INSTALLING ngrok:

Ngrok is a multiplatform tunneling,reverse proxy software that establishes secure tunnels from a public endpoint such as internet to a locally running network service while capturing all traffic for detailed inspection and replay.

* Go to <https://ngrok.com/download> and follow the steps to download and setup ngrok on our system.This exposes the localhost that Jenkins is using to the internet.
* Expose a web server running on your local machine to the internet.Just tell ngrok what port your web server is listening on using--

ngrok http 8080

* When you strat ngrok ,it will dispay a UI in your terminal with the public URL of your tunnel and other status and metrics information about connections made over your tunnel.

INSTALLING Blue Ocean:

Blue Ocean is a project that rethinks the user experience of Jenkins, modelling and presenting the process of software delivery by surfacing information that’s important to development teams with as few clicks as possible, while still staying true to the extensibility that is core to Jenkins.Blue ocean’s main features include: sophisticated visualizations,personalization,pipeline editor,pinpoint precision,native integration for branch and pull requests.

* Make sure you are logged in your Jenkins.
* On your Jenkins home page,click on MANAGE JENKINS and then on MANAGE PLUGINS.
* Click on AVAILABLE tab and search for BLUE OCEAN.
* Select BLUE OCEAN PLUGIN and install.
* To use it,click on OPEN BLUE OCEAN on left menu of the Jenkins home page.

MAKING A PRIVATE Github REPOSITORY:

* Create a private github repository.
* Click on NEW ITEM in the left menu of Jenkins dashboard.Create a new FREESTYLE PROJECT.
* Under SOUCE MANAGEMENT select GIT
* In the REPOSITORY URL textbox, add the PRIVATE REPOSITORY’S URL.
* For Jenkins to access the repository,click on ADD button next to CREDENTIAL text box.Choose Jenkins as the credential provider in the dropdown menu.Give your detils in the popup.
* Under the KIND option,choose USERNAME WITH PASSWORD.Enter github userame and password for this.
* After adding these credentials,choose these added credentials in the dropdown in the credentials label.
* Now,your private repository is used with Jenkins like any other.

GitSCM POLL BUILD TRIGGER:

* In Jenkins configuration for the project,under BUILD TRIGGERS, select GITHUB HOOK TRIGGER FOR GitSCM POLLING.
* Go to github private repo,we have to setup the gitscm polling logic here.
* Click on settings tab and select INTEGRATIONS AND SERVICES.
* Click on ADD SERVICE and select JENKINS(GIT PLUGIN) in the dropdown menu and provide github password.
* For JENKINS HOOK URL,provide the address provided by ngrok previously in your terminal.
* http://<public-ip or URL>/github-webhook
* Select ACTIVE to activate service and click on ADD SERVICE.
* Now,this means that github makes requests to Jenkins to build every time there has been a commit.

POST BUILD ACTIONS(email notifications):

* On Jenkins dashboard,click on MANAGE JENKINS->CONFIGURE SYSTEM.
* Go to EMAIL NOTIFICATION and click on ADVANCED.
* Enter details such as username and password,select USE SMPT AUTHENTICATION.
* Select use SSL and specify the SMTP port(usually 465).
* Go to project configurations.Go to post build actions.
* Give email address of recipient and select SEND EMAIL FOR EVERY UNSTABLE BUILD.Click on save.
* This means that for every unstable build, an email will be set to the recipient.