

Assignment on Networking and Servers

Q1. Deploy a website on localhost using either apache2 or **Nginx**. Create a DNS name for this website as 'awesomeweb'. You can use any web template you want or can write your own simple HTML code.

Step1: Install Nginx on macbook:

```
brew install nginx
```

```
sudo brew services start nginx
```

```
nginx -v
```

```
abhutoria@abhutor-ltmbqz4 var %  
abhutoria@abhutor-ltmbqz4 var % nginx -v  
nginx version: nginx/1.27.1  
abhutoria@abhutor-ltmbqz4 var %
```

```
abhutoria@abhutor-ltmbqz4 var %  
abhutoria@abhutor-ltmbqz4 var % sudo brew services list  
  
Name  Status  User  File  
httpd none   root  
nginx started root  /Library/LaunchDaemons/homebrew.mxcl.nginx.plist  
abhutoria@abhutor-ltmbqz4 var %
```

Step2: Add HTML code to nginx path:

Create a directory for the website and add an html file

```
mkdir /opt/homebrew/var/www/awesomeweb
```

```
vi /opt/homebrew/var/www/awesomeweb/index.html
```

```
<> index.html ×
Network-Server Assignments > <> index.html > ...
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>Networking and Servers HTML Page</title>
7  </head>
8  <body>
9      <h1>Welcome to My HeroVired Assignment using Nginx</h1>
10     <p>This is a paragraph in a basic HTML file.</p>
11 </body>
12 </html>
13
```

Step3: Add a new server block configuration in nginx.conf for DNS server name

```
http {
    server {
        listen 8080;
        server_name awesomeweb;

        location / {
            root /opt/homebrew/var/www/awesomeweb;
            index index.html;
        }
    }
}
```

>> Update the hosts file:

```
sudo vi /etc/hosts
127.0.0.1 awesomeweb
```

Step4: Validate the URL as needed:



Welcome to My HeroVired Assignment using Nginx

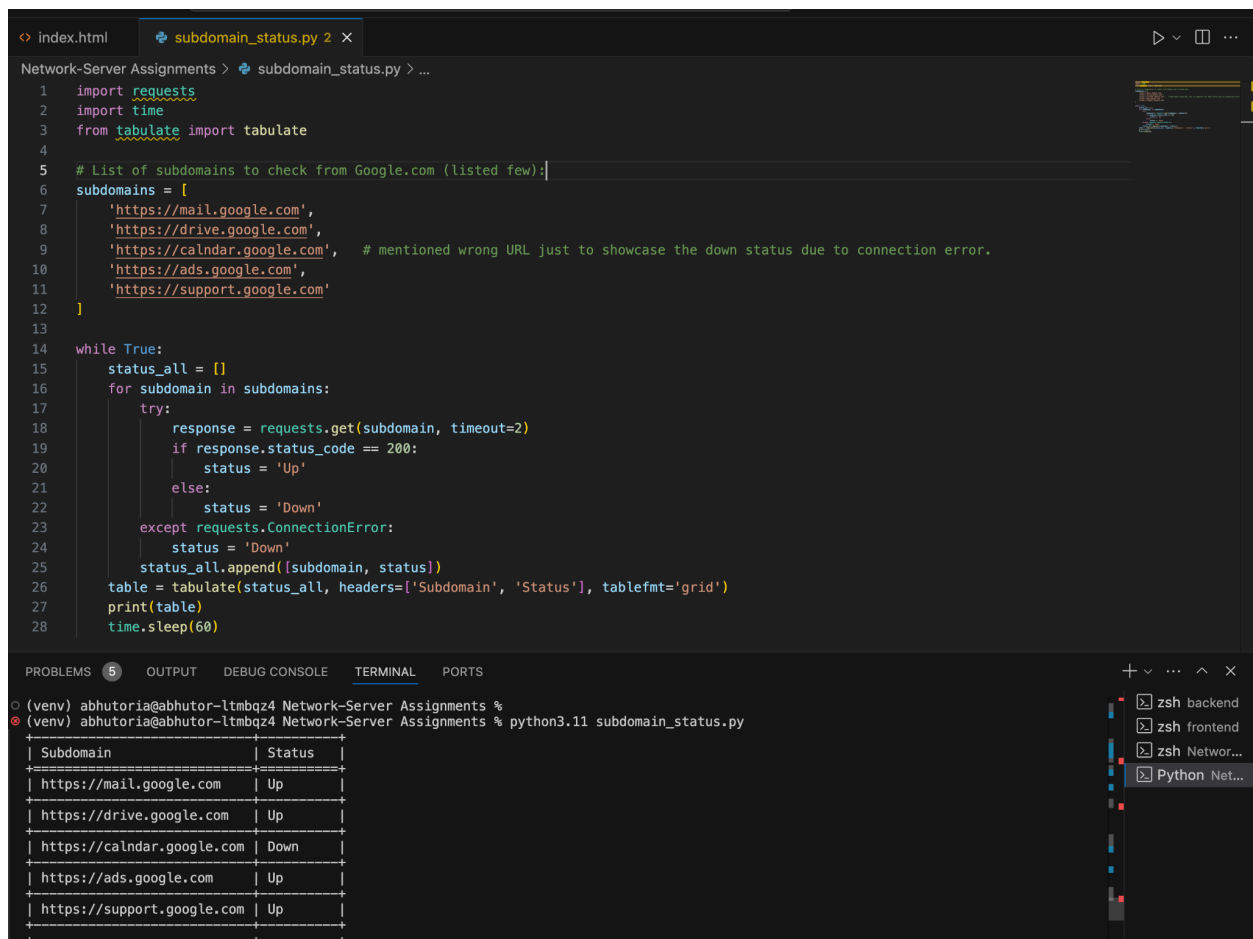
This is a paragraph in a basic HTML file.

