassword
INFO: Jenkins is fully up and running


HealthApp1 Config [Jenkins]
localhost:8080/job/HealthApp1/configure
Dashboard > HealthApp1 > Configuration
Configure
General
Source Code Management
Build Triggers
Build Environment
Build Steps
Post-build Actions
Build Steps
Execute Windows batch command
Command
git clone https://github.com/Shreya-C-N/HealthApp.git
cd C:\Users\Pradeekar.RD\Downloads\HealthApp (1)\HealthApp
mvn install
Advanced...
Add build step
Post-build Actions
E-mail Notification
Recipients
iampradeek@gmail.com its.shwethac@gmail.com csaisubramanyam11@gmail.com itsajayrawal2000@gmail.com syedaheena1433@gmail.com
Send e-mail for every unstable build
Save
Apply
Customize sidebar
Add a site
Top sites
Manage
Apps
Search
Discover
Shopping
Tools
Games
Microsoft 365 (Office)
Outlook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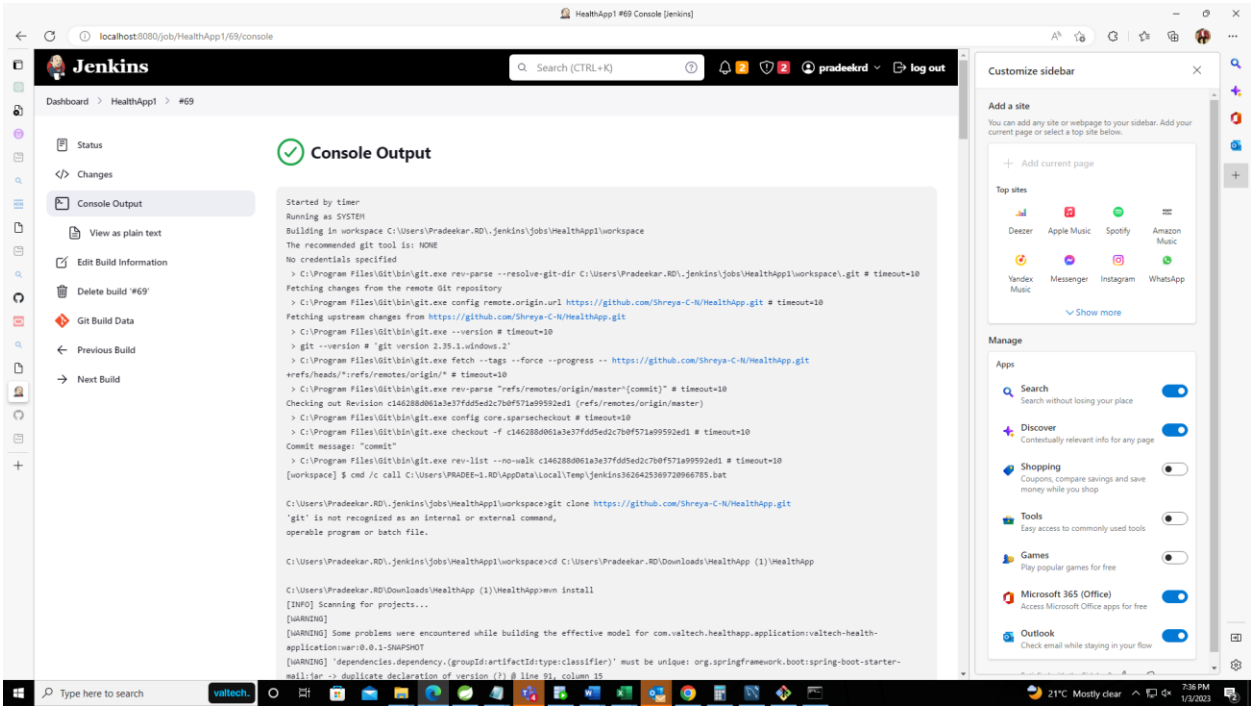
Configure
General
Source Code Management
Build Triggers
Build Environment
Build Steps
Post-build Actions
git clone https://github.com/Shreya-C-N/HealthApp.git
cd C:\Users\Pradeekar.RD\Downloads\HealthApp (1)\HealthApp
mvn install
Advanced...
