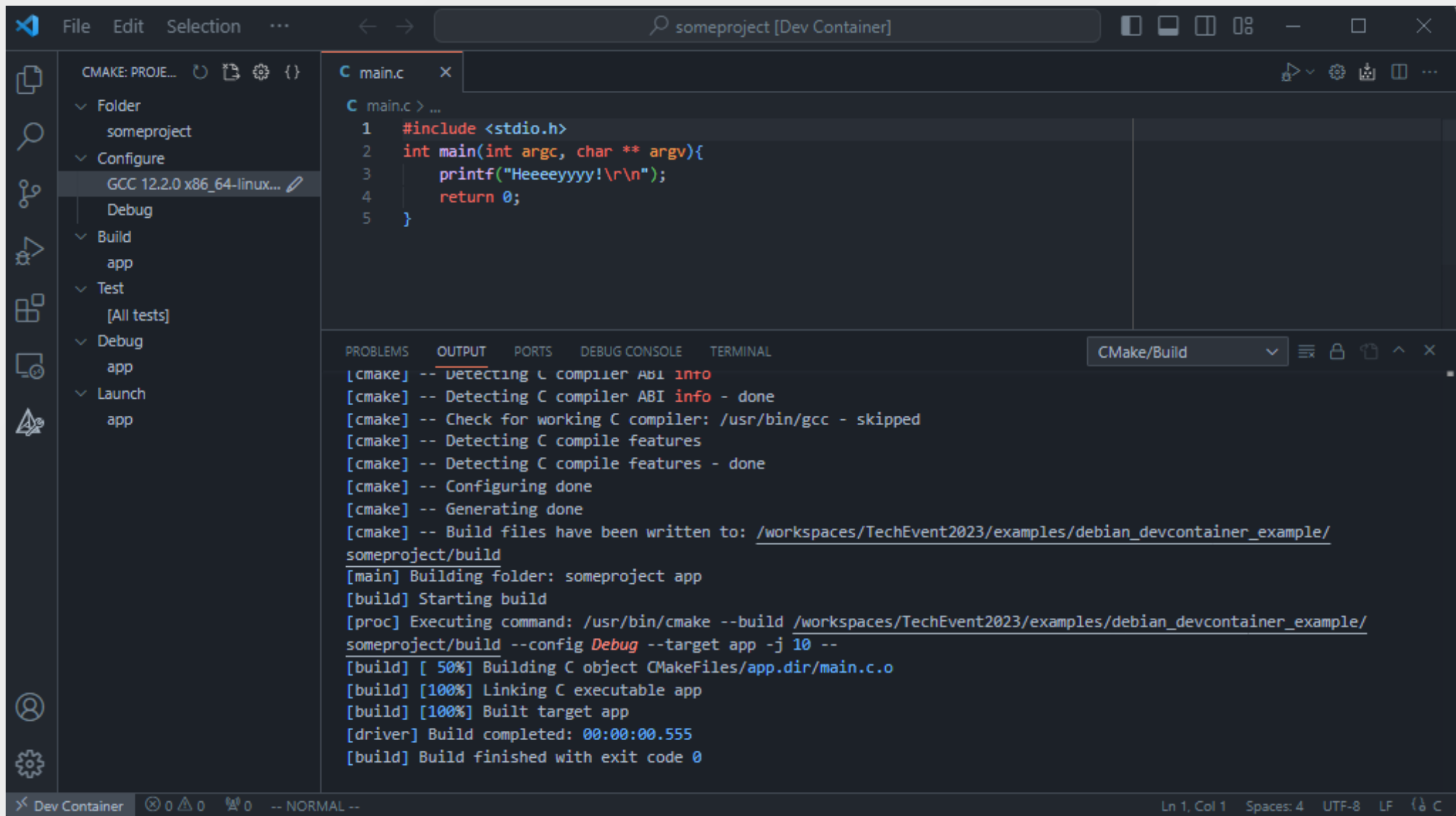


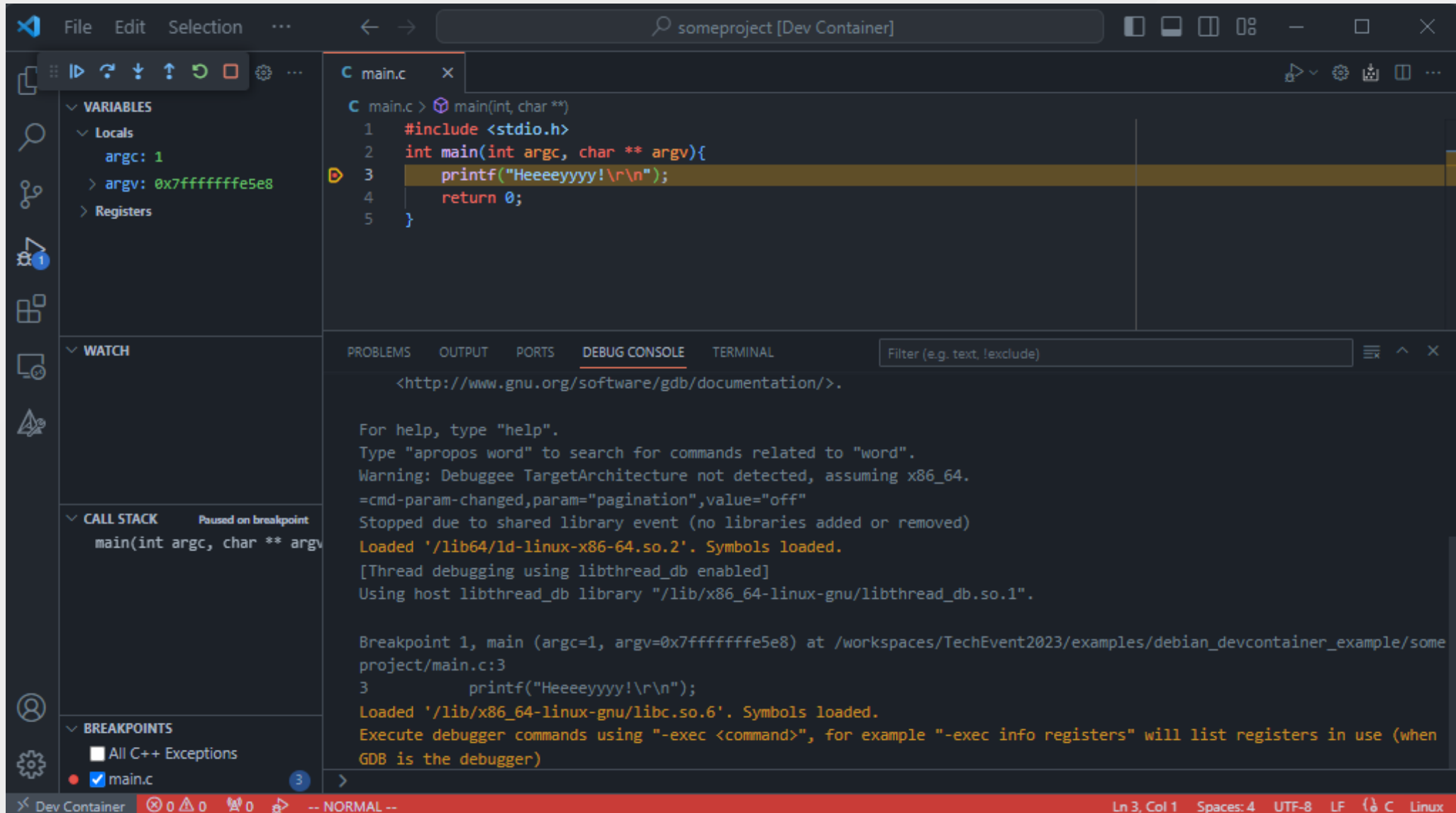
Devcontainers and Embedded software development

How-to and some notes

What's the goal?

- VSCode
- Simple hello-world application in C
- Easy building from IDE
- Integrated debugging of application
- Running in devcontainer