Q-2. A website can have many subdomains and different services are running on them. Write a Python script to check the status of the subdomains which are up or down. The script should automatically check the status every minute and should update it in tabular format on the screen.

Steps:

- To view the results in tabular format, I am using "**tabulate**" python library:
 - o pip3 install requests tabulate
- Create a python file named "**subdomain_status.py**".
- Run the script from the terminal.
python3.11 subdomain_status.py
- This script will checks the status of the specified subdomains every minute

Adding screenshot of the script here:



The screenshot shows a code editor with a file named `subdomain_status.py` open. The script imports `requests`, `time`, and `tabulate`. It defines a list of subdomains to check: `https://mail.google.com`, `https://drive.google.com`, `https://calendar.google.com` (commented as having a wrong URL to showcase a connection error), `https://ads.google.com`, and `https://support.google.com`. The script enters a `while True` loop that checks the status of each subdomain by sending a GET request with a 2-second timeout. If the status code is 200, it marks the subdomain as 'Up'; otherwise, it marks it as 'Down'. It uses `tabulate` to format the results into a table and prints it. A `time.sleep(60)` call ensures the script checks the status every minute.

The terminal output shows the script being run with `python3.11 subdomain_status.py`. The output is a table with two columns: 'Subdomain' and 'Status'.

Subdomain	Status
https://mail.google.com	Up
https://drive.google.com	Up
https://calendar.google.com	Down
https://ads.google.com	Up
https://support.google.com	Up

Q3: Virtualbox setup for Ubuntu failed on Macbook ,also tried going on call with Mohan twice but no solution was found.

Steps followed:

Oracle VirtualBox - Overview

Oracle VirtualBox is a popular Type 2 hypervisor that allows you to create and manage virtual machines on your desktop or laptop. It supports a wide range of guest operating systems, including Windows, Linux, macOS, and more. VirtualBox is free and open-source, making it an excellent choice for developers, testers, and anyone interested in exploring virtualization.

