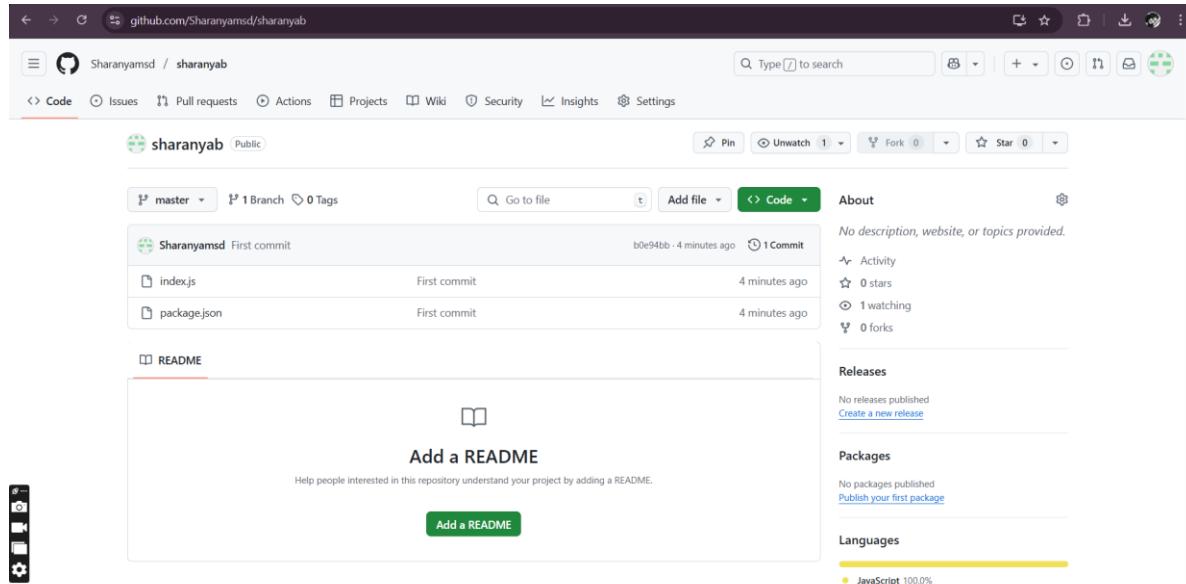


Assignment No:09

Title: Deploy a project from GitHub to EC2..

Step-1:

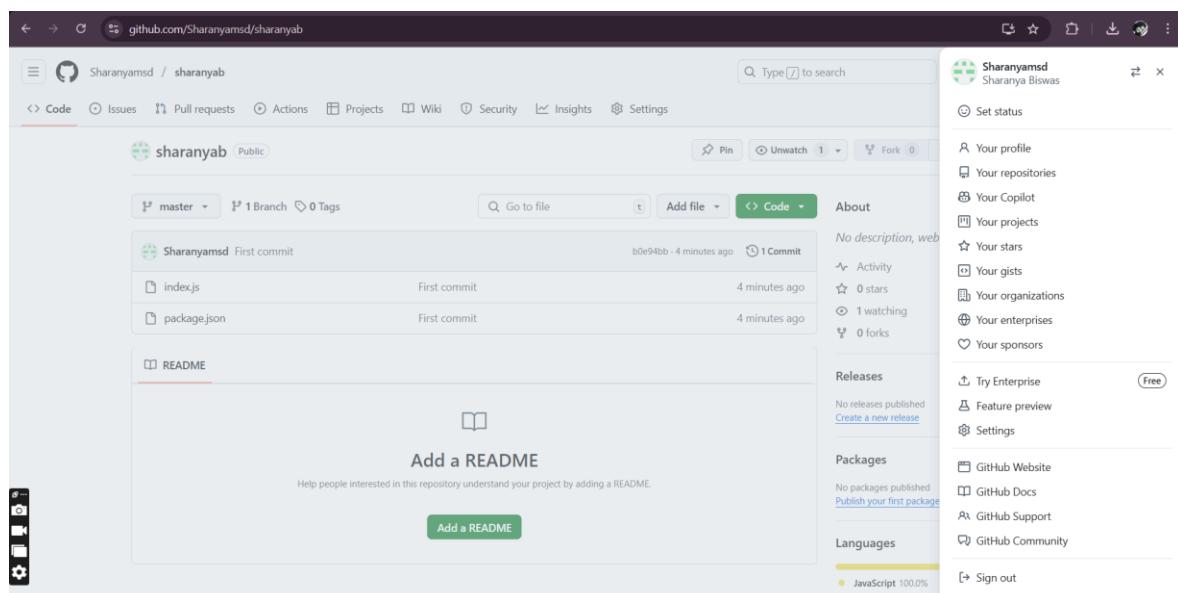
Upload required files to github



The screenshot shows a GitHub repository named 'sharanyab'. The repository has one branch ('master') and one commit ('First commit'). The commit was made by 'Sharanyamsd' 4 minutes ago. The repository contains two files: 'index.js' and 'package.json', both of which were committed 4 minutes ago. There is a section to 'Add a README'.

