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Training Day - 5 Report:

Web Servers: Introduction to Apache and Nginx, and Installation Steps

What is a Web Server?

A **web server** is a system that serves web content to users over the internet or an intranet. It handles requests from web browsers, processes those requests, and responds by delivering the requested files, which could include HTML documents, images, videos, or other content. Web servers operate on the **HTTP protocol** (HyperText Transfer Protocol) and allow clients to access websites or web applications.

Popular Web Servers: Apache and Nginx

1. Apache Web Server (Apache2)

- **Introduction**:
  Apache is one of the oldest and most widely used web servers in the world. It is open-source and supports various features like customizable configuration, authentication, URL rewriting, and more. Apache is known for its flexibility and compatibility with various operating systems.

- **Features**:

  - **Modular architecture**: Apache allows adding modules for features like SSL, URL rewriting, authentication, etc.
  - **.htaccess support**: Apache allows per-directory configuration through .htaccess files.
  - **Customization**: It supports extensive configuration options to fine-tune server behavior.

2. Nginx Web Server

- **Introduction**:
  Nginx is a high-performance web server and reverse proxy server. It was designed for performance, scalability, and low resource usage. Nginx is commonly used for serving static content and can act as a reverse proxy, load balancer, and HTTP cache.

- **Features**:
    - **Event-driven architecture**: Nginx can handle many connections concurrently, which makes it faster and more efficient in handling high traffic.
    - **Reverse Proxy**: It can serve as a reverse proxy server, balancing traffic to application servers.
    - **Low resource usage**: Nginx uses minimal memory and CPU, making it ideal for high-traffic websites.

Apache2 Installation on Ubuntu

- sudo apt update
- sudo apt upgrade
- sudo apt install apache2
- sudo systemctl start apache2
- sudo systemctl enable apache2
- sudo systemctl status apache2
- **Access Apache2 in Browser**
  Open a browser and type http://localhost or http://127.0.0.1. You should see the default Apache2 welcome page.

Nginx Installation on Ubuntu

- sudo apt update
- sudo apt upgrade
- sudo apt install nginx
- sudo systemctl start nginx
- sudo systemctl enable nginx
- sudo systemctl status nginx
- **Access Nginx in Browser**
  Open a browser and type http://localhost or http://127.0.0.1. You should see the default Nginx welcome page.