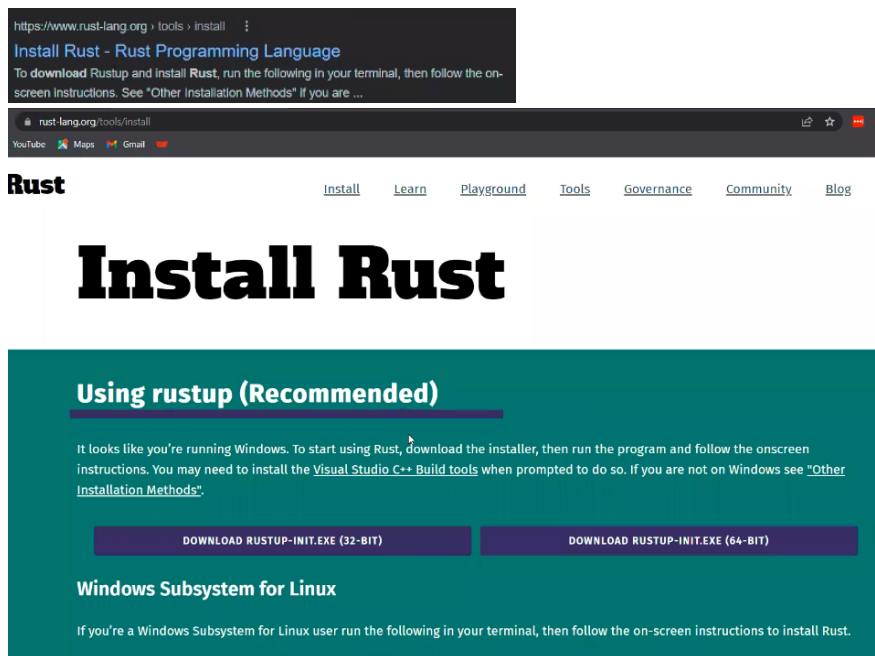


## P6 – RUST, TENSORFLOW, AND FLUTTER

00:04

Okay, first I'm going to search on google how to download rust *clicks on the first link* 00:21

Now, I know I'm on a 64 bit machine *clicks on the 64-bit option*



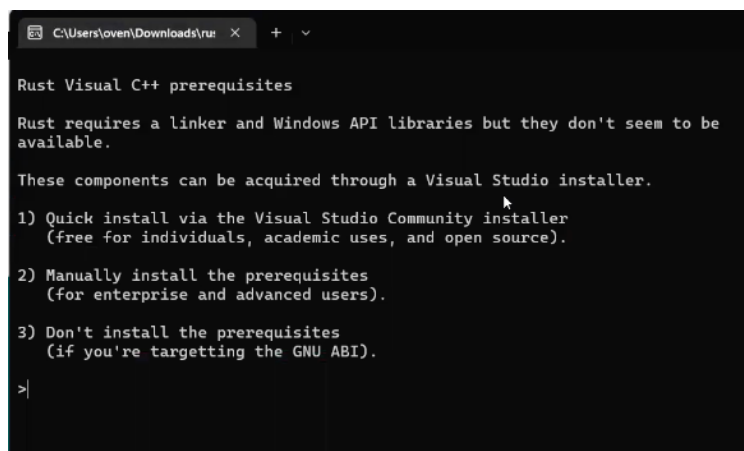
00:31

**Observer:** Are you familiar with this tool? Have you ever used it?

No, I have not.

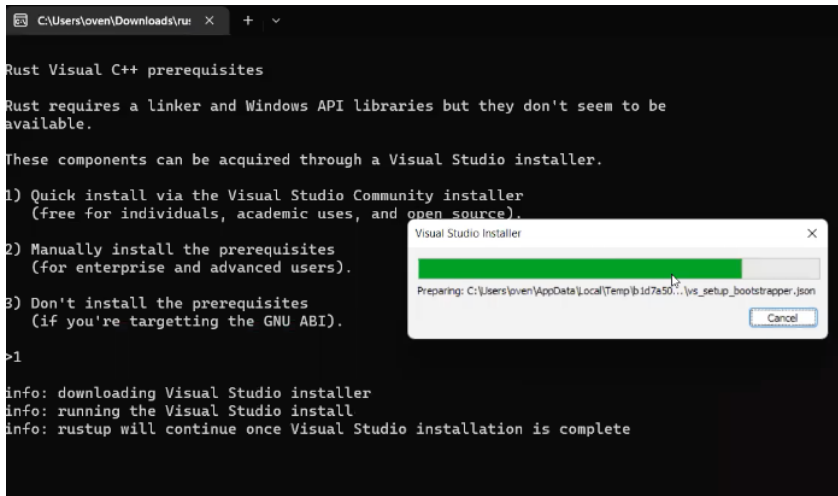
00:41

Hum... I'll have to read this *when the file finished downloading a terminal tab opened with some introduction text*



