Assignment 09

🛠️ Deploy a Project from GitHub to EC2

📝 Objective

Deploy a Node.js project from a GitHub repository to an Ubuntu EC2 instance using Bitvise SSH.

✅ Step 1: Launch an EC2 Instance

1. **Open EC2 Console**
   - Go to https://console.aws.amazon.com/ec2/
   - Click **Instances (Running)** > **Launch Instance**
2. **Configure Instance**
   - **Name**: e.g., SnehaEC2WebServer
   - **Application and OS Image**:
     - Choose **Ubuntu** under **Quick Start** (Free Tier eligible)
   - **Instance Type**: t2.micro (default, Free Tier)
   - **Key Pair (Login)**:
     - Click **Create new key pair**
     - Name it e.g., snehaa1234
     - Type: RSA, File format: .pem
     - Save the .pem file securely (you'll need it to connect)
   - **Network Settings**:
     - Under **Firewall (Security Groups)**, check:
       - ✅ Allow SSH
       - ✅ Allow HTTP
       - ✅ Allow HTTPS
3. **Launch the Instance**
   - Click **Launch Instance**
   - Click **View all instances** to go back to dashboard.

🔌 Step 2: Connect to EC2 via Bitvise SSH Client

1. **Get Public IPv4**
   - Click your instance's **Instance ID**
   - Copy the **Public IPv4 Address**
2. **Open Bitvise SSH Client**
   - Download: https://www.bitvise.com/ssh-client-download
   - Open Bitvise and do the following:
     - **Server - Host**: Paste EC2's Public IPv4
     - **Username**: ubuntu
     - Click **Client Key Manager**
       - Click **Import** and load your .pem file
       - It will appear as **Global 1**

        - Set:
            - **Initial Method**: publickey
            - **Client Key**: Global 1
    - Click **Log in** → Accept & Save

🖥️ Step 3: Set Up Server Environment in Terminal

Once inside Bitvise terminal:

1. **Update Packages**

   sudo apt-get update && sudo apt-get upgrade

   Type y when prompted.

2. **Install NGINX**

   sudo apt-get install nginx

   Type y when prompted.

3. **Install Node.js**

   curl -sL https://deb.nodesource.com/setup_16.x | sudo -E bash -
   sudo apt install nodejs

4. **Clone GitHub Repo**

   git clone https://github.com/itsmesneha/MYNEWREPO.git

    - When prompted:
        - **Username**: GitHub email
        - **Password**: GitHub token (not your password)
5. **Go to Project Directory**

   cd MYNEWREPO

6. **Install Project Dependencies**

   npm install

🌐 Step 4: Allow App Port (e.g., 4000) in Security Group

1. Go to **EC2 Dashboard**
2. Click your **Instance ID**
3. Go to **Security > Security Groups**

4. Click **Edit Inbound Rules**
    - Click **Add Rule**
        - **Type**: Custom TCP
        - **Port Range**: 4000
        - **Source**: Anywhere (0.0.0.0/0)
5. Click **Save Rules**

🚀 Step 5: Run the Node.js App

In Bitvise terminal:

node index.js

- If no error appears, the server has started.
- Open your browser and enter:

http://<your-ec2-public-ip>:4000

E.g., http://3.91.123.45:4000

You should now see the deployed application running from the GitHub repo.

📌 Summary of Commands

sudo apt-get update && sudo apt-get upgrade
sudo apt-get install nginx
curl -sL https://deb.nodesource.com/setup_16.x | sudo -E bash -
sudo apt install nodejs
git clone https://github.com/itsmesneha/MYNEWREPO.git
cd MYNEWREPO
npm install
node index.js