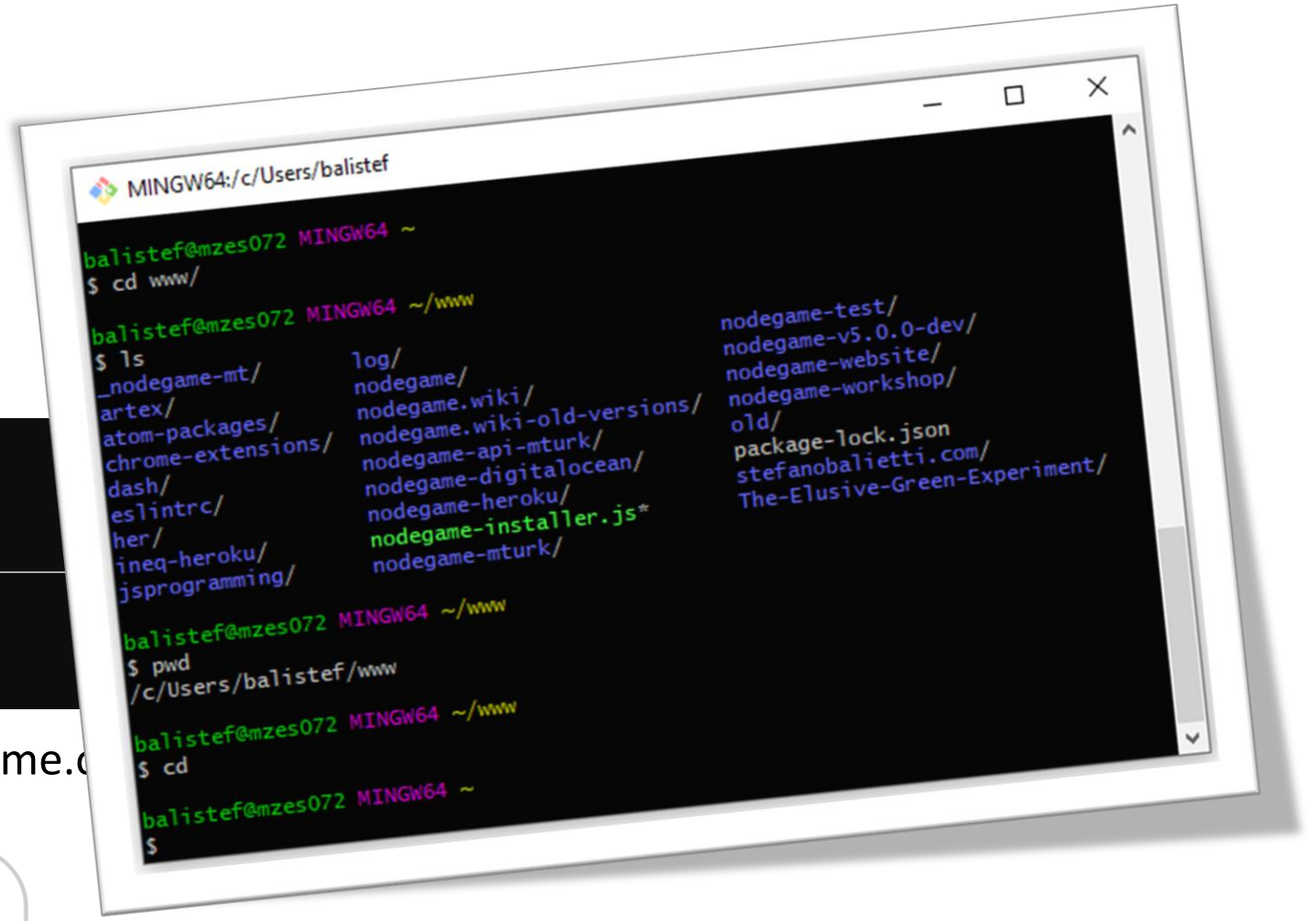
Using the Terminal



Stefano Balietti

Center for European Social Science Research at Mannheim University (MZES)
Alfred-Weber Institute of Economics at Heidelberg University

