Working with Web Services in Linux

Overview

Understanding web services on Linux is essential for both development and penetration testing. This guide explores installing, configuring, and interacting with web servers like Apache and tools like `curl`, `wget`, and Python's `http.server`.

Apache Web Server

Installation

```
sudo apt install apache2 -y
```

Starting Apache

```
sudo systemctl start apache2
```

Default Page

Visit `http://localhost` to confirm Apache is running (you should see an "It works!" message).

Change Listening Port

Edit `/etc/apache2/ports.conf`:

```
Listen 8080
```

Then restart Apache:

```
sudo systemctl restart apache2
```

Access via: `http://localhost:8080`

Command Line Tools

`curl`

Use `curl` to interact with web servers and inspect responses.

```
curl http://localhost
```

Returns raw HTML source of the page.

`wget`

Use `wget` to download web content.

```
wget http://localhost
```

Saves as `index.html` by default.

Python HTTP Server

Start a Simple HTTP Server

```
python3 -m http.server
```

Default port is 8000. Visit `http://localhost:8000`

Example Output

```
127.0.0.1 - - [15/May/2020 17:56:29] "GET /readme.html HTTP/1.1" 200 -
```

Apache Modules

Module	Purpose
`mod_ssl`	Encrypts communication (HTTPS)
`mod_proxy`	Routes requests (useful in reverse proxies)
`mod_headers`	Modify HTTP headers
`mod_rewrite`	Dynamically rewrite URLs

Tips for Learning

- Explore beyond comfort zones
- Perform independent research
- Practice creative problem solving

> *"This is not an exam—it's training for real-world problem solving."* 🚀