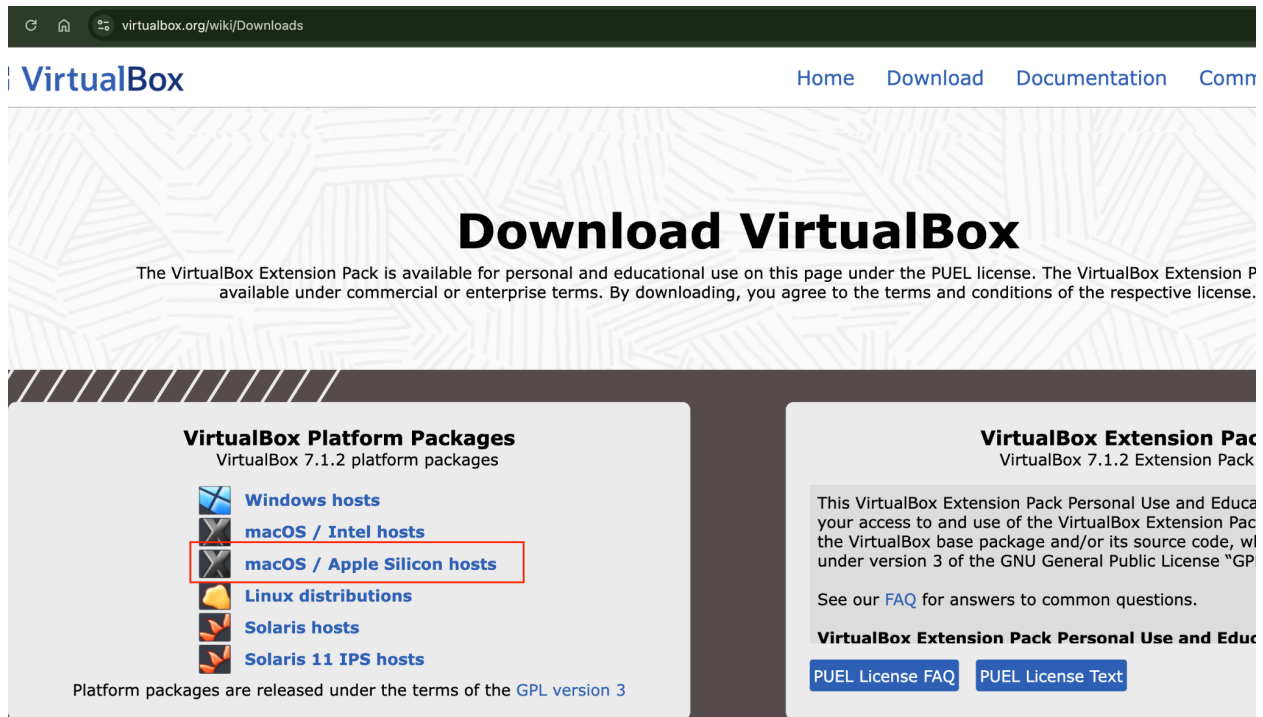
How to Install VirtualBox

Here's a step-by-step guide to installing Oracle VirtualBox on my macOS:

Step 1: Download VirtualBox

1. Go to the official VirtualBox website: <https://www.virtualbox.org/>
2. Click on the "Downloads" link in the top navigation menu.

Step 2: Choose the Correct Package



The screenshot shows the VirtualBox website's download page. The browser's address bar displays 'virtualbox.org/wiki/Downloads'. The page features the VirtualBox logo and navigation links: Home, Download, Documentation, and Comm. The main heading is 'Download VirtualBox'. Below this, a disclaimer states: 'The VirtualBox Extension Pack is available for personal and educational use on this page under the PUEL license. The VirtualBox Extension Pack is also available under commercial or enterprise terms. By downloading, you agree to the terms and conditions of the respective license.'

The page is divided into two main sections:

- VirtualBox Platform Packages**
VirtualBox 7.1.2 platform packages
 - Windows hosts
 - macOS / Intel hosts
 - macOS / Apple Silicon hosts** (highlighted with a red box)
 - Linux distributions
 - Solaris hosts
 - Solaris 11 IPS hosts

Platform packages are released under the terms of the [GPL version 3](#)
- VirtualBox Extension Pack**
VirtualBox 7.1.2 Extension Pack
 - This VirtualBox Extension Pack Personal Use and Educational Use License (PUEL) grants you your access to and use of the VirtualBox Extension Pack with the VirtualBox base package and/or its source code, without charge, under version 3 of the GNU General Public License "GPL".
 - See our [FAQ](#) for answers to common questions.
 - VirtualBox Extension Pack Personal Use and Educational Use License (PUEL)**
 - [PUEL License FAQ](#) [PUEL License Text](#)

