### **Lab 10: Using Curl Tool**

### **Objective:**

Learn how to use the Curl command-line tool for manual information gathering and interacting with web resources.

### **Purpose:**

Curl (**Client URL**) is a versatile tool for sending and receiving data using URL syntax. It supports various protocols, including HTTP, HTTPS, FTP, and others, making it an essential tool for penetration testing and debugging.

### **Tools Needed:**

* **Kali Linux** (running on a VM)

### **Lab Walkthrough**

#### **Task 1: Installing Curl and Basic Syntax**

**1 .Check Curl Installation** Open a terminal and verify Curl is installed:  
  
 curl --version

If it’s not installed, use the following command:  
  
 sudo apt-get install curl

**2 .Learn Basic Syntax** To display help and options:  
  
 curl --help

Basic usage follows this syntax:  
  
 curl [options] URL

#### **Task 2: Fetching Webpage Source Code**

1. To fetch and display the source code of a webpage:  
    curl https://example.com
2. **Save the Output to a File:**

Save with a predefined name:  
 curl -o output.txt <https://example.com>

Save using the original filename:  
 curl -O https://example.com

#### **Task 3: Downloading Multiple Files**

1. Download multiple files by specifying multiple -O options:  
     
    curl -O https://arxiv.org/ftp/arxiv/papers/1610/1610.05971.pdf \

-O <https://arxiv.org/pdf/2103.08624.pdf>

1. **Resume Interrupted Downloads:** Use the -C- option:  
     
    curl -C- -O https://arxiv.org/pdf/2103.08624.pdf

#### **Task 4: Inspecting HTTP Headers**

Fetch HTTP headers with the -I option:  
  
 curl -I https://example.com

1. This will display information such as server type, content type, and encoding.

#### **Task 5: Emulating a Browser**

1. To bypass Curl detection and emulate a browser’s user-agent:  
    curl -A "Mozilla/5.0 (X11; Linux x86\_64; rv:60.0) Gecko/20100101 Firefox/60.0" <https://ifconfig.me>

#### **Task 6: File Transfers**

1. **Access Protected FTP Servers:** Use the -u option to specify credentials:  
     
    curl -u "username:password" ftp://[mirrors.sonic.net/knoppix/live.iso](http://mirrors.sonic.net/knoppix/live.iso)
2. **Upload Files to a Server:** Use the -T option:  
     
    curl -T file.zip -u "username:password" ftp://mirrors.sonic.net/

#### **Task 7: Ignoring Invalid SSL Certificates**

1. Bypass SSL certificate validation with the -k option:  
 curl -k https://192.168.1.1/

#### **Task 8: Using a Proxy**

1. Configure Curl to use a proxy with the -x option:  
    curl -x 192.168.0.1:8080 http://example.com/

#### **Task 9: Sending HTTP POST Data**

1. Send form data to a URL:  
    curl -d "tfUName=admin&tfUPass=12345" http://testasp.vulnweb.com/Login.asp

### **Takeaways**

* Curl is an extremely versatile tool for interacting with web servers, testing, and debugging.
* It supports various protocols, file transfers, and HTTP manipulation.
* Use options such as -I for headers, -A for user-agents, and -d for POST data to achieve specific tasks.
* Always ensure ethical usage, especially when testing or interacting with servers.

By completing this lab, you’ll have foundational skills for manual information gathering and debugging using Curl.