COMSATS UNIVERSITY ISLAMABAD, ATTOCK CAMPUS

Assignment#4

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Reg # FA19-BCS-038

Class: BCS 8(A)

Subject: **TICS**

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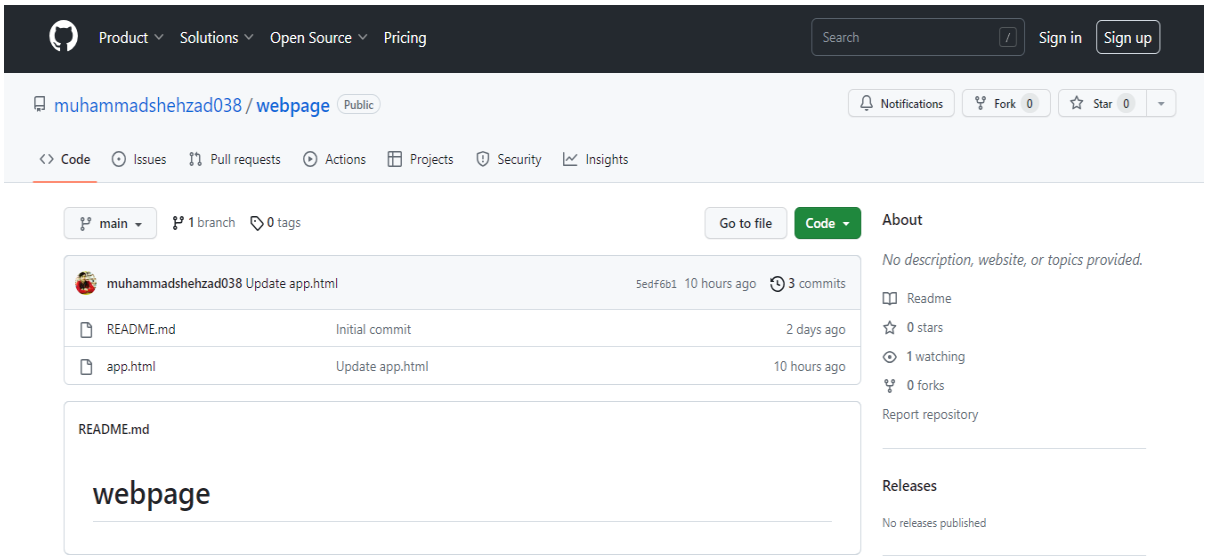
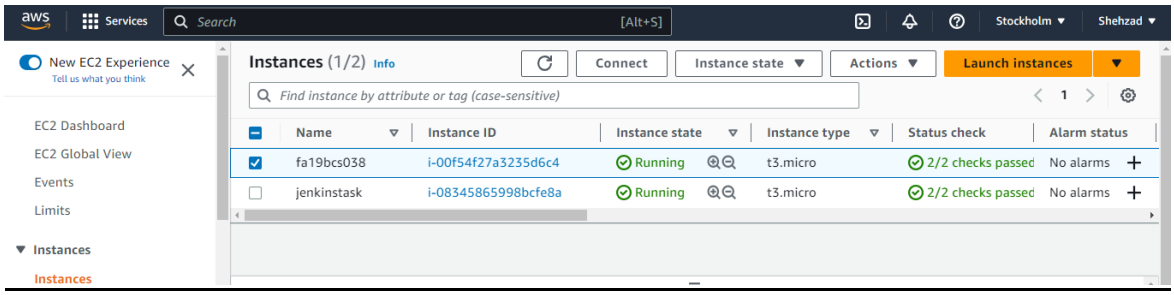
Jenkins CI/CD pipeline and deploying application on an AWS EC2 instance.

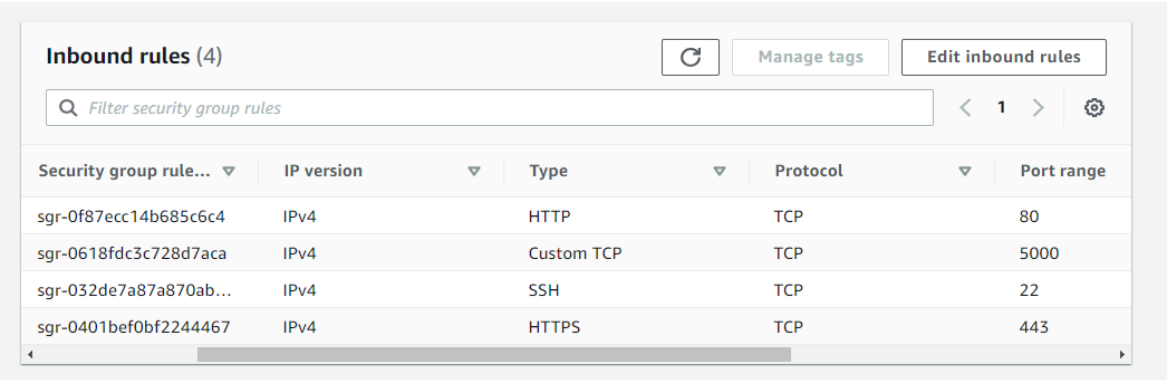
Set up a git repository:



AWS EC2 Instance:



- AWS EC2 (Elastic Compute Cloud) is a web service provided by Amazon Web Services that offers scalable computing capacity in the cloud. It allows you to provision virtual servers, known as instances, on-demand and configure them according to your specific requirements.



- Inbound rules refer to the rules that control the incoming network traffic to your instances. These rules define which protocols, ports, and IP addresses are allowed to access your instances.

Jenkins configuration:

Publish over SSH:

Publishing over SSH refers to the process of deploying or transferring files to a remote server using the SSH (Secure Shell) protocol. SSH provides a secure way to access and manage remote servers over an encrypted connection.

To publish files over SSH, you typically follow these steps:

- ✓ Set up SSH access: Ensure that you have SSH access to the remote server where you want to publish the files. This may involve generating SSH key pairs, configuring SSH access credentials, and ensuring the server is configured to accept SSH connections.

- ✓ Prepare your files: Gather the files that you want to publish to the remote server. These could be website files, application code, or any other files that need to be transferred.

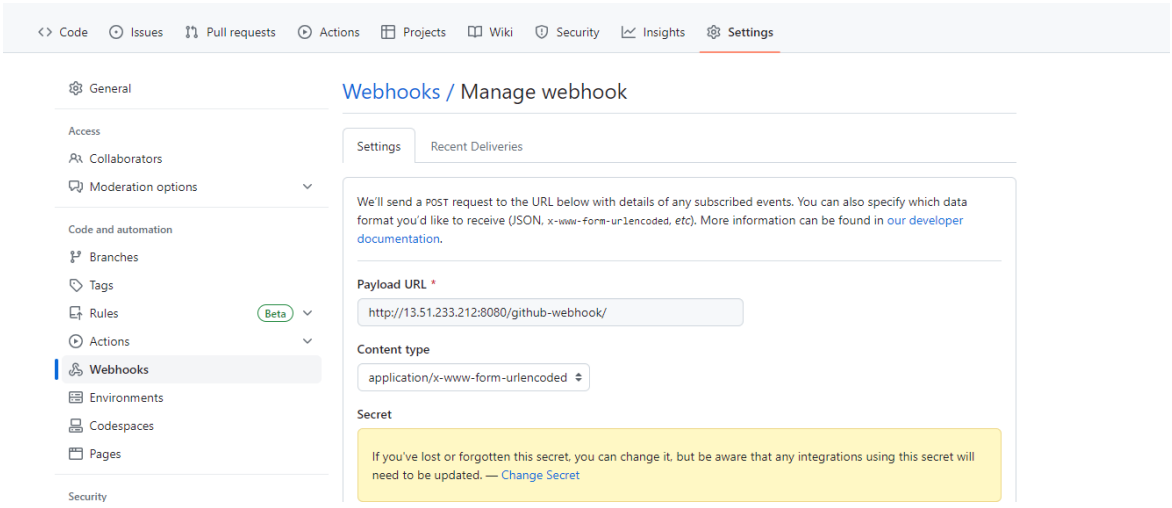
- ✓ Connect to the remote server: Use an SSH client to establish a connection to the remote server. This can be done using the command-line interface (CLI) or an SSH client software like PuTTY (for Windows) or OpenSSH (for Linux).

- ✓ Transfer files: Once connected to the remote server, you can use SSH file transfer protocols like SCP (Secure Copy) or SFTP (Secure File Transfer Protocol) to transfer your files from your local machine to the remote server. These protocols provide secure file transfer capabilities over the SSH connection.

- ✓ Verify file transfer: After the files are transferred, you can verify that they have been successfully published to the remote server. You can check the file locations, permissions, and any other relevant details to ensure the files are in the expected location.