00:57

I'm confused now what to do, I think wants me to enter a number. *Clicks on number 1*

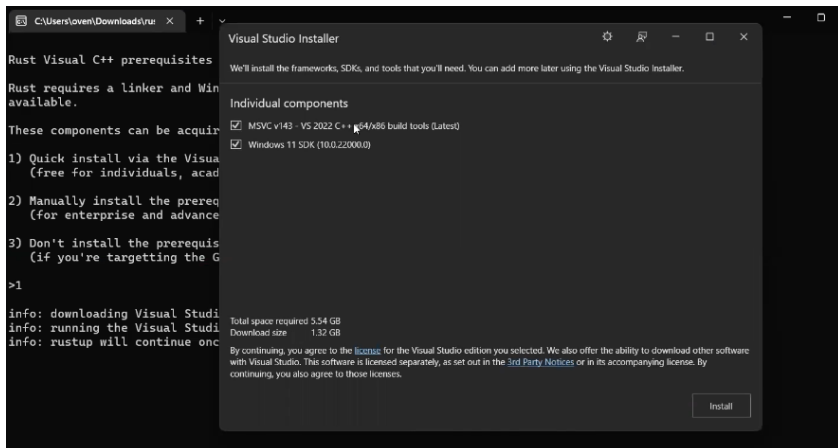


01:24

*A window pops up asking permission to install Visual Studio, he clicks in continue, visual studio installation starts.* Just following the prompts...

01:43

I'm not sure if I should s both of these but, I'm going to agree. *Agree with the terms and the Visual Studio installation starts*



02:05

**Observer:** Have you ever used Visual Studio before?

02:10

I have used Visual Studio Code, but not Visual Studio.

08:56

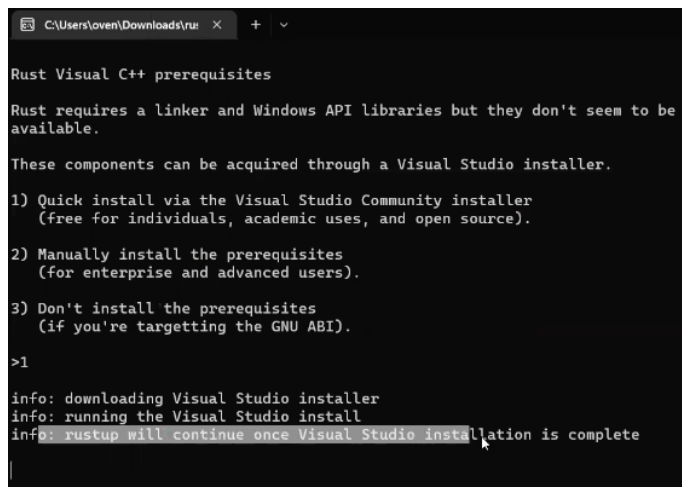
Okay, so I'm seeing a prompt. **The installation finishes and a sign in window open.** I think it requires me to sign in to install rust, which I do not like that. I think it has allowed me to skip the sign in. So, I see so it has, it has made me install Visual Studio just to install Rust, which isn't great.

09:57

**Observer:** Okay, so this just installed the Visual Studio and not Rust you're saying?

10:05

**Goes back to the terminal to read instructions** Here it says rust will continue once Visual Studio installation is complete



```
C:\Users\oven\Downloads\rust X + v
Rust Visual C++ prerequisites
Rust requires a linker and Windows API libraries but they don't seem to be
available.
These components can be acquired through a Visual Studio installer.
1) Quick install via the Visual Studio Community installer
   (free for individuals, academic uses, and open source).
2) Manually install the prerequisites
   (for enterprise and advanced users).
3) Don't install the prerequisites
   (if you're targeting the GNU ABI).
>1
info: downloading Visual Studio installer
info: running the Visual Studio install
info: rustup will continue once Visual Studio installation is complete
```