Step-2:

Click on the profile icon and open settings then scroll down in the left side and open developer settings then open the token(classic) under the personal access tokens.



The screenshot shows a GitHub profile settings page for 'Sharanyamsd'. On the right side, there is a sidebar with various options: Set status, Your profile, Your repositories, Your Copilot, Your projects, Your stars, Your gists, Your organizations, Your enterprises, Your sponsors, Try Enterprise, Feature preview, Settings, GitHub Website, GitHub Docs, GitHub Support, GitHub Community, and Sign out. The 'Settings' option is highlighted.

The image shows two screenshots of the GitHub web interface. The top screenshot is the 'Profile' settings page, showing fields for Moderation, URL, ORCID ID, Social accounts (with links to Instagram and Facebook), Company (@mention field), Location, and a checkbox for 'Display current local time'. The bottom screenshot is the 'Developer Settings' page under 'GitHub Apps', showing sections for GitHub Apps, OAuth Apps, Personal access tokens (with options for Fine-grained tokens and Tokens (classic)), and a 'No GitHub Apps' section with a 'New GitHub App' button and documentation link. Both screenshots include a sidebar with icons for moderation, repositories, codespaces, packages, copilot, pages, saved replies, security, code security, integrations, applications, scheduled reminders, archives, security log, sponsorship log, developer settings, and a gear icon.

Step-3:

Click on generate new token and then click on generate new token(classic).

The screenshot shows the GitHub 'Personal access tokens (classic)' page. On the left, there's a sidebar with options like 'GitHub Apps', 'OAuth Apps', and 'Personal access tokens'. Under 'Personal access tokens', 'Tokens (classic)' is selected. The main area displays a table of tokens. One token, 'sharanyatoken', is listed with scopes including 'admin:enterprise', 'admin:gpg_key', etc. It was never used and expires on Fri, Apr 25 2025. A note below the table states: 'Personal access tokens (classic) function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be used to [authenticate to the API over Basic Authentication](#)'. At the bottom, there's a footer with links to Terms, Privacy, Security, Status, Docs, Contact, Manage cookies, and a link to 'Do not share my personal information'.

Step-4:

Give a name to the token in the note field and check all the scopes and save the token id.

The screenshot shows the GitHub 'New personal access token (classic)' creation page. The sidebar on the left shows 'Personal access tokens' selected. The main form has fields for 'Note' (containing 'GH_API'), 'Expiration' (set to '30 days (Apr 30, 2025)'), and 'Select scopes'. The 'Select scopes' section lists various GitHub API permissions. Several checkboxes are checked: 'repo' (Full control of private repositories), 'workflow' (Update GitHub Action workflows), 'write:packages' (Upload packages to GitHub Package Registry), and 'read:packages' (Download packages from GitHub Package Registry). Other available scopes include 'repostatus', 'repo_deployment', 'public_repo', 'repo:invite', 'security_events', 'status', 'admin:org', 'admin:public_key', 'admin:repo_hook', 'admin:team', 'admin:enterprise', 'admin:gpg_key', 'admin:org_hook', 'admin:repo', 'admin:workflow', 'admin:signing_key', 'audit_log', 'codespace', 'copilot', 'delete_packages', 'delete_repo', 'gist', 'notifications', 'project', 'repo', 'user', 'workflow', 'write:discussion', 'write:network_configurations', and 'write:packages'.

The screenshot shows the GitHub Developer Settings page at github.com/settings/tokens. The left sidebar has sections for GitHub Apps, OAuth Apps, and Personal access tokens, with 'Personal access tokens' expanded. Under 'Tokens (classic)', there is a list of tokens. One token, 'sharanyatoken', is highlighted with a green checkmark and includes a warning message: 'Make sure to copy your personal access token now. You won't be able to see it again!'. The token details show it has scopes like 'admin:enterprise', 'admin:gpg_key', etc., and was generated on 'Fri, Apr 25 2025'. A note below says: 'Personal access tokens (classic) function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be used to [authenticate to the API over Basic Authentication](#)'.

