ASSIGNMENT-2

JENKINS

Installing Blue Ocean:

Blue Ocean is a different User Interface(UI) for jenkins, to enhance User Experience of the users by making Jenkins UI more friendly to operate.

Following are the steps to install Blue Ocean:

1. Go to Manage Jenkins -> Manage Plug-ins.
2. Select the "Available" tab and add "Blue Ocean" in the filter box to search for the plugin.
3. Select the Blue Ocean (Blue Ocean Aggregator) plug-in. Install it and restart Jenkins.
4. Select the Blue Ocean option from the left menu to use the UI.

Installing ngrok:

Following are the steps to install ngrok:

1. Go to https://ngrok.com/download
2. Follow the series of steps given.
3. To start a HTTP tunnel on port 8080 (this is the port on which apache tomcat runs, which inturn displays the jenkins webapp), run the following command on the terminal.

    ./ngrok http 8080

4. This results in this:

```
Version              2.2.8
Region               United States (us)
Web Interface        http://127.0.0.1:4040
Forwarding           http://7a309d1c.ngrok.io -> localhost:8080
Forwarding           https://7a309d1c.ngrok.io -> localhost:8080

Connections          ttl     opn     rt1     rt5     p50     p90
                     0       0       0.00    0.00    0.00    0.00
```

Integrating Github Repository and Jenkins:

A) First and foremost, create a new private repository in the github, use github student pack for this.

B) Building a job for private repository:

1. Log in to Jenkins and create a new freestyle project.
2. Under the Source Code Management section, select git.
3. Enter the url of the private repository which we have created above.
4. Now, we need to add credentials of the user who created the project, this is because our project is private.
5. This can be done by clicking on the Add button, next to Credentials field and choosing jenkins for the credential provider in the drop-down menu.
6. Enter Github username and password. After adding the credentials choose the newly added credentials that appears in the drop-down menu of Credentials label.

C) Configuring the GitSCM Poll Build trigger:

1. Go to the "Configure" part of the project.
2. Under Build triggers in the Jenkins Configuration for the project, select "GitHub hook trigger for GITScm polling".
3. Go to GitHub private repository, click on the settings option and select Integration and services.
4. Select Jenkins(GitHub plug-in) from the dropdown menu. Now you will be asked to enter the "Jenkins Hook URL", this is the URL of jenkins server which we are running.
5. Since, jenkins is running locally on our system, we use ngrok to make it public, instructions regarding how to install ngrok are mentioned above.

6. Using ngrok, we get a public ip-address to our jenkins server. Copy-paste it in the Jenkins Hook URL text box.
7. This will make sure that GitHub can make requests to Jenkins to build, if build action is triggered.

Post-Build Actions – Extended Email Notification:

A) Configuring Email:

1. Go to Manage Jenkins -> Configure Systems,and select the Extended-Email Notification from the bottom section.
2. Add the SMTP server details of the email which you want to use for notification purpose.
3. Click on Advanced Button, select the Use SMTP Authentication and enter account user-name and password, also select SSL and enter SMTP port number.

B) Post-Build Action:

1) Go to configure page of the project and scroll down to Post-build Actions.
2) Click on Add post-build action and choose Editable Email Notification from dropdown menu.
3) Post build action for extended email notification is now complete.
4) Now, the action can be configured to send email when these occurs:
   a) Every failed build triggers a new e-mail.
   b) A successful build after a failed (or unstable) build triggers a new e-mail, indicating that a crisis is over.
   c) An unstable build after a successful build triggers a new e-mail, indicating that there's a regression.

d) Unless configures, every unstable build triggers a new e-mail, indicating that regression is still there.

5) Apply and save the changes.

Things to keep in mind, when using Fedora:

- If you are using Fedora, then you need to change crypto-policies to accept RSA as 1024 instead of 2048, otherwise you will not be able to install plug-ins.
  - Refer this link for more information:
    - https://issues.jenkins-ci.org/browse/JENKINS-53288?attachmentOrder=asc