10:17

**The initial visual studio tab opens and it says the installation is completed** I think Rust has installed or installation is completed, so I'm not sure if Rust has finished installed or if both

10:30

Okay, I think now now I can install rust. **Goes back to the terminal and follow types "1" as the instruction shows**

```

The Cargo home directory is located at:

  C:\Users\oven\.cargo

This can be modified with the CARGO_HOME environment variable.

The cargo, rustc, rustup and other commands will be added to
Cargo's bin directory, located at:

  C:\Users\oven\.cargo\bin

This path will then be added to your PATH environment variable by
modifying the HKEY_CURRENT_USER/Environment/PATH registry key.

You can uninstall at any time with rustup self uninstall and
these changes will be reverted.

Current installation options:

  default host triple: x86_64-pc-windows-msvc
  default toolchain:  stable (default)
  profile:             default
  modify PATH variable: yes

1) Proceed with installation (default)
2) Customize installation
3) Cancel installation
>1

```

11:44

***Waits until the terminal complete the installation*** Okay, so rust is installed.

```

info: downloading component 'rust-docs'
 18.3 MiB / 18.3 MiB (100 %)  5.4 MiB/s in 3s ETA: 0s
info: downloading component 'rust-std'
 24.0 MiB / 24.0 MiB (100 %)  6.3 MiB/s in 4s ETA: 0s
info: downloading component 'rustc'
 54.9 MiB / 54.9 MiB (100 %)  8.9 MiB/s in 6s ETA: 0s
info: downloading component 'rustfmt'
 2.3 MiB / 2.3 MiB (100 %) 437.3 KiB/s in 8s ETA: 0s
info: installing component 'cargo'
info: installing component 'clippy'
info: installing component 'rust-docs'
 18.3 MiB / 18.3 MiB (100 %)  1.7 MiB/s in 25s ETA: 0s
info: installing component 'rust-std'
 24.0 MiB / 24.0 MiB (100 %)  5.3 MiB/s in 4s ETA: 0s
info: installing component 'rustc'
 54.9 MiB / 54.9 MiB (100 %)  6.7 MiB/s in 8s ETA: 0s
info: installing component 'rustfmt'
info: default toolchain set to 'stable-x86_64-pc-windows-msvc'

  stable-x86_64-pc-windows-msvc installed - rustc 1.63.0 (4b91a6ea7 2022-08-08)

Rust is installed now. Great!

To get started you may need to restart your current shell.
This would reload its PATH environment variable to include
Cargo's bin directory (%USERPROFILE%\\.cargo\bin).

Press the Enter key to continue.

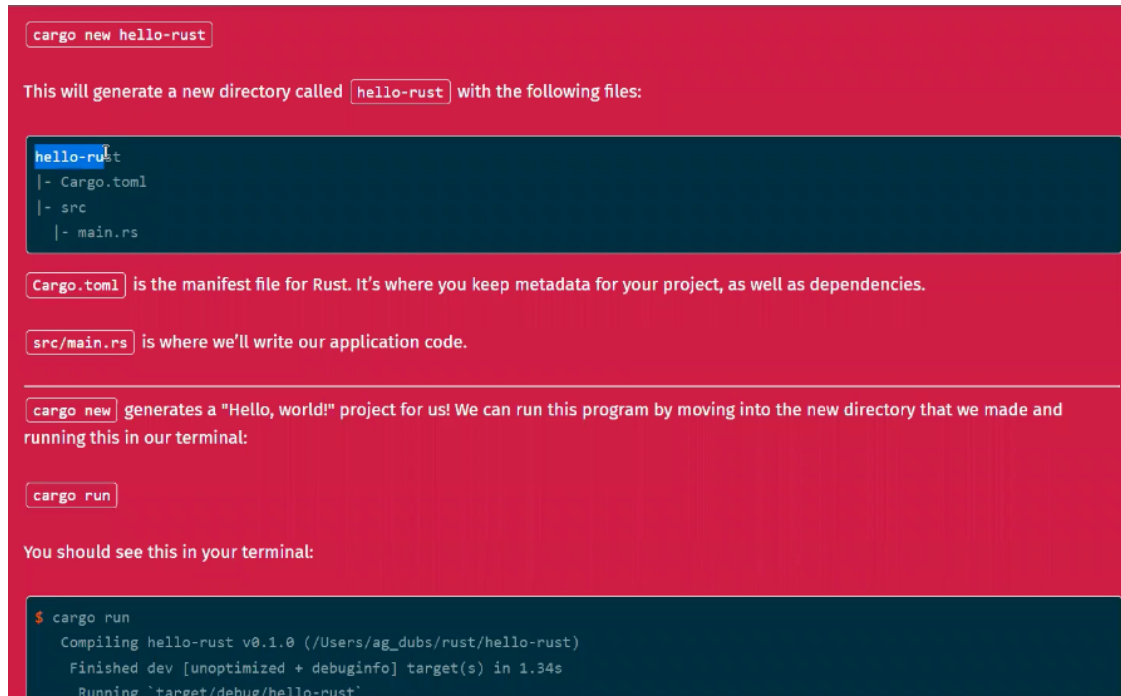
```