Configuring webhook in github repository setting:

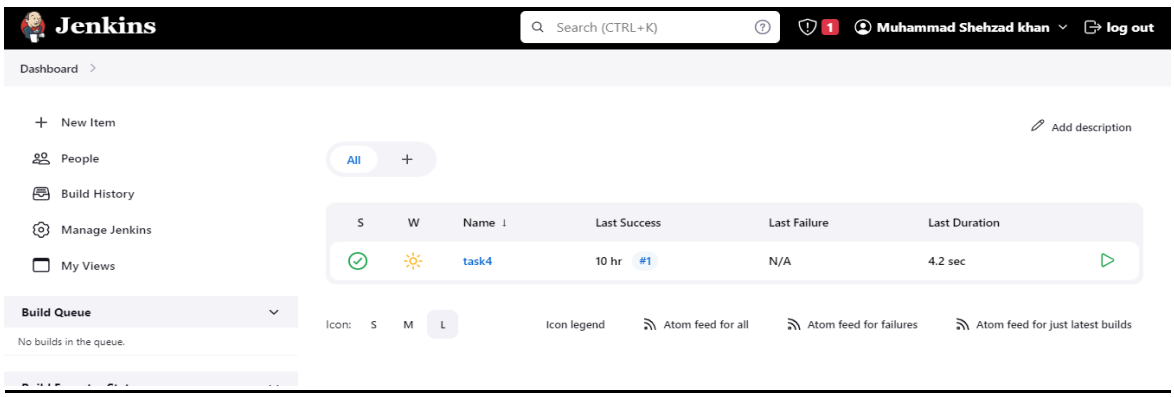
Webhooks in GitHub allow you to receive notifications about events that occur within your GitHub repositories. When certain actions or events take place, such as a new commit, a pull request, or a repository update, GitHub can send a payload of data to a specified URL, commonly known as a webhook.

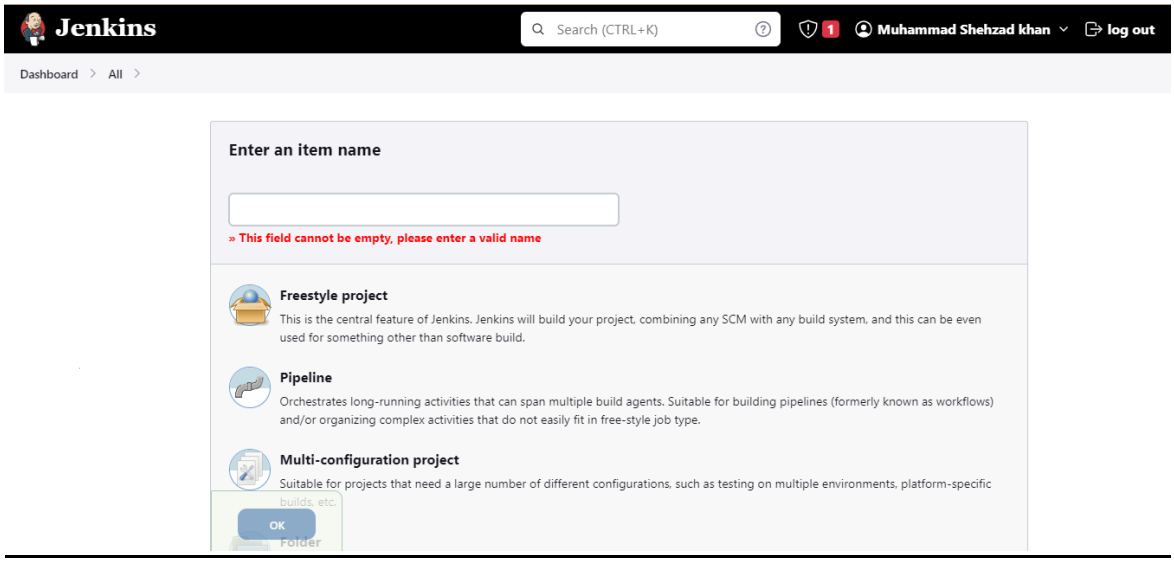


Create a new job:

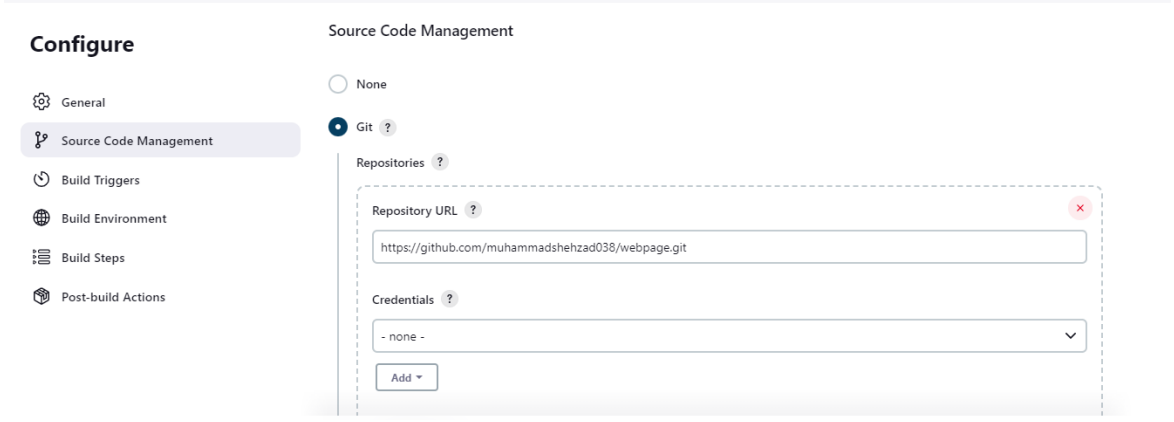
To create a new job in Jenkins, you can follow these steps:

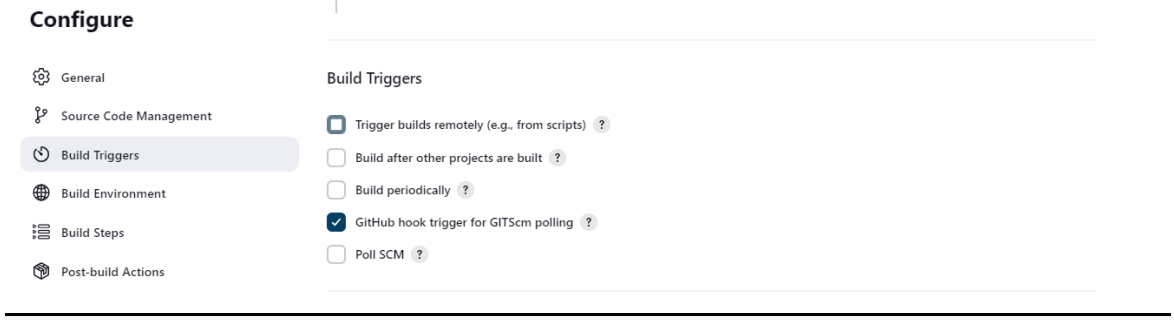
- Log in to your Jenkins dashboard.
- Click on "New Item" or "Create new jobs" to start creating a new job.
- Provide a name for your job and select the type of job you want to create. Jenkins offers various types of jobs such as Freestyle project, Pipeline, Multibranch Pipeline, etc. Choose the appropriate type based on your requirements.
- Click on "OK" or "OK" button to proceed.

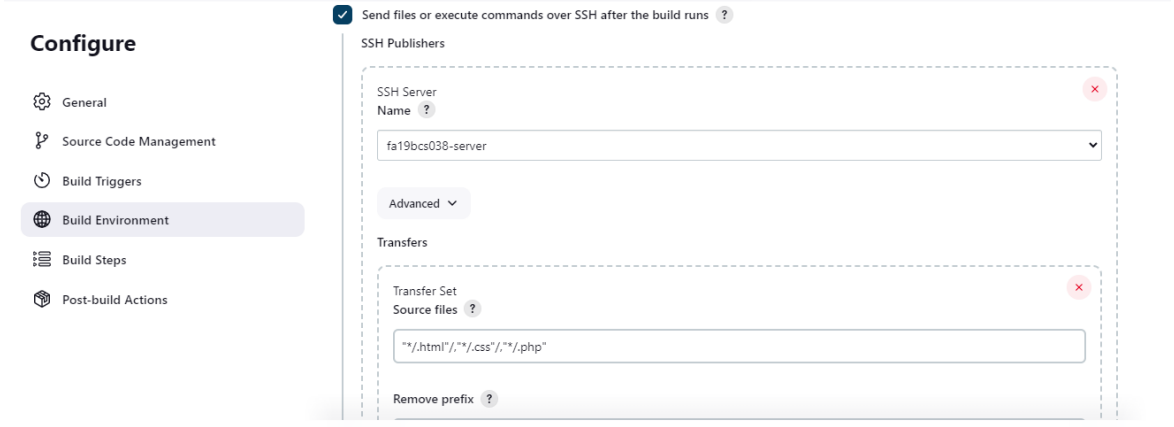




Configure a job:







Build process: