**Module 2 Cheat Sheet: Security Testing and Mitigation Strategies**

| **Package/Method** | **Description** | **Code Example** |
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| bash | Bash, or the Bourne Again Shell command, is a command-line interpreter commonly used in Unix-based operating systems. It runs in a text window where the user can interpret commands to carry out various actions. | Example: This generates a list of numbers and prints them:   1. 1 2. 2 3. 3 4. 4 5. 5 6. #!/bin/bash 7. # Loop from 1 to 3 and print the numbers 8. for i in {1..3}; do 9. echo "Number: $i" 10. done |

| alias | Lets you create a shortcut name for a command, file name, or any shell text. Using aliases saves a lot of time when performing frequent tasks. | Basic syntax of alias command   1. 1 2. alias [new-name[=command] |
| --- | --- | --- |

Example 1: Replaces command cd C:\Users\Videos with new alias cdv; so instead of typing cd C:\Users\Videos, one can type cdv to execute the same command

1. 1
2. 2
3. alias cdv="cd C:\Users\Videos"
4. cdv

Example 2: Use -p option to view all your alias commands

1. 1
2. alias -p

Example 3: Use unalias with -a option to remove all your alias commands

1. 1
2. unalias -a

Example 4: Use unalias command with name of alias on to remove specific alias command

1. 1
2. unalias cdv

| cd | Used to move efficiently from the existing working directory to different directories on your system. | Basic syntax of cd command   1. 1 2. cd [options] [directory] |
| --- | --- | --- |

Example 1: Change directory location to folder1

1. 1
2. cd /usr/local/folder1

Example 2: Get back to previous working directory

1. 1
2. cd -

Example 3: Move up one level from present working directory tree

1. 1
2. cd ..

| dependency-check | OWASP dependency-check is a software composition analysis utility that detects publicly disclosed vulnerabilities in application dependencies. | Basic syntax of dependency-check command   1. 1 2. 2 3. 3 4. 4 5. 5 6. 6 7. dependency-check.bat [options] --scan[directory] --out [directory] 8. `Options 9. project: The name of your project as it should appear in the report 10. scan [directory]: The folder which contains the 3rd party dependency libraries 11. out [directory]: The folder where the vulnerability analysis reports should be exported to` |
| --- | --- | --- |

Example 1: In Windows, use command as given below

1. 1
2. dependency-check.bat --project "my\_project" --scan "c:\java\application\lib"

Example 2: In Linux, use command as given below

1. 1
2. dependency-check.sh --project "my\_project" --scan "/java/application/lib"

| docker network | You can use this code to manage networks. The subcommands can be used to create, inspect, list, remove, prune, connect, and disconnect networks. | Create a docker network   1. 1 2. docker network create my\_network |
| --- | --- | --- |

Verify Network Connection

1. 1
2. docker network inspect my\_network

List docker Network

1. 1
2. docker network ls

Remove docker network

1. 1
2. docker network rm NETWORK\_NAME\_OR\_ID

Prune docker network

1. 1
2. docker network prune

Connect Docker Network

1. 1
2. docker network connect NETWORK\_NAME CONTAINER\_NAME\_OR\_ID

Disconnect Docker Network

1. 1
2. docker network disconnect NETWORK\_NAME CONTAINER\_NAME\_OR\_ID

| docker ps | Lists the running containers by default. We can use different flags to get the list of other containers that are in stopped or exited status. | 1. 1 2. docker ps [OPTIONS] |
| --- | --- | --- |

If you want to see all containers, including the stopped ones, you can use the -a or -all

1. 1
2. docker ps -a

| docker pull | You can download Docker images from the internet. | 1. 1 2. docker pull [OPTIONS] IMAGE\_NAME[:TAG] |
| --- | --- | --- |
| docker run | It runs a command in a new container, getting the image and starting the container if needed. | 1. 1 2. docker run [OPTIONS] IMAGE [COMMAND] [ARG...] |
| git clone | You can create a copy of a specific repository or branch within a repository. | 1. 1 2. git clone REPOSITORY\_URL [DESTINATION\_DIRECTORY] |
| jake | Jake is a simple JavaScript build program with capabilities similar to the regular make or rake command. It has the following features:  Jakefiles are in standard JavaScript syntax  Tasks with prerequisites  Namespaces for tasks  Async task execution | 1. 1 2. jake ddt |
| jq | Used to transform JSON data into a more readable format and print it to the standard output on Linux. | Basic command syntax   1. 1 2. jq [options] [filter] [file] |

Let's consider a simple example.json file that describes an array as below -

1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10
11. 11
12. 12
13. 13
14. 14
15. 15
16. [
17. {
18. color: "red",
19. value: "#f00"
20. },
21. {
22. color: "green",
23. value: "#0f0"
24. },
25. {
26. color: "blue",
27. value: "#00f"
28. }
29. ]

Example 1: The identity filter . takes the input and produces prints all output unchanged

1. 1
2. jq '.' example.json

Example 2: Extract the name of each color from each object in the array

1. 1
2. 2
3. jq '.[].color' example.json
4. jq 'map(has("color"))' example.json

| ls | Basic Linux command used for listing information regarding files and directories within the file system. | Basic command syntax   1. 1 2. ls [options] [file/directory] |
| --- | --- | --- |

Example 1: Sorts the file names displayed in the order of last modification time. r is for displaying in reverse order

1. 1
2. 2
3. ls -lt
4. ls -ltr

Example 2: Displays hidden files

1. 1
2. ls -a

| pip | To ensure that requests will function, the pip program searches for the package in the Python Package Index (PyPI), resolves any dependencies and installs everything in your current Python environment. | 1. 1 2. pip list |
| --- | --- | --- |
| pip install | The pip install <package> command looks for the latest version of the package and installs it. | 1. 1 2. pip install example\_package |
| sonar-scanner | The SonarScanner CLI is the scanner to use when there is no specific scanner for your build system. | Basic Syntax of the sonar-scanner command; commonly used options are:  -D,--define <arg> Define property -h,--help Display help information -v,--version Display version information -X,--debug Produce execution debug output   1. 1 2. sonar-scanner [options] |

Example: verify your installation by executing the command

1. 1
2. sonar-scanner -h

| wget | Stands for web get. The `wget` is a free non-interactive file downloader command. Non-interactive means it can work in the background when the user is not logged in. | Basic Syntax of the wget command; commonly used options are [-V], [-h], [-b], [-e], [-o], [-a], [-q]   1. 1 2. wget [options] |
| --- | --- | --- |

Example 1: Specifies to download file.txt over HTTP website url into the working directory.

1. 1
2. wget http://example.com/file.txt

Example 2: Specifies to download the archive.zip over HTTP website url in the background and returning you to the command prompt in the interim.

1. 1
2. wget -b http://www.example.org/files/archive.zip

| which | Used to locate the executable file associated with the given command by searching it in the path environment variable | Basic syntax of which command   1. 1 2. which [option] [filename1] [filename2] |
| --- | --- | --- |

Example 1: To know where exactly the java program is located, execute the command as below

1. 1
2. which java

Example 2: To know exact location of multiple programs, execute the command as below

1. 1
2. which java python

Example 3: By default which command will display the path of the first occurrence, but if we want to display all the occurrences of the program, then we can use -a option.

1. 1
2. which -a python