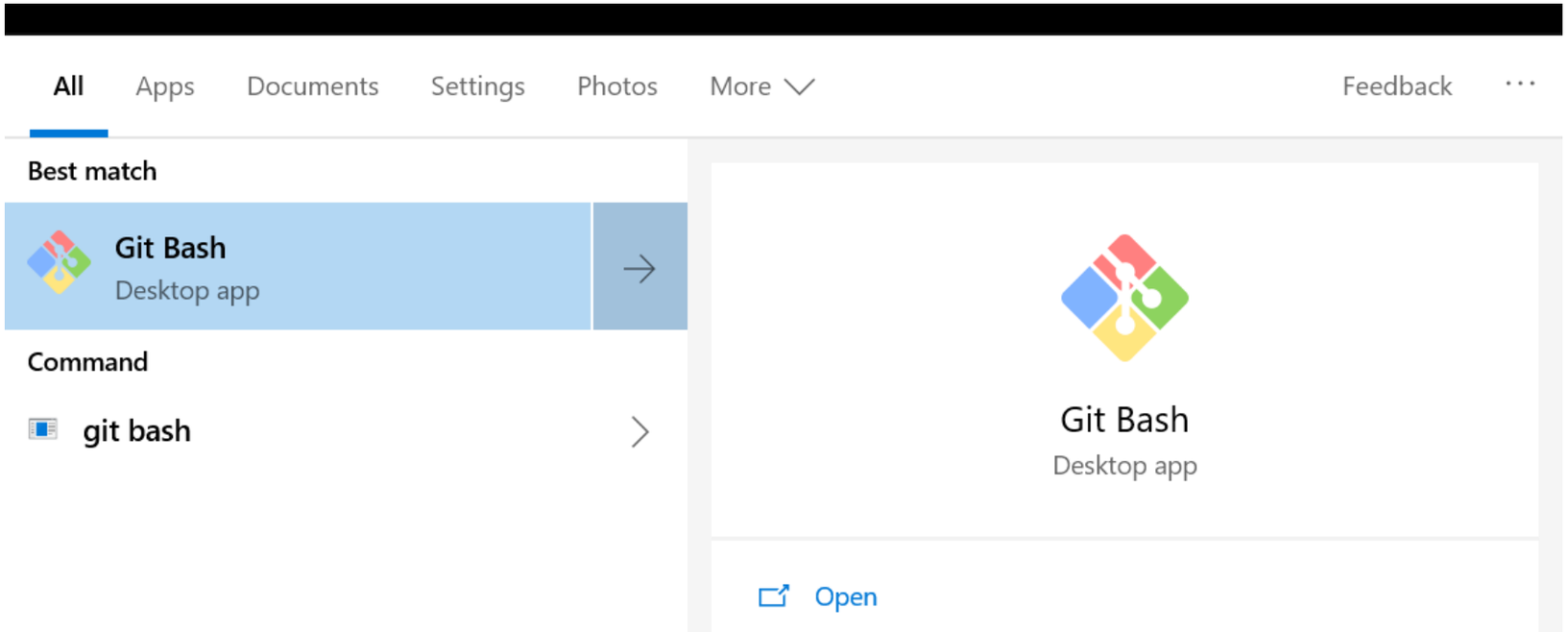
@balietti | stefanobalietti.com | @nodegameorg | nodegame.

Design and Implementation of Online Experiments

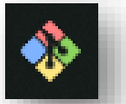
The Terminal

The terminal is a window in which you can type in commands that are **interpreted and executed** by your machine.