Step-5:

Log into AWS and open EC2.

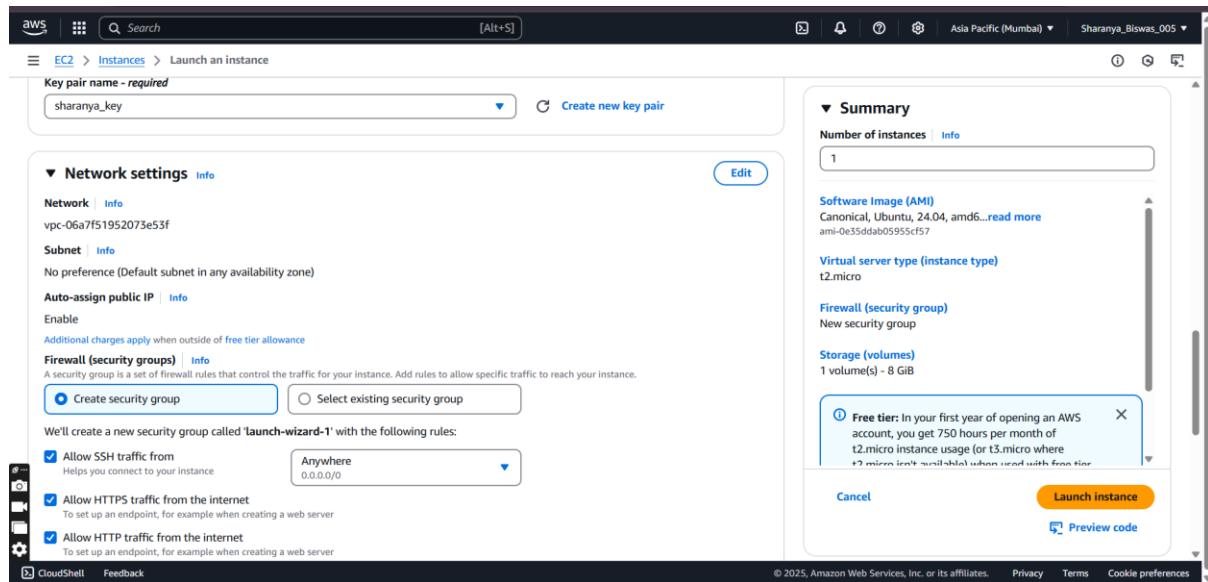
The screenshot shows the AWS EC2 service dashboard. The search bar at the top has 'ec2' typed into it. On the left, a sidebar lists 'Services' such as Features, Resources, Documentation, and Tutorials. The main area displays several cards: 'EC2' (Virtual Servers in the Cloud), 'EC2 Image Builder' (A managed service to automate build, customize and deploy OS images), 'EC2 Global View' (Provides a global dashboard and search functionality), and 'Recycle Bin' (Protect resources from accidental deletion). Below these are 'Features' like 'Dashboard' and 'AMIs'. A right-hand sidebar titled 'Sharanya_Biswas_005' shows application management options, including 'Create application' and a list of applications like 'myApplications'. The bottom of the screen shows standard AWS navigation links for CloudShell, Feedback, and various legal notices.

Step-6:

Click on launch instance.

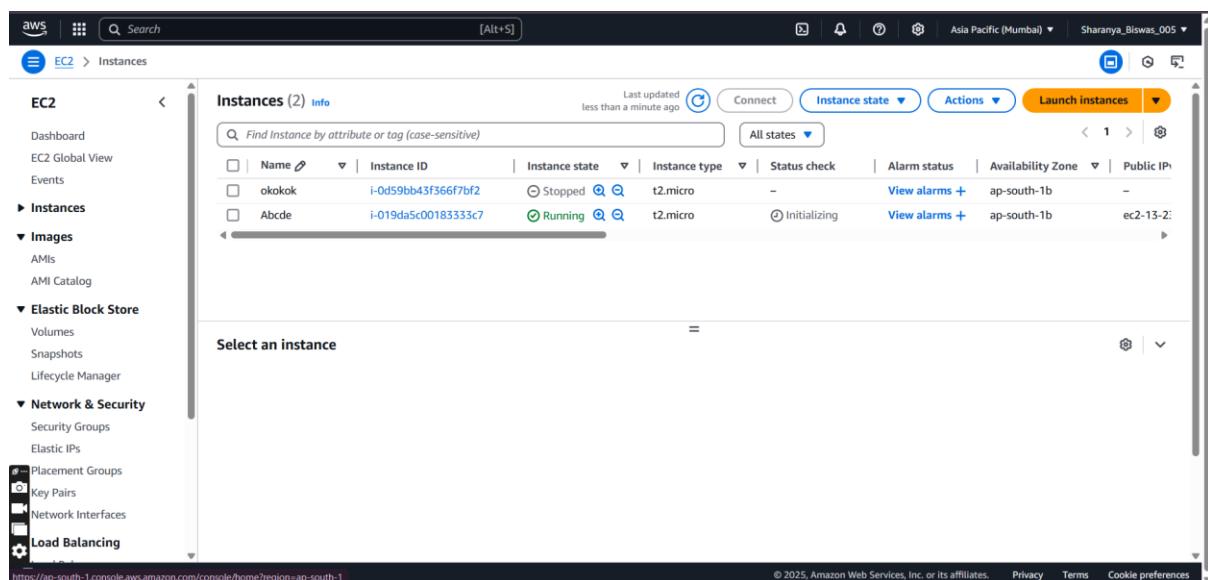
Step-7:

Give a name to the instance and select the operating system then check the 3 boxes to allow SSH, HTTP and HTTPS traffics and click launch instance.



Step-8:

Now open instances and click of the instance Id of the instance.



Step-9:

Copy the IPv4 address.

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Instance summary for i-019da5c00183333c7 (Abcde) [Info](#)

Updated less than a minute ago

Instance ID	i-019da5c00183333c7	Public IPv4 address	13.233.193.244 open address
IPv6 address	-	Instance state	Running
Hostname type	IP name: ip-172-31-1-194.ap-south-1.compute.internal	Private IP DNS name (IPv4 only)	ip-172-31-1-194.ap-south-1.compute.internal
Answer private resource DNS name	IPv4 (A)	Instance type	t2.micro
Auto-assigned IP address	13.233.193.244 [Public IP]	VPC ID	vpc-06a7f51952073e53f
IAM Role	-	Subnet ID	subnet-0f55967727cdac17f
IMDSv2	Required	Instance ARN	arn:aws:ec2:ap-south-1:897729139669:instance/i-019da5c00183333c7

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Step-10:

open bitvise client and paste the ip in host and set up authentication using the key pair then login and after logging in open new terminal window.

Bitvise SSH Client 9.43

Default profile

Login Options Terminal RDP SFTP Services C2S S2C SSH Notes About

Server Host: [13.233.193.244](#) Port: Enable obfuscation

Authentication Username: [ubuntu](#) Initial method: [publickey](#) Client key: [Global 1](#)

Kerberos SPN GSS/Kerberos key exchange Request delegation gssap-keyex authentication

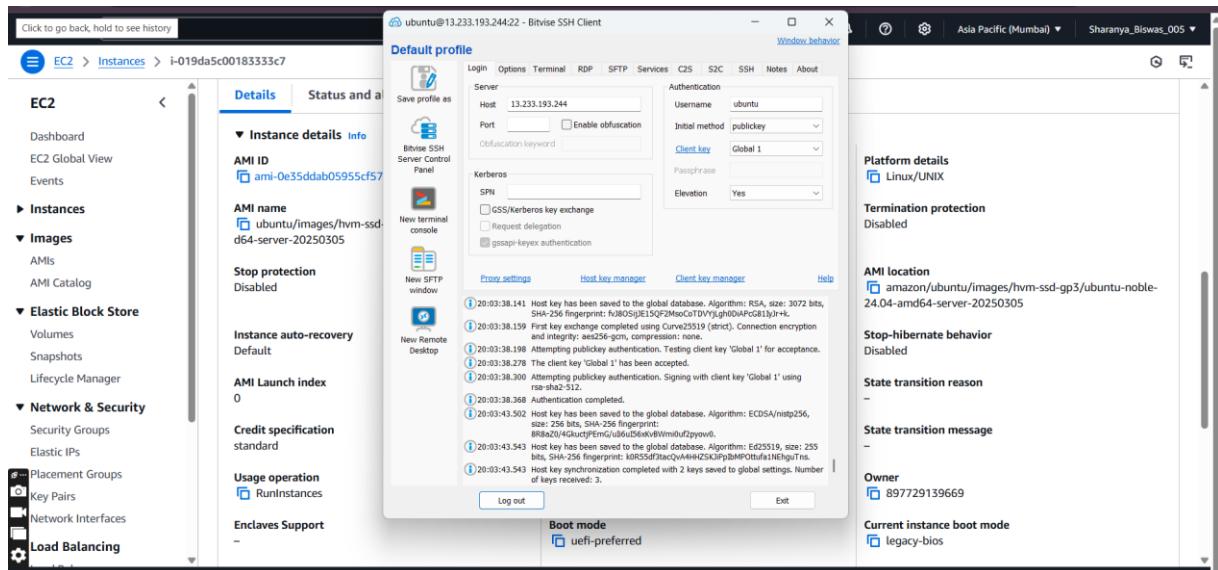
Passphrase Elevation: Yes

Proxy settings Host key manager Client key manager Help

Log in Exit

Instance ARN [arn:aws:ec2:ap-south-1:897729139669:instance/i-019da5c00183333c7](#)

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Step-11:

Then set up the instance using command sudo apt-get update and sudo apt-get upgrade.

```
ubuntu@ip-172-31-1-194:~$ sudo apt-get update
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:5 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:8 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:9 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:10 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:11 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:12 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
]
Get:13 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [960 kB]
Get:14 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [213 kB]
Get:15 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [151 kB]
Get:16 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [13.5 kB]
Get:17 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1044 kB]
Get:18 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [263 kB]
]
Get:19 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [365 kB]
Get:20 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [26.0 kB]
Get:21 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Packages [842 kB]
Get:22 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [170 kB]
Get:23 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [21.2 kB]
Get:24 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 c-n-f Metadata [92 kB]
Get:25 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Packages [21.5 kB]
Get:26 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse Translation-en [4788 kB]
Get:27 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [94 kB]
Get:28 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 c-n-f Metadata [1 kB]
```

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Class:CSE(DS)/22/005

```

ubuntu@13.233.193.244:22 - Bitvise xterm - ubuntu@ip-172-31-1-194: ~
ta [116 B]
Get:41 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [711 kB]
Get:42 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [136 kB]
Get:43 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [9008 B]
Get:44 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [7968 B]
Get:45 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [832 kB]
Get:46 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [177 kB]
Get:47 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [51.9 kB]
Get:48 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [17.0 kB]
Get:49 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Packages [810 kB]
Get:50 http://security.ubuntu.com/ubuntu noble-security/restricted Translation-en [164 kB]
Get:51 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [212 B]
Get:52 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 c-n-f Metadata [468 B]
Get:53 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Packages [17.6 kB]
Get:54 http://security.ubuntu.com/ubuntu noble-security/multiverse Translation-en [3792 B]
Get:55 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [212 B]
Get:56 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 c-n-f Metadata [380 B]
Fetched 33.1 MB in 14s (2302 kB/s)
Reading package lists... Done
ubuntu@ip-172-31-1-194:~$ sudo apt-get upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following packages have been kept back:
  linux-aws linux-headers-aws linux-image-aws
The following packages will be upgraded:
  apport apport-core-dump-handler cloud-init landscape-common libdwld64 libelf164 libibus-syste...
libibus-siti libibus-tools-common openssh-client openssh-server openssh-sftp-server plymouth plymouth-theme-ubuntu-text python3-apport python3-jinja2 python3-problem-report
snapd sosreport systemd systemd-dev systemd-resolved systemd-sysv tzdata tzdata-legacy udev
31 upgraded, 0 newly installed, 0 to remove and 3 not upgraded.
Need to get 43.6 MB of archives.
After this operation, 501 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 libnss-systemd amd64 255.4-1ubuntu8.6 [159 kB]
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 systemd-dev all 255.4-1ubuntu8.6 [104 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 systemd-resolved amd64 255.4-1ubuntu8.6 [296 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 libsystemd-shared amd64 255.4-1ubuntu8.6 [2073 kB]
Get:5 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 libsystemd amd64 255.4-1ubuntu8.6 [433 kB]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 systemd-sysv amd64 255.4-1ubuntu8.6 [11.9 kB]
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 libpam-systemd amd64 255.4-1ubuntu8.6 [235 kB]
Get:8 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 systemd amd64 255.4-1ubuntu8.6 [3471 kB]
Get:9 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 udev amd64 255.4-1ubuntu8.6 [1873 kB]

```

Step-12:

Now install nginx for setting up the web server.

```

ubuntu@13.233.193.244:22 - Bitvise xterm - ubuntu@ip-172-31-1-194: ~
ubuntu @ user manager service: systemd[1038]

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-1-194:~$ sudo apt-get install nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  nginx-common
Suggested packages:
  fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
  nginx nginx-common
0 upgraded, 2 newly installed, 0 to remove and 3 not upgraded.
Need to get 552 kB of archives.
After this operation, 1596 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 nginx-common all 1.24.0-2ubuntu7.1 [31.2 kB]
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 nginx amd64 1.24.0-2ubuntu7.1 [521 kB]
Fetched 552 kB in 0s (20.5 MB/s)
Preconfiguring packages ...
Selecting previously unselected package nginx-common.
(Reading database ... 70568 files and directories currently installed.)
Preparing to unpack .../nginx-common_1.24.0-2ubuntu7.1_all.deb ...
Unpacking nginx-common (1.24.0-2ubuntu7.1) ...
Selecting previously unselected package nginx.
Preparing to unpack .../nginx_1.24.0-2ubuntu7.1_amd64.deb ...
Unpacking nginx (1.24.0-2ubuntu7.1) ...
Setting up nginx (1.24.0-2ubuntu7.1) ...
Setting up nginx-common (1.24.0-2ubuntu7.1) ...
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /usr/lib/systemd/system/nginx.service.
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning candidates...
Scanning linux images...
nginx kernel seems to be up-to-date.
Starting services...
5..vice restarts being deferred:
/etc/needrestart/restart.d/dbus.service

```

Step-13:

Now clone the github repository from github using command git clone paste the link of the repository.

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```
ubuntu@13233.193.244.22: ~$ apt update
Fetched 552 kB in 0s (28.5 MB/s)
Preconfiguring packages ...
Selecting previously unselected package nginx-common.
(Reading database ... 70568 files and directories currently installed.)
Preparing to unpack .../nginx-common_1.24.0-2ubuntu7.1_all.deb ...
Unpacking nginx-common (1.24.0-2ubuntu7.1) ...
Selecting previously unselected package nginx.
Preparing to unpack .../nginx_1.24.0-2ubuntu7.1_amd64.deb ...
Unpacking nginx (1.24.0-2ubuntu7.1) ...
Setting up nginx (1.24.0-2ubuntu7.1) ...
Setting up nginx-common (1.24.0-2ubuntu7.1) ...
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /usr/lib/systemd/system/nginx.service.
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning candidates...
Scanning linux images...
Running kernel seems to be up-to-date.
Restarting services...
Service restarts being deferred:
/etc/needrestart/restart.d/dbus.service
systemctl restart networkd-dispatcher.service
systemctl restart systemd-logind.service
systemctl restart unattended-upgrades.service
No containers need to be restarted.
User sessions running outdated binaries:
ubuntu @ session #1: sshd[1033]
ubuntu @ user manager service: systemd[1038]
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-1-194:~$ git clone https://github.com/Sharanyamsd/sharanyab.git
Cloning into 'sharanyab'...
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 4 (delta 0), reused 4 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (4/4), done.
ubuntu@ip-172-31-1-194:~$
```

Step-14:

Then open the directory that is cloned using command cd name of the directory. Then install nodejs using commands curl -sL https://deb.nodesource.com/setup_18.x | sudo -E bash – and sudo apt-get install nodejs.

```
ubuntu@13233.193.244.22: ~$ systemctl restart networkd-dispatcher.service
systemctl restart systemd-logind.service
systemctl restart unattended-upgrades.service
No containers need to be restarted.
User sessions running outdated binaries:
ubuntu @ session #1: sshd[1033]
ubuntu @ user manager service: systemd[1038]
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-1-194:~$ git clone https://github.com/Sharanyamsd/sharanyab.git
Cloning into 'sharanyab'...
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 4 (delta 0), reused 4 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (4/4), done.
ubuntu@ip-172-31-1-194:~$ ls
sharanyab
ubuntu@ip-172-31-1-194:~$ cd sharanyab
ubuntu@ip-172-31-1-194:~/sharanyab$ ls
index.js package.json
ubuntu@ip-172-31-1-194:~/sharanyab$ curl -sL https://deb.nodesource.com/setup_18.x | sudo -E bash -
bash: -: No such file or directory
ubuntu@ip-172-31-1-194:~/sharanyab$ curl -sL https://deb.nodesource.com/setup_18.x | sudo -E bash -
bash: -: No such file or directory
ubuntu@ip-172-31-1-194:~/sharanyab$ curl -sL https://deb.nodesource.com/setup_18.x | sudo -E bash -
2025-03-31 15:08:47 - Installing pre-requisites
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
ca-certificates is already the newest version (20240203).
ca-certificates set to manually installed.
curl is already the newest version (8.5.0-2ubuntu10.6).
curl set to manually installed.
gnupg is already the newest version (2.4.4-2ubuntu17).
gnupg set to manually installed.
```

```
ubuntu@13.233.193.244:22 - Bitvise xterm - ubuntu@ip-172-31-1-194: ~/sharanyab
Restarting services...
Service restarts being deferred:
/etc/needrestart/restart.d/dbus.service
systemctl restart networkd-dispatcher.service
systemctl restart systemd-logind.service
systemctl restart unattended-upgrades.service

No containers need to be restarted.

User sessions running outdated binaries:
ubuntu @ session #1: sshd[1033]
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Get:4 https://deb.nodesource.com/node_18.x nodistro InRelease [12.1 kB]
Get:5 https://deb.nodesource.com/node_18.x nodistro/main amd64 Packages [11.5 kB]
Hit:6 http://security.ubuntu.com/ubuntu noble-security InRelease
Fetched 23.7 kB in 1s (37.2 kB/s)
Reading package lists... Done
2025-03-31 15:08:53 - Repository configured successfully.
2025-03-31 15:08:53 - To install Node.js, run: apt-get install nodejs -y
2025-03-31 15:08:53 - You can use N|solid Runtime as a node.js alternative
2025-03-31 15:08:53 - To install N|solid Runtime, run: apt-get install nsolid -y

ubuntu@ip-172-31-1-194:~/sharanyab$ sudo apt-get install nodejs
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  nodejs
0 upgraded, 1 newly installed, 0 to remove and 3 not upgraded.
Need to get 29.7 MB of archives.
After this operation, 187 MB of additional disk space will be used.
Get:1 https://deb.nodesource.com/node_18.x nodistro/main amd64 nodejs amd64 18.20.8-1nodesource1 [29.7 MB]
Fetched 29.7 MB in 0s (65.3 MB/s)
Selecting previously unselected package nodejs.
(Reading database ... 70620 files and directories currently installed.)
Preparing to unpack .../nodejs_18.20.8-1nodesource1_amd64.deb ...
Unpacking nodejs (18.20.8-1nodesource1) ...
Setting up nodejs (18.20.8-1nodesource1) ...
Processing triggers for man-db (2.12.0-4build2) ...

ubuntu@ip-172-31-1-194:~/sharanyab$
```

Step-15:

After installing nodejs use npm install command to install required dependencies.

```
ubuntu@13.233.193.244:22 - Bitvise xterm - ubuntu@ip-172-31-1-194: ~/sharanyab
Fetched 29.7 MB in 0s (65.3 MB/s)
Selecting previously unselected package nodejs.
(Reading database ... 70620 files and directories currently installed.)
Preparing to unpack .../nodejs_18.20.8-1nodesource1_amd64.deb ...
Unpacking nodejs (18.20.8-1nodesource1) ...
Setting up nodejs (18.20.8-1nodesource1) ...
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning candidates...
Scanning linux images...

Running kernel seems to be up-to-date.

Restarting services...

Service restarts being deferred:
/etc/needrestart/restart.d/dbus.service
systemctl restart networkd-dispatcher.service
systemctl restart systemd-logind.service
systemctl restart unattended-upgrades.service

No containers need to be restarted.

User sessions running outdated binaries:
ubuntu @ session #1: sshd[1033]
ubuntu @ user manager service: systemd[1038]

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-1-194:~/sharanyab$ npm install