Should I try to start rust?

**Observer:** Yes

11:58

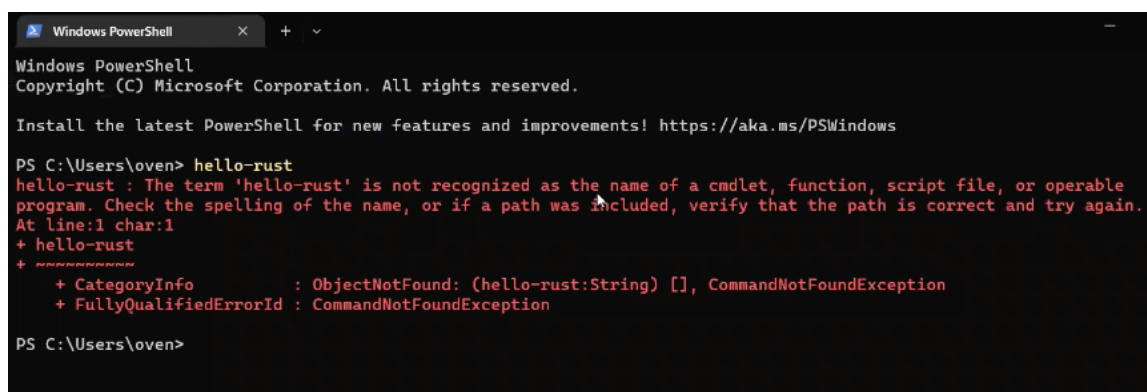
I'll have to google how to do that. *Goes to google and types "how to start rust programming language", clicks on the first link (official website)* Hm... not the easiest of interface to deal with.



The screenshot shows a tutorial for creating a new Rust project. It starts with the command `cargo new hello-rust`. Below this, it lists the files generated: `hello-rust` directory containing `Cargo.toml`, `src` directory, and `src/main.rs`. It explains that `Cargo.toml` is the manifest file and `src/main.rs` is where the application code is written. Then, it shows the command `cargo run` and the output in a terminal: `$ cargo run`, `Compiling hello-rust v0.1.0 (/Users/ag_dubs/rust/hello-rust)`, `Finished dev [unoptimized + debuginfo] target(s) in 1.34s`, and `Running 'target/debug/hello-rust'`.

12:35

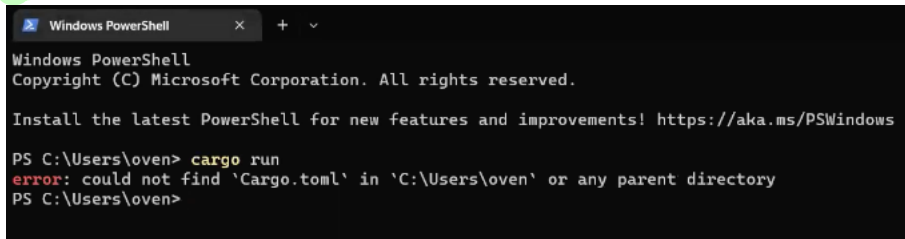
I don't know if this will do something...*copy the command hello-rust on the terminal and it doesn't work.*



The screenshot shows a Windows PowerShell terminal window. The user enters the command `hello-rust`. The terminal output shows an error: `hello-rust : The term 'hello-rust' is not recognized as the name of a cmdlet, function, script file, or operable program. Check the spelling of the name, or if a path was included, verify that the path is correct and try again. At line:1 char:1`. Below this, it shows the error details: `+ hello-rust`, `+ ~~~~~`, `+ CategoryInfo : ObjectNotFound: (hello-rust:String) [], CommandNotFoundException`, and `+ FullyQualifiedErrorId : CommandNotFoundException`. The prompt then returns to `PS C:\Users\oven>`.

12:41

I'm gonna try this one *copy the command cargo run and paste it on the terminal, it doesn't work.*

A screenshot of a Windows PowerShell terminal window. The title bar says "Windows PowerShell". The text inside shows the standard PowerShell startup messages, followed by the command "PS C:\Users\oven> cargo run". Below this, an error message is displayed: "error: could not find 'Cargo.toml' in 'C:\Users\oven' or any parent directory". The prompt "PS C:\Users\oven>" is shown again at the bottom.

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\oven> cargo run
error: could not find 'Cargo.toml' in 'C:\Users\oven' or any parent directory
PS C:\Users\oven>
```

13:02

Okay, I'm going to give up on trying to install it.

---

## TENSORFLOW

13:38

So again, I'll have to start with a Google search *Goes to google and types "tensorflow windows python", clicks on the first link (official website)*

13:53

I know PIP works with Python so that would be what I'm looking for.

14:01

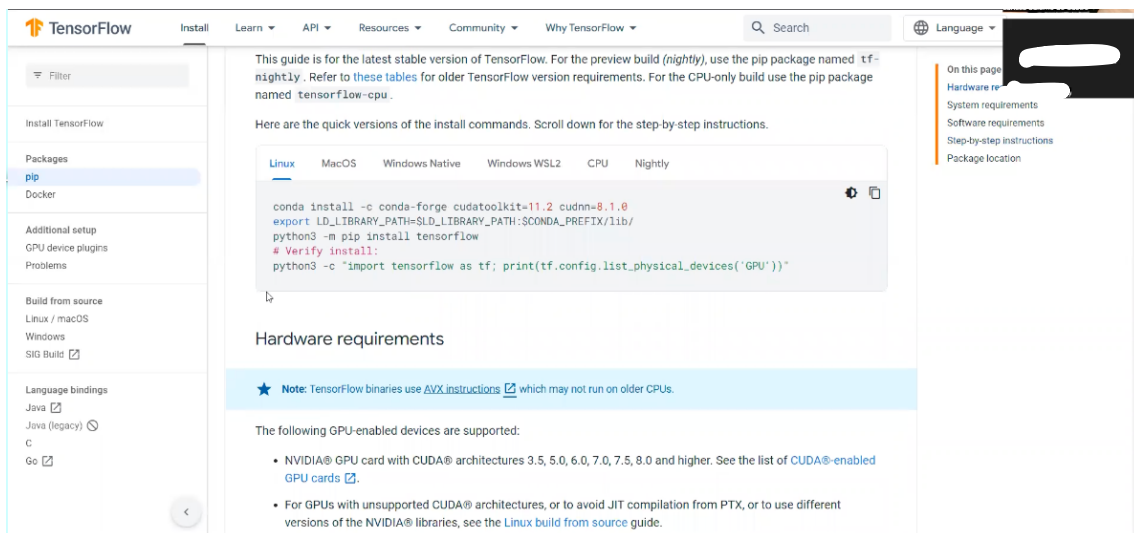
**Observer:** Have you ever used this tool before?

14:03

Yes, a lot of times.

14:08

This page isn't great... *trying to read the installation instruction page*



14:22

It is here hidden... **copy the command pip install tensorflow and paste on the terminal. The installation starts**

```
Windows PowerShell
PS C:\Users\oven> pip install tensorflow
Collecting tensorflow
  Downloading tensorflow-2.10.0-cp310-cp310-win_amd64.whl (455.9 MB)
    134.3/455.9 MB 8.1 MB/s eta 0:00:40
```

15:39

**Observer:** Do you usually have problems installing TensorFlow?

15:43

I have in the past I haven't installed it recently, but I did. I did have problems with it before. I think it has some dependency issues.

15:57

**Observer:** Were you using the same operating system?

16:03

I think it was on Windows. I think it might be TensorFlow might have changed their installation.

**The terminal stops showing any progress on the installation. gets confused and starts clicking Enter.**