- Windows: Git Bash
- Mac / Linux: Terminal



The Terminal

Navigate your way in the Terminal 

1. Open Git Bash
2. As you as you open it, you might either be in your **home folder** or in **top directory**. *How to know where you are?*

```
balistef@mzes072 MINGW64 /
$
```

```
balistef@mzes072 MINGW64 ~
$
```

Note. Interface from Git Bash on Windows, other terminals might look slightly different.

The Terminal

Navigate your way in Git Bash

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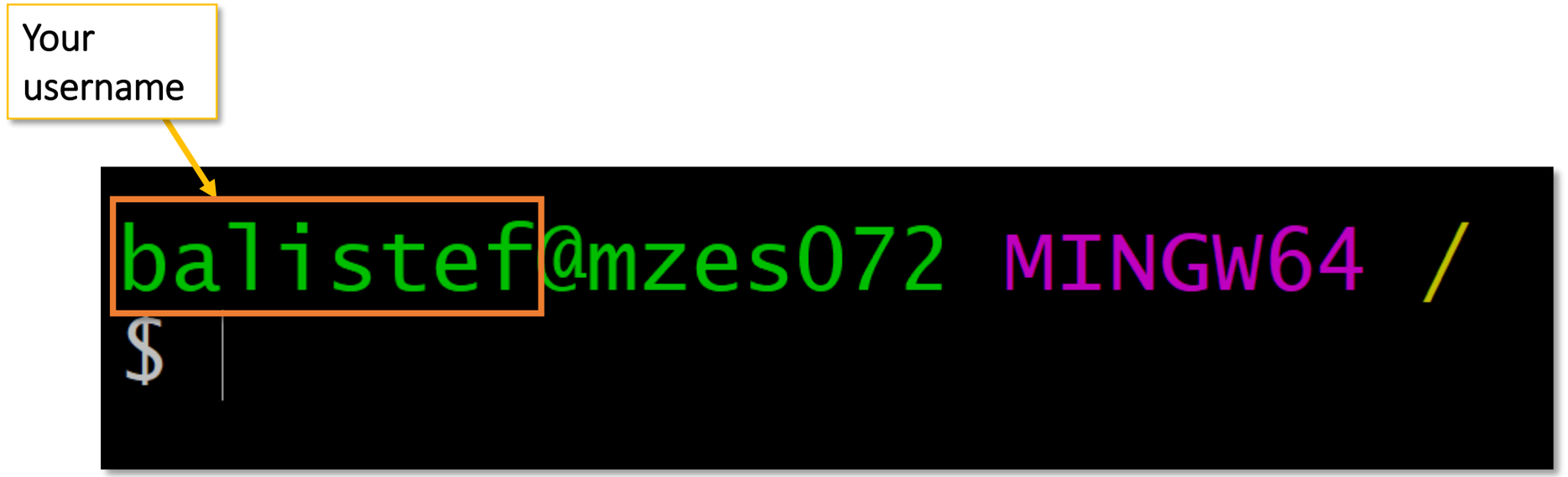

