

Theory: Command line overview

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While working on the computer, you need to communicate with the **Operating system** (OS) to get things done for you. For example, if you want to open a file, you have to tell the Operating system (Windows, Linux or macOS) about it. There are two ways of interaction with the OS: one is more verbal, another is for visual ones, but both definitely deserve some appreciation. These two methods are the Command-line interface and the Graphical user interface.

§1. What is the command-line?

Command-line interface or CLI is a way to interact with an OS via text commands. On the other hand, the **Graphical user interface** or GUI provides an interface with many icons and menus. Here, you give commands to the operating system by clicking on these icons or menu items.

Command-line interfaces in the past were the only means of interacting with a computer. But why use it now, when you have a simple, familiar graphical interface? Well, generally command-line interface is much more flexible and has more options. For example, you can combine commands to create a new one, while you cannot do that via a graphical interface. Some software can even have a command-line interface only, thus requiring its user to know command line basics.

Besides, programs executable by the command-line interface can be written in a command language. They are called **shell scripts** on UNIX and UNIX-like systems such as GNU/Linux and macOS, and **batch files** on Windows.

All operating systems have command-line interfaces. Applications may have it as well. Also, modern programming languages provide an interactive command-line mode, in which you execute code line by line.

§2. Accessing command-line interpreter

Usually, you don't have to go to the location of the **command-line interpreter** or **terminal** to open it. You can open it by simply searching *cmd* in Windows and *terminal* in Linux distributions.

If you feel more like an explorer and want to find the location on your own, then try the following paths:

- For Windows 10 or 8 at *Start->Windows System->Command Prompt*.
- For Windows 7, Vista or XP at *Start->All Programs->Accessories->Command Prompt*.
- For Mac OS at *Applications->Utilities->Terminal*. Some Mac users prefer iTerm2, a replacement for Terminal, because it is slightly more user-friendly. You can find the details on [iTerm official website](#) and install it on your computer.
- For Linux: it depends on your system, but usually, CLI is located at *Applications->Accessories->Terminal* or at *Applications->System->Terminal*. If you don't find it here, just google how to access the command line in your system.

When you open it, you'll see a black (or white) window. If everything is okay, you'll see **command prompt** at where you'll be typing your command – an indicator that your computer is ready to accept commands. For Windows, command prompt ends with `>`, for Linux and Mac OS, use `$`. To execute a command, type it and then press Enter.

§3. Learning commands

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It's time to learn some important commands. Let's open the command-line interpreter and type some commands. When you open it, you will see something similar to the below text.

```
1 | C:\Users\name>
```

It means that you are in this directory and you can work in the CLI. Now let's try to use it.

Imagine you just woke up on the floor in the room unfamiliar to you. In fact, everything is unfamiliar to you, you don't remember anything, even your name. There's only a computer with the open terminal and this guide, so you decide that it might be helpful to figure something out. So, now you will type your command next to this path.

First, type `whoami` and press **Enter**. Unfortunately, it won't provide you with a deep and satisfying answer about who you really are, but you will see something like this:

```
1 | desktop-qd7c3ju\shanika
```

Good, now you know your name, an imaginary one, at least. As you could already guess, `whoami` command just returns you the username you used in your machine. That's why you see the above output.

Next, type `dir` if you use Windows or `ls` if you use Linux/macOS and press **Enter**. Both of these commands return the list of files and folders in your current directory. This is one of the most widely used commands by developers especially when they work on servers.

If you have Windows, you will see something similar to the below image.

```
C:\Users\Shanika>dir
Volume in drive C has no label.
Volume Serial Number is 8A1A-CB28

Directory of C:\Users\Shanika

11/18/2019  10:41 AM    <DIR>          .
11/18/2019  10:41 AM    <DIR>          ..
11/18/2019  10:41 AM    <DIR>          Contacts
11/18/2019  10:41 AM    <DIR>          Desktop
11/07/2019  01:01 PM    <DIR>          directory
11/18/2019  10:41 AM    <DIR>          Documents
11/18/2019  10:41 AM    <DIR>          Favorites
11/18/2019  10:41 AM    <DIR>          Links
11/18/2019  10:41 AM    <DIR>          Music
11/18/2019  10:41 AM    <DIR>          Pictures
11/18/2019  10:41 AM    <DIR>          Saved Games
11/18/2019  10:41 AM    <DIR>          Searches
11/18/2019  10:41 AM    <DIR>          Videos
               0 File(s)                0 bytes
              13 Dir(s) 158,443,859,968 bytes free
```

There's no file that is helpful for your situation. Alas!

Isn't there a command to escape? Yes, there's one. Just type `exit` and you'll be out... of the command-line interpreter because this command lets you exit it. Good news, you've just learned some useful commands and completed the quest, Shanika! Now you can be free.

On the [SS64 website](#), you can find a complete list of commands for [Windows](#), as well as for [Linux](#) and [macOS](#)

§4. Conclusion

The important thing to know is that excellent GUIs haven't made CLI obsolete. It is still one of the quickest ways to get your job done. Especially, if you are going to be a developer, it is very important to have good knowledge of what commands are available to you.

In this topic, we introduced the Command-line Interface: what it is, where it can be found and how it can be used. We tried several commands as well: `whoami`, `dir` or `ls`, and `exit`. Later we will learn CLI commands in detail, but now let's practice for a while!

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