```
Windows PowerShell
Collecting idna<4,>=2.5
  Downloading idna-3.3-py3-none-any.whl (61 kB)
    61.2/61.2 kB 3.4 MB/s eta 0:00:00
Collecting charset-normalizer<3,>=2
  Downloading charset-normalizer-2.1.1-py3-none-any.whl (39 kB)
Collecting MarkupSafe<=2.1.1
  Downloading MarkupSafe-2.1.1-cp310-cp310-win_amd64.whl (17 kB)
Collecting pyasn1<0.5.0,>=0.4.6
  Downloading pyasn1-0.4.8-py2.py3-none-any.whl (77 kB)
    77.1/77.1 kB ? eta 0:00:00
Collecting oauthlib<=3.0.0
  Downloading oauthlib-3.2.0-py3-none-any.whl (151 kB)
    151.5/151.5 kB 4.6 MB/s eta 0:00:00
Using legacy 'setup.py install' for termcolor, since package 'wheel' is not installed.
Installing collected packages: termcolor, tensorflow-plugin-wit, pyasn1, libclang, keras, flatbuffers, wrapt, wheel, ur
llib3, typing-extensions, tensorflow-io-gcs-filesystem, tensorflow-estimator, tensorboard-data-server, rsa, pyasn1-modul
es, protobuf, opt-einsum, oauthlib, MarkupSafe, markdown, keras-preprocessing, idna, h5py, grpcio, google-pasta, gast, c
harsset-normalizer, certifi, cachetools, absl-py, werkzeug, requests, google-auth, astunparse, requests-oauthlib, google
-auth-oauthlib, tensorboard, tensorflow
Running setup.py install for termcolor ... done
Successfully installed MarkupSafe-2.1.1 absl-py-1.2.0 astunparse-1.6.3 cachetools-5.2.0 certifi-2022.6.15 charset-normal
izer-2.1.1 flatbuffers-2.0.7 gast-0.4.0 google-auth-2.11.0 google-auth-oauthlib-0.4.6 google-pasta-0.2.0 grpcio-1.48.1 h
5py-3.7.0 idna-3.3 keras-2.10.0 keras-preprocessing-1.1.2 libclang-14.0.6 markdown-3.4.1 oauthlib-3.2.0 opt-einsum-3.3.0
protobuf-3.19.4 pyasn1-0.4.8 pyasn1-modules-0.2.8 requests-2.28.1 requests-oauthlib-1.3.1 rsa-4.9 tensorboard-2.10.0 te
nsorboard-data-server-0.6.1 tensorboard-plugin-wit-1.8.1 tensorflow-2.10.0 tensorflow-estimator-2.10.0 tensorflow-io-gcs
-filesystem-0.26.0 termcolor-1.1.0 typing-extensions-4.3.0 urllib3-1.26.12 werkzeug-2.2.2 wheel-0.37.1 wrapt-1.14.1
PS C:\Users\oven>
PS C:\Users\oven>
PS C:\Users\oven>
```

16:57

So I'm gonna check if it's installed. *Types python on the terminal and then types import tensorflow.*

17:07

Means it's working

---

## FLUTTER

17:18

Would you like me to try something else?

17:41

**Observer:** Flutter?

17:43

Okay. I don't know what that is. I'll try to instakktthat. *Goes to google and types "flutter programming install stack overflow"*

18:13

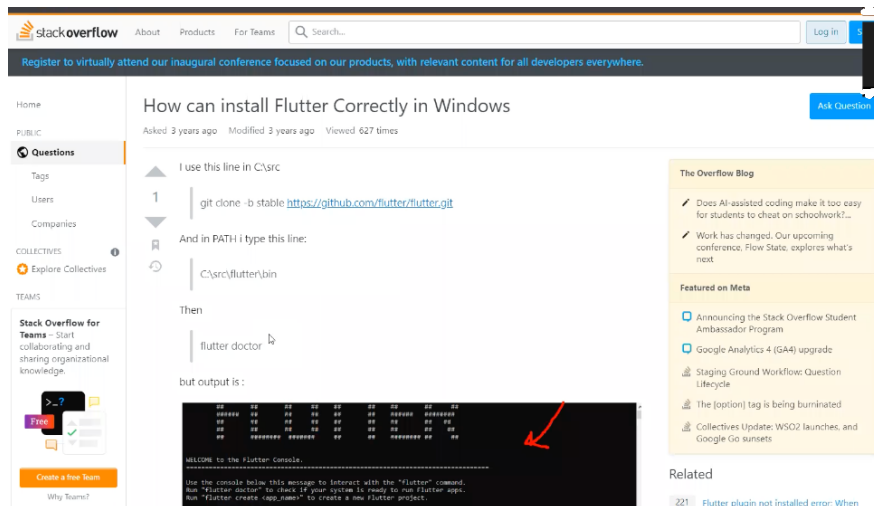
I'm just gonna see if there's a Stack Overflow...

18:18