added 227 packages, and audited 228 packages in 32s

25 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
npm notice
npm notice New major version of npm available! 10.8.2 -> 11.2.0
npm notice Changelog: https://github.com/npm/cli/releases/tag/v11.2.0
npm notice To update run: npm install -g npm@11.2.0
npm notice
```

Step-16:

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Class:CSE(DS)/22/005

Now open aws and open the current instance then scroll down and goto security.

The screenshot shows the AWS EC2 Instances page for an instance with ID i-019da5c00183333c7. The left sidebar shows navigation options like Dashboard, EC2 Global View, Events, Instances, Images, Elastic Block Store, Network & Security, and Load Balancing. The main content area displays instance details under the 'Details' tab. Key information includes:

- AMI ID:** ami-0e35ddab05955cf57
- AMI name:** ubuntu/images/hvm-ssd-gp3/ubuntu-noble-24.04-amd64-server-20250305
- Stop protection:** Disabled
- Instance auto-recovery:** Default
- AMI Launch index:** 0
- Credit specification:** standard
- Monitoring:** disabled
- Allowed image:** -
- Launch time:** Mon Mar 31 2025 19:56:39 GMT+0530 (India Standard Time) (about 1 hour)
- Lifecycle:** normal
- Key pair assigned at launch:** sharanya_key
- Kernel ID:** -
- Platform details:** Linux/UNIX
- Termination protection:** Disabled
- AMI location:** amazon/ubuntu/images/hvm-ssd-gp3/ubuntu-noble-24.04-amd64-server-20250305
- Stop-hibernate behavior:** Disabled
- State transition reason:** -
- State transition message:** -

At the bottom, there are links for CloudShell and Feedback, and a footer with copyright information and links for Privacy, Terms, and Cookie preferences.

Step-17:

Then click on the link in security groups then click on edit inbound rules.

The screenshot shows the AWS EC2 Instances page for the same instance. The 'Security' tab is selected. Key information includes:

- IAM Role:** -
- Owner ID:** 897729139669
- Launch time:** Mon Mar 31 2025 19:56:39 GMT+0530 (India Standard Time)
- Security groups:** sg-09c25788a794c1bbc (launch-wizard-1)
- Inbound rules:** A table showing three rules:

Name	Security group rule ID	Port range	Protocol	Source	Security group
-	sgr-04024b4e48f3ce614	22	TCP	0.0.0.0/0	launch-wizard-
-	sgr-073381d151e7472bc	443	TCP	0.0.0.0/0	launch-wizard-
-	sgr-0abcaeec701fb8b41d	80	TCP	0.0.0.0/0	launch-wizard-
- Outbound rules:** A table showing one rule:

Name	Security group rule ID	Port range	Protocol	Source	Security group
-	sgr-0abcaeec701fb8b41d	80	TCP	0.0.0.0/0	launch-wizard-

At the bottom, there are links for CloudShell and Feedback, and a footer with copyright information and links for Privacy, Terms, and Cookie preferences.

The screenshot shows the AWS EC2 Security Groups page. The left sidebar is collapsed. The main area displays the security group **sg-09c25788a794c1bbc - launch-wizard-1**. The **Inbound rules** tab is selected, showing three rules:

Name	Security group rule ID	IP version	Type	Protocol	Port range
-	sgr-04024b4e48f3ce614	IPv4	SSH	TCP	22
-	sgr-073381d151e7472bc	IPv4	HTTPS	TCP	443
-	sgr-0abcaeec701f8b41d	IPv4	HTTP	TCP	80

Below the table are buttons for **Manage tags** and **Edit inbound rules**.

Step-18:

Click on add rule and select the type of new rule custom tcp port range 4000 source 0.0.0.0 or anywhere then click on save rule.

The screenshot shows the **Edit inbound rules** page for the **sg-09c25788a794c1bbc - launch-wizard-1** security group. The **Add rule** button is visible at the bottom left. The table shows four existing rules:

Security group rule ID	Type	Protocol	Port range	Source	Description - optional
sgr-016aa692d6779fb3	Custom TCP	TCP	4000	Custom	0.0.0.0/0
sgr-04024b4e48f3ce614	SSH	TCP	22	Custom	0.0.0.0/0
sgr-073381d151e7472bc	HTTPS	TCP	443	Custom	0.0.0.0/0
sgr-0abcaeec701f8b41d	HTTP	TCP	80	Custom	0.0.0.0/0

Step-19:

Open the terminal console and start the server using command node index.js .

```
[+@] ubuntu@13.233.193.244:22 - Bitvise xterm - ubuntu@ip-172-31-1-194: ~/sharanyab
Preparing to unpack .../nodejs_18.20.8-1nodesource1_amd64.deb ...
Unpacking nodejs (18.20.8-1nodesource1) ...
Setting up nodejs (18.20.8-1nodesource1) ...
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning candidates...
Scanning linux images...

Running kernel seems to be up-to-date.

Restarting services...

Service restarts being deferred:
/etc/needrestart/restart.d/dbus.service
systemctl restart networkd-dispatcher.service
systemctl restart systemd-logind.service
systemctl restart unattended-upgrades.service

No containers need to be restarted.

User sessions running outdated binaries:
ubuntu @ session #1: sshd[1033]
ubuntu @ user manager service: systemd[1038]

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-1-194:~/sharanyab$ npm install
added 227 packages, and audited 228 packages in 32s

25 packages are looking for funding
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npm notice New major version of npm available! 10.8.2 -> 11.2.0
npm notice Changelog: https://github.com/npm/cli/releases/tag/v11.2.0
npm notice To update run: npm install -g npm@11.2.0
npm notice
ubuntu@ip-172-31-1-194:~/sharanyab$ ls
index.js  node_modules  package-lock.json  package.json
ubuntu@ip-172-31-1-194:~/sharanyab$ node index.js
Started server
```

Step-20:

Now copy the IPv4 address of the instance and paste it and the put the port like this IP address:Port
here IP address:4000 .

