**Install Apache on Linux with HTTP and HTTPS**

**Installing Apache on Linux**

* Download Apache2 from apt
  + sudo apt update && sudo apt install apache2

**Configuring HTTP apache server**

* **Create the directory that will contain our website**
  + sudo mkdir -p /var/www/ns/html
  + sudo chown -R ubuntu:ubuntu /var/www/ns/html
  + sudo chmod -R 755 /var/www/ns
* **Create a simple webpage for our website**
  + nano /var/www/ns/html/index.html
  + create a simple index.html webpage

**<html>**

**<head>**

**<title>Network And Security Website</title>**

**</head>**

**<body>**

**<h1> Hi this is the NS website! </h1>**

**</body>**

**</html>**

* **Create a new virtual host file**
  + cd /etc/apache2/sites-available
  + sudo nano networksecuritysite.conf
  + copy and paste the following configuration

**<VirtualHost \*:80>**

**ServerAdmin admin@admin.it  
ServerName ns.it  
ServerAlias ns.it  
DocumentRoot /var/www/ns/html  
ErrorLog ${APACHE\_LOG\_DIR}/error.log  
CustomLog ${APACHE\_LOG\_DIR}/access.log combined**

**</VirtualHost>**

* **Activate virtual host configuration file**
  + sudo a2ensite networksecuritysite.conf
* **Disable default site**
  + sudo a2dissite 000-default.conf
* **Add servername configuration**
  + cd /etc/apache2/conf-available
  + copy and paste “ServerName ns.it” inside servername.conf
  + sudo a2enconf servername.conf
* **Restart apache**
  + sudo service apache2 restart
* **Check syntax error**
  + sudo apache2ctl configtest
* **Check if everything works: connect with raspberryPi to ipAddress of host1 using the browser and see if the sites is correct**

**Configuring HTTPS**

* **Enable ssl**
  + sudo a2enmod ssl
* **make dir for certificates inside apache2**
  + sudo mkdir /etc/apache2/cert
  + cd /etc/apache2/cert
* **Generate a self-signed certificate following (**[**here**](https://www.mat.unical.it/ianni/RSI-Web/esercitazioni/Laboratory_22-23/Session_3/guides/self_signed_certificate_generation.pdf) **for a detailed documentation)**
* **Create directory that will contain our website’s html**
  + sudo mkdir -p /var/www/networksecuritysite/https/html
  + sudo chown -R ubuntu:ubuntu /var/www/networksecuritysite/https/html
* **Create a simple webpage for our website**
  + nano /var/www/networksecuritysite/https/html/index.html
  + put some html content like

**<html>**

**<head>**

**<title>Network Security Website</title>**

**</head>**

**<body>**

**<h1> Hi this is the NS website in HTTPS!</h1>**

**</body>**

**</html>**

* **Modify virtual host file appending new configuration**
  + sudo nano /etc/apache2/sites-enabled/networksecuritysite.conf

**<VirtualHost \*:443>**

**ServerAdmin webmaster@localhost**

**DocumentRoot /var/www/html/networksecuritydemacs/ssl/html**

**ErrorLog ${APACHE\_LOG\_DIR}/error.log**

**CustomLog ${APACHE\_LOG\_DIR}/access.log combined**

**SSLEngine on**

**SSLCertificateFile /etc/apache2/cert/server.cert**

**SSLCertificateKeyFile /etc/apache2/cert/server.key**

**</VirtualHost>**

* **Check syntax error**
  + sudo apache2ctl configtest
* **Restart apache**
  + sudo service apache2 restart