**Observer:** Do you usually go for Stack Overflow to find information?

For most things, yes. If it's a Python package, I just look for the PIP, the keyword for PIP, but other than that, I would go to Stack Overflow. *Opens the first link to stack overflow*



18:42

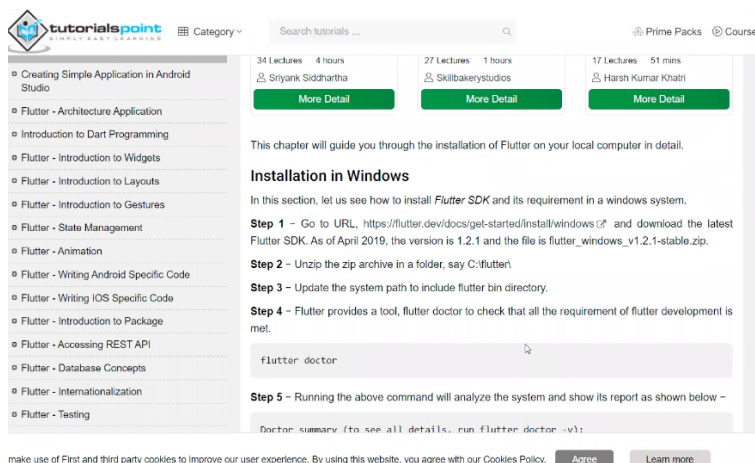
okay, this seems complicated, I don't wanna do that. *Goes back to google and clicks on the second link (also stack overflow).*

18:51

I'm just gonna try to google it *gives up on stack overflow, goes to google and searches for "flutter programming install" and click on the first link.*

18:57

Just the first link.



19:05

It tells me to go to flutter's website. *Clicks on the link suggested on step 1 (image above).*

19:17

I don't know if it's the SDK, or if it's something else, I will just get the SDK. *Clicks on the sdk option. Goes back to the initial website to see Step 2.*

19:38

Oh, wow. It's gonna take quite a while.

20:51

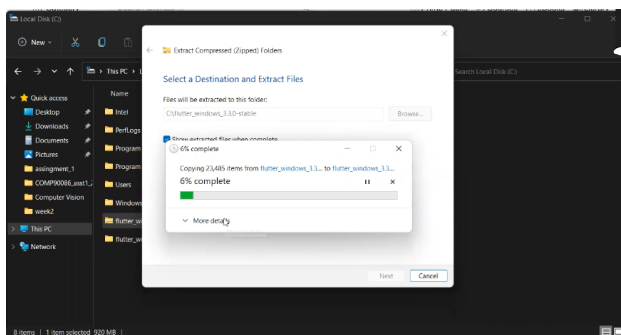
**Observer:** Have you ever used Android Studio?

20:55

No

21:44

*The download finishes* It has asked me to put into the C directory. Now this is going to take way too long. *I'm gonna give up okay the unzipping and extracting files process was taking too long (over 4 minutes)*



24:28

**Observer:** Did you have any challenges during installation process?

24:36

I didn't know exactly how to download them to begin with. So let's say...except for the TensorFlow one, I knew exactly how to just put in a pip command. The other ones were more complicated and unique.

25:00

**Observer:** Do you think like it was sort of like, there was some information missing?

25:13

I don't think there was information missing. But there was a lot of text, the instructions weren't necessarily clear, like popping out at me.

25:34

**Observer:** What did you do to overcome the challenges?

25:46

I had to read it to find what I was looking for.

25:57

**Observer:** What support slash information could have made the installation process easier in your opinion?

26:13

If there was a single command installation process, I would prefer that. I think there is something like "Wingard" on Windows? Perhaps I should have checked that for the stuff that I've downloaded maybe it would have been easier to do through there.

26:48

**Observer:** Do you think that, for example, the documentation page that you were looking at could be more straightforward on the information it was giving?

Definitely. There's a lot of text on there. If it had one "1: do this 2: do this 3: do this" would be much better.