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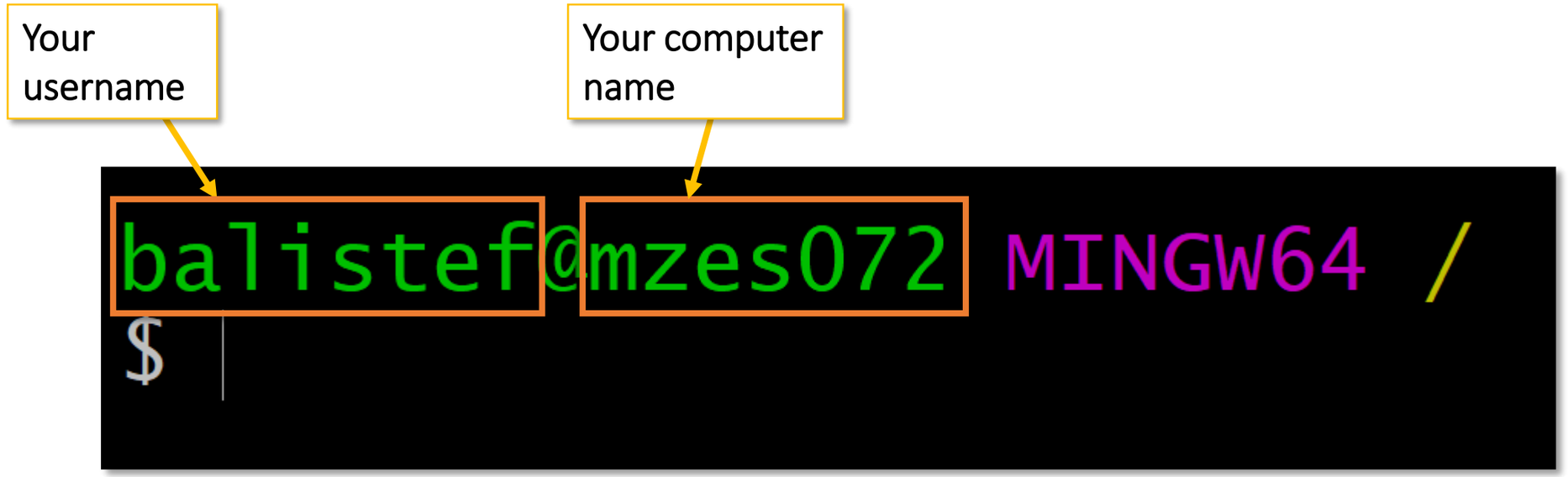

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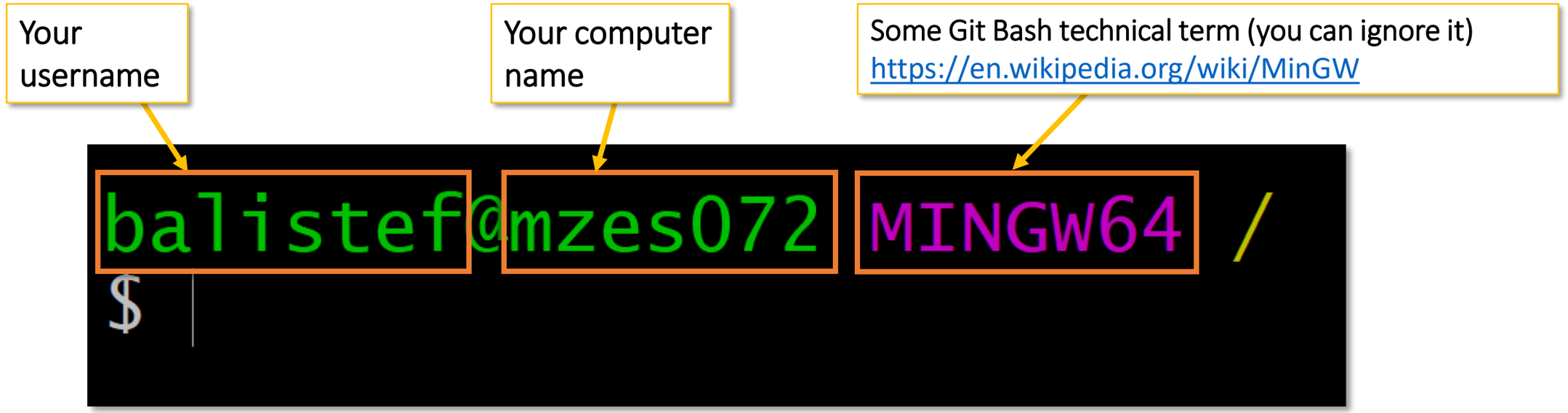

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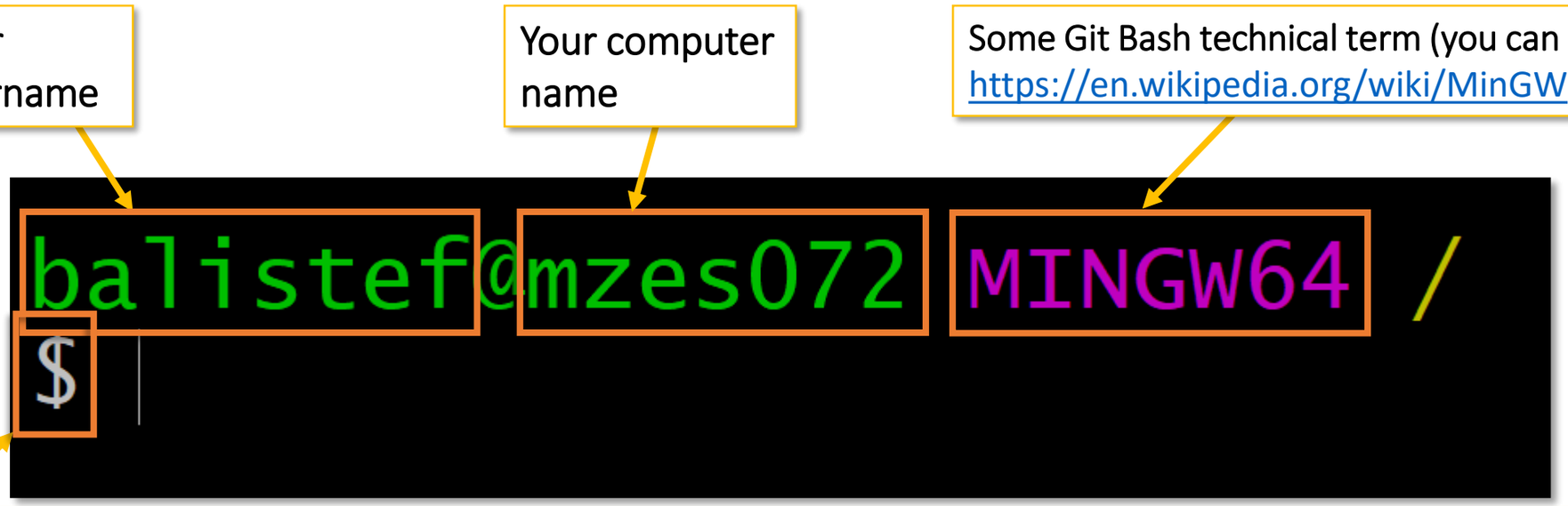

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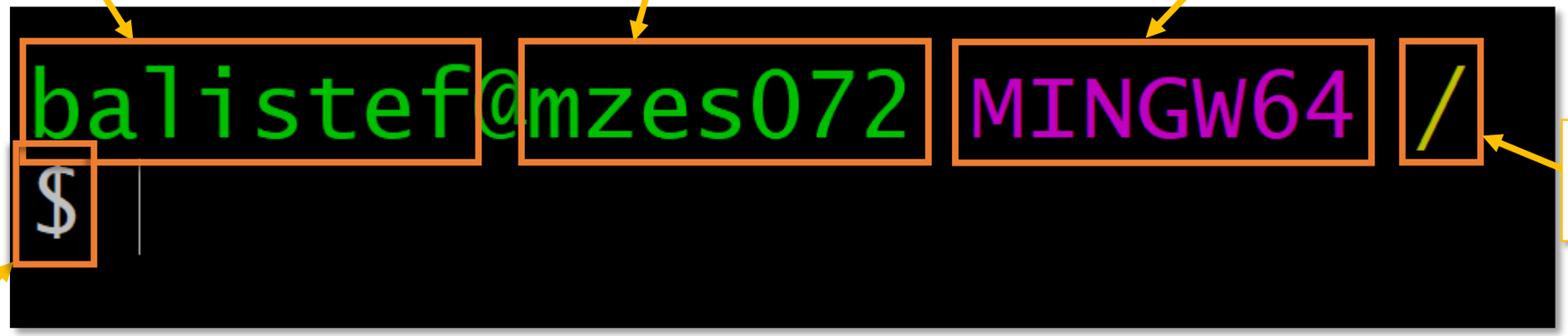

The Terminal

Navigate your way in Git Bash

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Top Directory

In Windows `C:/`

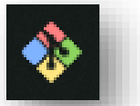
This sign is called **slash**. It is used to separate nested directory names. Since there is no name after it, it means it is the root (top) directory of your computer.

Home Directory

In Windows: `C:/Users/yourusername`

This sign is called **tilde**. It means your home directory.

The Terminal

Navigate your way in Git Bash 

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3. If you are in top directory (or any other), *how do you get back to your home directory*?

The command `cd` (without arguments) brings you back home

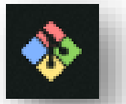
The command `pwd` **p**rints the **w**orking **d**irectory

```
balistef@mzes072 MINGW64 /
$ cd

balistef@mzes072 MINGW64 ~
$ pwd
/c/Users/balistef

balistef@mzes072 MINGW64 ~
$
```

Locating Folders on the Terminal

The Terminal

Locate your nodeGame installation folder with Git Bash



1. Open Git Bash
2. *As you know from the previous slides*, you might either be in your **home folder** or in **top directory**.
3. If you are in top directory (or any other), *how do you get back to your home directory*?
4. Enter the nodeGame installation directory. *How?* Let's assume you saved it on your desktop.

Begin Typing…

```
balistef@mzes072 MINGW64 ~
$ cd De
```

The Terminal

Locate your nodeGame installation folder with Git Bash

1. Open Git Bash
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Begin Typing…

```
balistef@mzes072 MINGW64 ~
$ cd De
```

Press the TAB key for autocomplete

The Terminal

Locate your nodeGame installation folder with Git Bash

1. Open Git Bash
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3. If you are in top directory (or any other), *how do you get back to your home directory*?
4. Enter the nodeGame installation directory. *How?* Let's assume you saved it on your desktop.

Begin Typing…

```
balistef@mzes072 MINGW64 ~
$ cd De
```

TA DA!

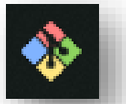
```
balistef@mzes072 MINGW64 ~
$ cd Desktop/
```

Press the TAB key for autocomplete

When should I use TAB and when should I type directly?

The Terminal

Locate your nodeGame installation folder with Git Bash



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4. Enter the nodeGame installation directory. *How?* Let's assume you saved it on your desktop.

```
balistef@mzes072 MINGW64 ~
$ cd Desktop/nod
```

1

The Terminal

Locate your nodeGame installation folder with Git Bash

1. Open Git Bash
2. *As you know from the previous slides*, you might either be in your **home folder** or in **top directory**.
3. If you are in top directory (or any other), *how do you get back to your home directory*?
4. Enter the nodeGame installation directory. *How?* Let's assume you saved it on your desktop.

```
balistef@mzes072 MINGW64 ~
$ cd Desktop/nod
```

1

```
balistef@mzes072 MINGW64 ~
$ cd Desktop/nodegame-
```

2

The Terminal

Locate your nodeGame installation folder with Git Bash

1. Open Git Bash
2. *As you know from the previous slides*, you might either be in your **home folder** or in **top directory**.
3. If you are in top directory (or any other), *how do you get back to your home directory*?
4. Enter the nodeGame installation directory. *How?* Let's assume you saved it on your desktop.

```
balistef@mzes072 MINGW64 ~
$ cd Desktop/nod
```

1

```
balistef@mzes072 MINGW64 ~
$ cd Desktop/nodegame-
```

2

```
balistef@mzes072 MINGW64 ~
$ cd Desktop/nodegame-
nodegame-installer.js  nodegame-v5.4.0-dev/

balistef@mzes072 MINGW64 ~
$ cd Desktop/nodegame-
```

3

The Terminal

Locate your nodeGame installation folder with Git Bash

1. Open Git Bash
2. *As you know from the previous slides*, you might either be in your **home folder** or in **top directory**.
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4. Enter the nodeGame installation directory. *How?* Let's assume you saved it on your desktop.

```
balistef@mzes072 MINGW64 ~
$ cd Desktop/nod
```

1

```
balistef@mzes072 MINGW64 ~
$ cd Desktop/nodegame-
```

2

```
balistef@mzes072 MINGW64 ~
$ cd Desktop/nodegame-
nodegame-installer.js  nodegame-v5.4.0-dev/

balistef@mzes072 MINGW64 ~
$ cd Desktop/nodegame-
```

3

```
balistef@mzes072 MINGW64 ~
$ cd Desktop/nodegame-v
```

4

The Terminal

Locate your nodeGame installation folder with Git Bash

1. Open Git Bash
2. *As you know from the previous slides*, you might either be in your **home folder** or in **top directory**.
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4. Enter the nodeGame installation directory. *How?* Let's assume you saved it on your desktop.

```
balistef@mzes072 MINGW64 ~
$ cd Desktop/nod
```

1

```
balistef@mzes072 MINGW64 ~
$ cd Desktop/nodegame-
```

2

```
balistef@mzes072 MINGW64 ~
$ cd Desktop/nodegame-
nodegame-installer.js  nodegame-v5.4.0-dev/

balistef@mzes072 MINGW64 ~
$ cd Desktop/nodegame-
```

3

```
balistef@mzes072 MINGW64 ~
$ cd Desktop/nodegame-v
```

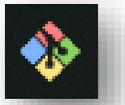
4

```
balistef@mzes072 MINGW64 ~
$ cd Desktop/nodegame-v5.4.0-dev/
```

5

The Terminal

Locate your nodeGame installation folder with Git Bash



1. Open Git Bash
2. *As you know from the previous slides*, you might either be in your **home folder** or in **top directory**.
3. If you are in top directory (or any other), *how do you get back to your home directory*?
4. Enter the nodeGame installation directory. *How?* Let's assume you saved it on your desktop.
5. You can now safely start nodeGame

Tells you that you are in the right folder

```
balistef@mzes072 MINGW64 ~/Desktop/nodegame-v5.4.0-dev
$ node launcher.js
nodeGame v.5.4.0
```

A Common Error: Cannot Find Launcher

```
balistef@mzes072 MINGW64 ~
$ node launcher.js
internal/modules/cjs/loader.js:638
    throw err;
    ^

Error: Cannot find module 'C:\Users\balistef\launcher.js'
    at Function.Module._resolveFilename (internal/modules/cjs/loader.js:636:15)
    at Function.Module._load (internal/modules/cjs/loader.js:562:25)
    at Function.Module.runMain (internal/modules/cjs/loader.js:829:12)
    at startup (internal/bootstrap/node.js:283:19)
    at bootstrapNodeJSCore (internal/bootstrap/node.js:622:3)
```

This means that you are not inside the nodeGame directory.
Let's understand how to get in there.

Terminal Commands To Remember

```
balistef@mzes072 MINGW64 /
$ cd

balistef@mzes072 MINGW64 ~
$ pwd
/c/Users/balistef

balistef@mzes072 MINGW64 ~
$ cd Pictures/

balistef@mzes072 MINGW64 ~/Pictures
$ ls
canceled_delta_hotel.PNG  conferenz_css_zurich.png  desktop.ini

balistef@mzes072 MINGW64 ~/Pictures
$ cd ..
```

cd = goes to home directory (without parameters)

pwd = print working directory (if you are lost)

cd Pictures = goes into the Pictures directory

Hint! Use TAB to autocomplete the name of files

ls = list files in directory

cd .. = goes one directory above

CTRL-L will clear

CTRL-D will exit