Add build step
Post-build Actions
E-mail Notification
Recipients
Whitespace-separated list of recipient addresses. May reference build parameters like $PARAM. E-mail will be sent when a build fails, becomes unstable or returns to stable.
iampradeek@gmail.com its.shwethac@gmail.com csaisubramanyam11@gmail.com itsajayrawal2000@gmail.com syedaheena1433@gmail.com
Send e-mail for every unstable build
Send separate e-mails to individuals who broke the build
Add post-build action
Save
Apply
REST API
Jenkins 2.380
Customize sidebar
Add a site
Add current page
Top sites
Deezer
Apple Music
Spotify
Amazon Music
Yandex Music
Messenger
Instagram
WhatsApp
Show more
Manage
Apps
Search
Search without losing your place
Discover
Contextually relevant info for any page
Shopping
Coupons, compare savings and save money while you shop
Tools
Easy access to commonly used tools
Games
Play popular games for free
Microsoft 365 (Office)
Access Microsoft Office apps for free
Outlook
Check email while staying in your flow
Type here to search
21°C Mostly clear
7:35 PM
1/3/2023


HealthApp1 #69 Console [Jenkins]
localhost:8080/job/HealthApp1/69/console
Jenkins
Search (CTRL+K)
pradeekrd
log out
Dashboard > HealthApp1 > #69
Status
Changes
Console Output
View as plain text
Edit Build Information
Delete build '#69'
Git Build Data
Previous Build
Next Build
Console Output
Started by timer
Running as SYSTEM
Building in workspace C:\Users\Pradeekar.RD\.jenkins\jobs\HealthApp1\workspace
The recommended git tool is: NONE
No credentials specified
> C:\Program Files\Git\bin\git.exe rev-parse --resolve-git-dir C:\Users\Pradeekar.RD\.jenkins\jobs\HealthApp1\workspace\.git # timeout=10
Fetching changes from the remote Git repository
> C:\Program Files\Git\bin\git.exe config remote.origin.url https://github.com/Shreya-C-N/HealthApp.git # timeout=10
Fetching upstream changes from https://github.com/Shreya-C-N/HealthApp.git
> C:\Program Files\Git\bin\git.exe --version # timeout=10
> git --version # 'git version 2.35.1.windows.2'
> C:\Program Files\Git\bin\git.exe fetch --tags --force --progress -- https://github.com/Shreya-C-N/HealthApp.git
+refs/heads/*:refs/remotes/origin/* # timeout=10
> C:\Program Files\Git\bin\git.exe rev-parse "refs/remotes/origin/master^{commit}" # timeout=10
Checking out Revision c146288d061a3e37fdd5ed2c7b0f571a99592ed1 (refs/remotes/origin/master)
> C:\Program Files\Git\bin\git.exe config core.sparsecheckout # timeout=10
> C:\Program Files\Git\bin\git.exe checkout -f c146288d061a3e37fdd5ed2c7b0f571a99592ed1 # timeout=10
Commit message: "commit"
> C:\Program Files\Git\bin\git.exe rev-list --no-walk c146288d061a3e37fdd5ed2c7b0f571a99592ed1 # timeout=10
[workspace] $ cmd /c call C:\Users\PRADEE~1.RD\AppData\Local\Temp\jenkins3626425369720966785.bat
C:\Users\Pradeekar.RD\.jenkins\jobs\HealthApp1\workspace>git clone https://github.com/Shreya-C-N/HealthApp.git
'git' is not recognized as an internal or external command,
operable program or batch file.
C:\Users\Pradeekar.RD\.jenkins\jobs\HealthApp1\workspace>cd C:\Users\Pradeekar.RD\Downloads\HealthApp (1)\HealthApp
C:\Users\Pradeekar.RD\Downloads\HealthApp (1)\HealthApp>mvn install
[INFO] Scanning for projects...