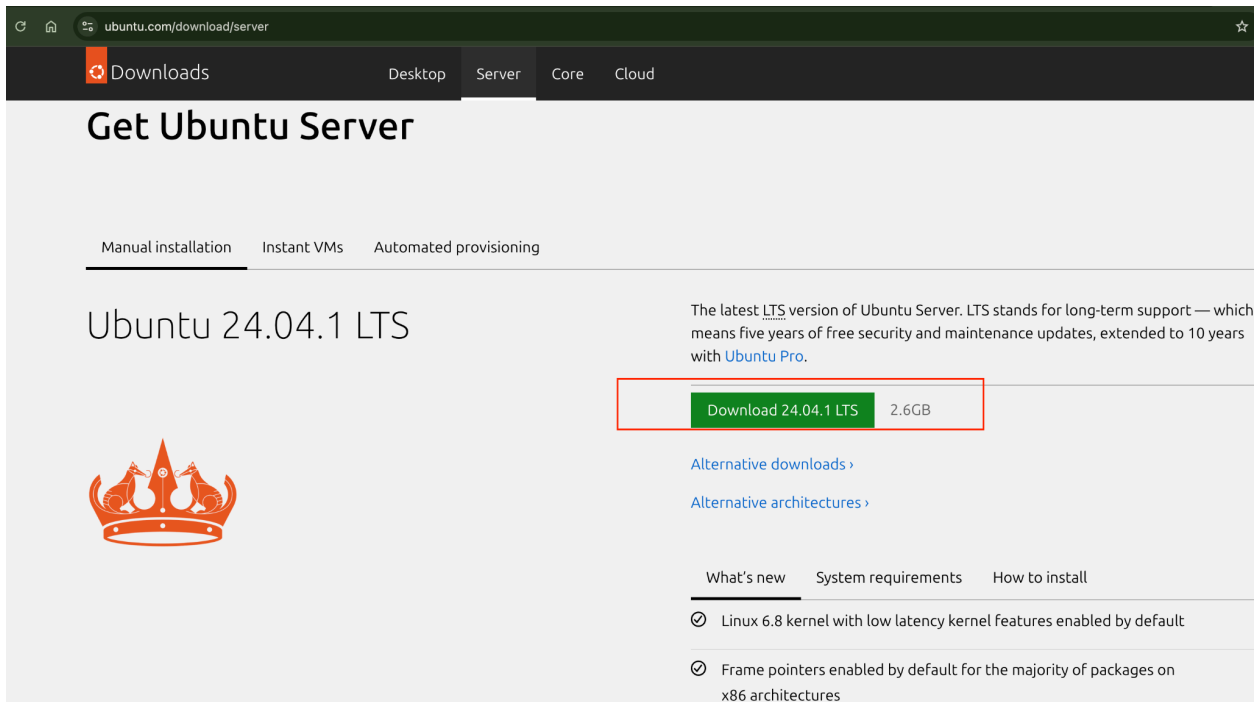
Step 3: Install VirtualBox

For macOS:

- Download the macOS version of VirtualBox.
- Double-click on the downloaded DMG file to open it.
- Double-click on the VirtualBox package icon to start the installation. - Follow the on-screen instructions to complete the installation.

Step 4: Launch VirtualBox

Install iso image from Ubuntu website, <https://ubuntu.com/download/server>



The screenshot shows the Ubuntu 24.04.1 LTS download page. The browser address bar shows `ubuntu.com/download/server`. The page has a dark navigation bar with tabs for Downloads, Desktop, Server, Core, and Cloud. The main heading is "Get Ubuntu Server". Below it are tabs for Manual installation, Instant VMs, and Automated provisioning. The version "Ubuntu 24.04.1 LTS" is displayed next to the Ubuntu logo. A green button labeled "Download 24.04.1 LTS" with "2.6GB" next to it is highlighted with a red rectangle. To the right of the button, text explains that LTS stands for long-term support, offering five years of free security and maintenance updates. Below the button are links for "Alternative downloads" and "Alternative architectures". At the bottom, there are sections for "What's new", "System requirements", and "How to install". The "What's new" section lists two updates: "Linux 6.8 kernel with low latency kernel features enabled by default" and "Frame pointers enabled by default for the majority of packages on x86 architectures".

ubuntu.com/download/server

Downloads Desktop Server Core Cloud

Get Ubuntu Server

Manual installation Instant VMs Automated provisioning

Ubuntu 24.04.1 LTS

The latest [LTS](#) version of Ubuntu Server. LTS stands for long-term support — which means five years of free security and maintenance updates, extended to 10 years with [Ubuntu Pro](#).

[Download 24.04.1 LTS](#) 2.6GB

[Alternative downloads](#) >

[Alternative architectures](#) >

What's new System requirements How to install

- ✓ Linux 6.8 kernel with low latency kernel features enabled by default
- ✓ Frame pointers enabled by default for the majority of packages on x86 architectures