Activity: Select the user interface

Question 1:

You are a security professional training all employees at your company on creating a strong password. You explain different strategies that they can use for making passwords secure. You also demonstrate how to change passwords. Your teammates have a wide range of technical expertise. In this scenario, should you use a GUI or CLI to demonstrate how to change passwords? Explain your reasoning in 2-3 sentences.

My Response:

In this case provided, I would use a graphical user interface (GUI) to demonstrate how to change passwords as it is easier for people with limited technical knowledge or experince to follow compared to a CLI. In a company, since all employees have different levels of experience (not one all the same level of difficulty), using a GUI with its visual icons (app like) and navigation with steps makes the process clearer and reduces confusion. While the command-line interface (CLI) is for advanced users, a GUI is better suited for training a mixed range group (variety of difficulty with GUI) to ensure that everyone understands how to manage their passwords securely.

Coursera's Response:

Thank you for your response. A GUI would be more effective in this scenario. This is because GUIs are easier for beginners to navigate. These individuals will likely already have experience using GUIs on their phones and computers but may not be familiar with CLIs.

Question 2:

You are reviewing log files for a department at your company. Log file names are supposed to include the name of the department. After reviewing multiple log files, you realize that the file names do not include the name of the department. You decide to rename all the log files for this department. There are hundreds of log files. In this scenario, should you use a GUI or CLI to rename the log files? Explain your reasoning in 2-3 sentences.

My Response:

In this scenario, I would use the command-line interface (CLI) to rename the log files. Since there are hundreds of files to rename, the CLI allows for batch renaming through commands, making the process much faster and more efficient. With a few simple commands or scripts, I can easily rename multiple files at once, whereas doing so manually in a GUI would be time-consuming and impractical.

Coursera's Response:

Thank you for your response. A CLI would generally be more effective in this scenario. This is because CLIs allow you to perform multiple tasks simultaneously. In this case, you could rename all the files at once. If you used a GUI for this task, you would need to rename the files individually unless you had access to a special program for batch file renaming.

Question 3:

You are installing multiple applications. You want to keep a history of commands while you install the applications. This will allow you to check later to ensure that you installed all of the necessary applications and that you installed them correctly. In this scenario, should you use a GUI or CLI to install the applications? Explain your reasoning in 2-3 sentences.

My Response:

In this scenario, I would use the command-line interface (CLI) to install the applications. The CLI automatically keeps a history of the commands you execute, allowing you to easily review the installation steps later. This is especially useful for verifying that all necessary applications were installed correctly, something that would be more difficult to track in a GUI, where actions aren't always logged in the same way.

Coursera’s Response:

Thank you for your response. A CLI would be more effective in this scenario. This is because a CLI records a history of all commands used in the CLI. GUIs do not necessarily include a history file of all actions performed in the GUI.

ADDITONAL INFORMATION AND NOTES:

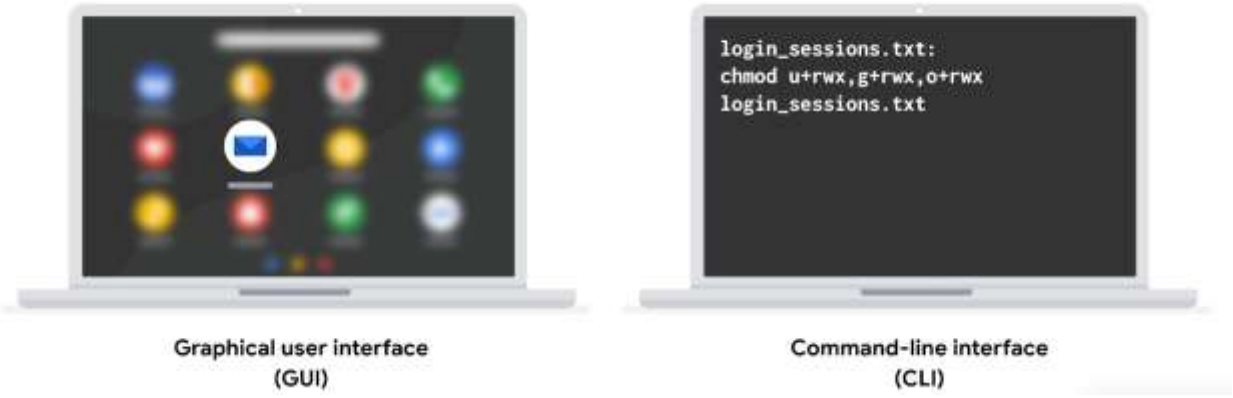
Previously, you explored graphical user interfaces (GUI) and command-line interfaces (CLI). In this reading, you'll compare these two interfaces and learn more about how they're used in cybersecurity.

CLI vs. GUI

A **graphical user interface (GUI)** is a user interface that uses icons on the screen to manage different tasks on the computer. A **command-line interface (CLI)** is a text-based user interface that uses commands to interact with the computer.

Display

One notable difference between these two interfaces is how they appear on the screen. A GUI has graphics and icons, such as the icons on your desktop or taskbar for launching programs. In contrast, a CLI only has text. It looks similar to lines of code.



Function

These two interfaces also differ in how they function. A GUI is an interface that only allows you to make one request at a time. However, a CLI allows you to make multiple requests at a time.

Advantages of a CLI in cybersecurity

The choice between using a GUI or CLI is partly based on personal preference, but security analysts should be able to use both interfaces. Using a CLI can provide certain advantages.

Efficiency

Some prefer the CLI because it can be used more quickly when you know how to manage this interface. For a new user, a GUI might be more efficient because they're easier for beginners to navigate.

Because a CLI can accept multiple requests at one time, it's more powerful when you need to perform multiple tasks efficiently. For example, if you had to create multiple new files in your system, you could quickly perform this task in a CLI. If you were using a GUI, this could take much longer, because you have to repeat the same steps for each new file.

History file

For security analysts, using the Linux CLI is helpful because it records a history file of all the commands and actions in the CLI. If you were using a GUI, your actions are not necessarily saved in a history file.

For example, you might be in a situation where you're responding to an incident using a playbook. The playbook's instructions require you to run a series of different commands. If you used a CLI, you'd be able to go back to the history and ensure all of the commands were correctly used. This could be helpful if there were issues using the playbook and you had to review the steps you performed in the command line.

Additionally, if you suspect an attacker has compromised your system, you might be able to trace their actions using the history file.

Key takeaways

GUIs and CLIs are two types of user interfaces that security analysts should be familiar with. There are multiple differences between a GUI and a CLI, including their displays and how they function. When working in cybersecurity, a CLI is often preferred over a GUI because it can handle multiple tasks simultaneously and it includes a history file.