[WARNING]
[WARNING] Some problems were encountered while building the effective model for com.valtech.healthapp.application:valtech-health-application:war:0.0.1-SNAPSHOT
[WARNING] 'dependencies.dependency.(groupId:artifactId:type:classifier)' must be unique: org.springframework.boot:spring-boot-starter-mail:jar -> duplicate declaration of version (?) @ line 91, column 15
Customize sidebar
Add a site
Add current page
Top sites
Deezer
Apple Music
Spotify
Amazon Music
Yandex Music
Messenger
Instagram
WhatsApp
Show more
Manage
Apps
Search
Search without losing your place
Discover
Contextually relevant info for any page
Shopping
Coupons, compare savings and save money while you shop
Tools
Easy access to commonly used tools
Games
Play popular games for free
Microsoft 365 (Office)
Access Microsoft Office apps for free
Outlook
Check email while staying in your flow
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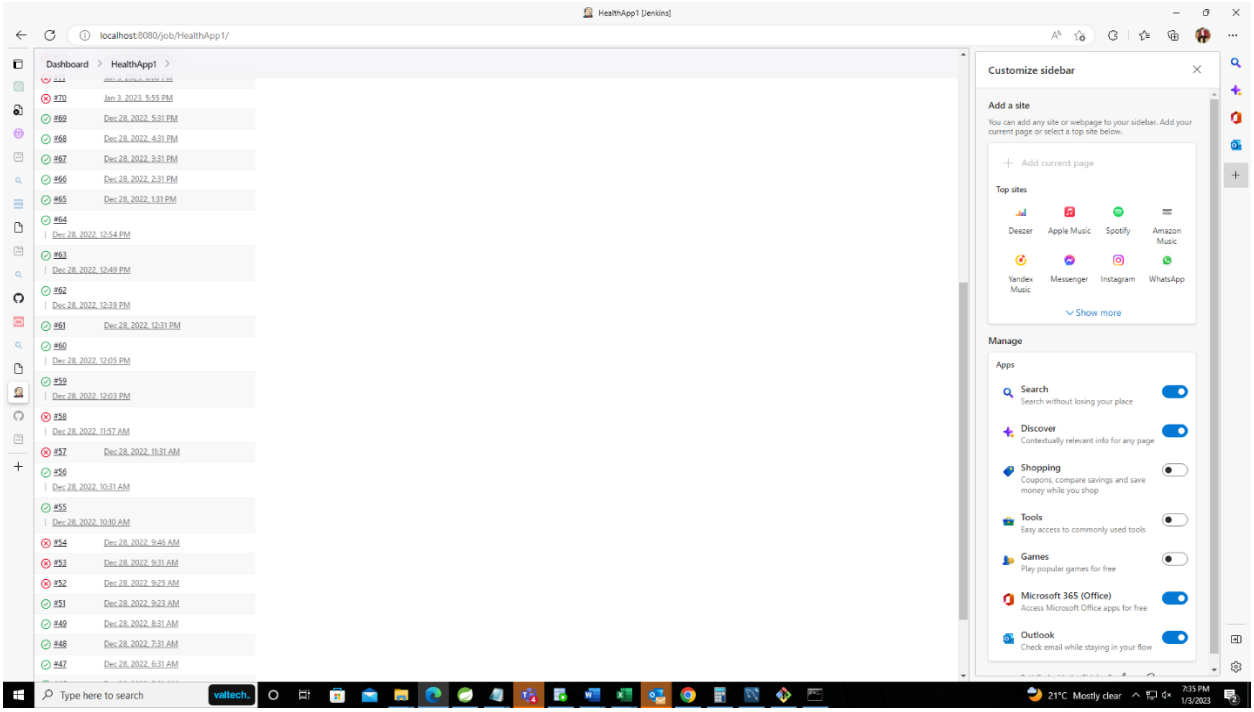
HealthApp1 [Jenkins]
localhost:8080/job/HealthApp1/
Dashboard
HealthApp1
#70 Jan 3, 2023, 5:55 PM
#69 Dec 28, 2022, 5:31 PM
#68 Dec 28, 2022, 4:31 PM
#67 Dec 28, 2022, 3:31 PM
#66 Dec 28, 2022, 2:31 PM
#65 Dec 28, 2022, 1:31 PM
#64 Dec 28, 2022, 12:54 PM
#63 Dec 28, 2022, 12:49 PM
#62 Dec 28, 2022, 12:39 PM
#61 Dec 28, 2022, 12:31 PM
#60 Dec 28, 2022, 12:05 PM
#59 Dec 28, 2022, 12:03 PM
#58 Dec 28, 2022, 11:57 AM
#57 Dec 28, 2022, 11:31 AM
#56 Dec 28, 2022, 10:31 AM
#55 Dec 28, 2022, 10:10 AM
#54 Dec 28, 2022, 9:46 AM
#53 Dec 28, 2022, 9:31 AM
#52 Dec 28, 2022, 9:25 AM
#51 Dec 28, 2022, 9:23 AM
#49 Dec 28, 2022, 8:31 AM
#48 Dec 28, 2022, 7:31 AM
#47 Dec 28, 2022, 6:31 AM
Customize sidebar
Add a site
You can add any site or webpage to your sidebar. Add your current page or select a top site below.
Add current page
Top sites
Deezer
Apple Music
Spotify
Amazon Music
Yandex Music
Messenger
Instagram
WhatsApp
Show more
Manage
Apps
Search
Search without losing your place
Discover
Contextually relevant info for any page
Shopping
Coupons, compare savings and save money while you shop
Tools
Easy access to commonly used tools
Games
Play popular games for free
Microsoft 365 (Office)
Access Microsoft Office apps for free
Outlook
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Email Notifications from Jenkins for Fail/Success Build