Managing access control and authorization

- Managing access control and authorization
  - Go to `Manage Jenkins` > `Configure Global Security` > `Enable security`.
- On the Jenkins dashboard, click on Manage Jenkins > Manage Users.
  - We can edit user details on the same page. This is a subset of users, which also contains auto-created users.

Maintaining roles and project-based security

- Lets configure some users in Jenkins, create a read only user `readonlyuser`
  - Select `Manage Jenkins` > `Manage Users` > `Create a user` For authorization, we can define Matrix-based security on the Configure Global Security page.

1. Add group or user and configure security based on different sections such as Credentials, Slave, Job, and so on.
2. Click on Save.

- Try to access the Jenkins dashboard with a newly added user who has no rights, and we will find the authorization error.

Role-Based-Authorization Strategy

- Add plugin from available tab in Plugins Manager i.e `Role Based Authorized Strategy`
- Go to `Manage Jenkins` > `Configure Global Security` > Select the `Role-based Authorization Strategy`
- Create a role with `Manage and Assign Roles` > `Manage Roles` > Create a `ReadOnlyRole` > select Read Permissions.
- Assign this role to another user.

Jenkins Github Webhook

- Integrate jenkins with github so automatically CICD works when any commit is made to the repo Go to `Jenkins` > `Manage Jenkins` > `Configure System` > `Add a Github Server` > Enter URL : `http://public-ip:8080/github-webhook/`
- Lets add a webhook in Github to point to Jenkins URL
- In `Github Repository > Go to Repository > Settings > Go to webhook and addnew webhook > Specify http://public-ip:8080/github-webhook/`
- Go to Jenkins Project, Select the `GitHub hook trigger for GITScm polling` checkbox under Build Triggers tab > `Save`
- For Webhook to work, open port `8080` in security group for IP address of Github.
- Now if we make some changes to some file in Github, this Jenkins Project should be triggered.
- Jenkins receives a Github Payload similar to this Github Push Webhook Event Payload

Audit Trail Plugin

- Manage Jenkins > Manage Plugins > Install the `Audit Trail` Plugin.
- Go to `Manage Jenkins` > `Configure Systems` > `Audit Trail` > `Add Logger` > Select `Log`

- Provide the Log Location as `/var/log/jenkins/audit-%g.log`, provide Log File Size as `50` and Log File Count `10`.
- After executing some build job for some Jenkins Project, check the content of the audit file as below.

```
ls -ltr /var/log/jenkins/

> Audit Trail Plugin keeps a log of users who performed particular Jenkins
operations, such as configuring jobs.
This plugin adds an Audit Trail section in the main Jenkins configuration page.
Here you can configure log location and settings (file size and number of rotating
log files), and a URI pattern for requests to be logged. The default options
select most actions with significant effect such as creating/configuring/deleting
jobs and views or delete/save-forever/start a build. The log is written to disk as
configured and recent entries can also be viewed in the Manage / System Log
section.
```