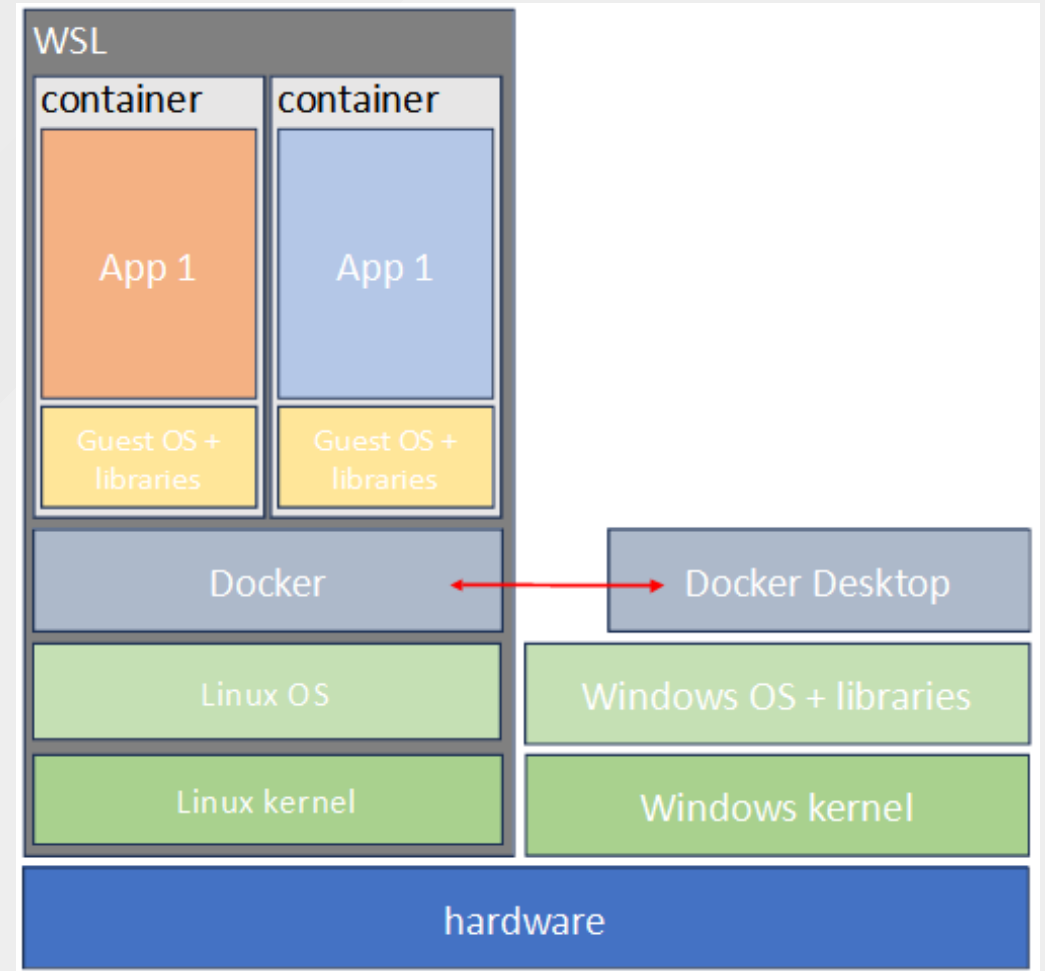


What do we need

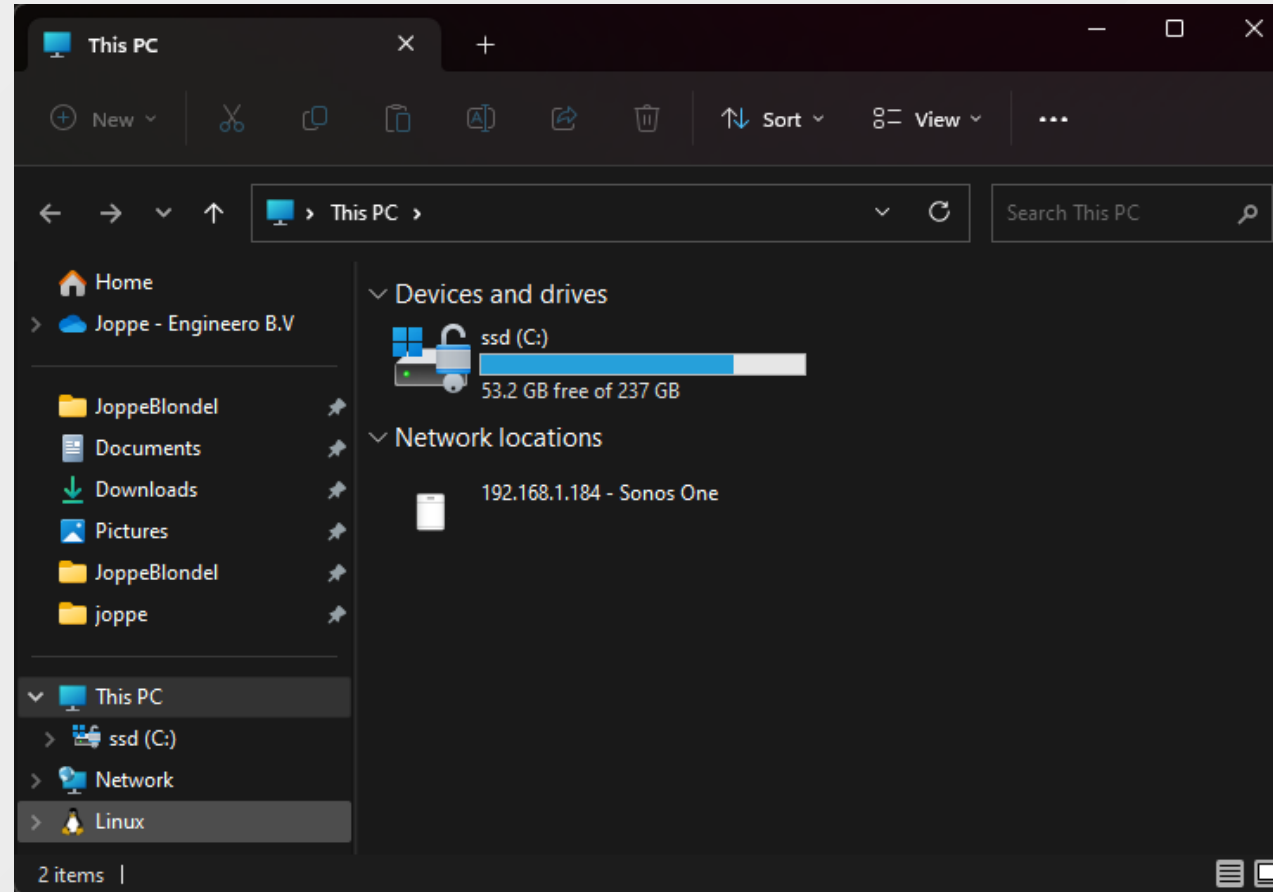
- Definition of Docker container
- Definition of the devcontainer
- Simple buildsystem
- VSCode configuration for building and debugging

A small note

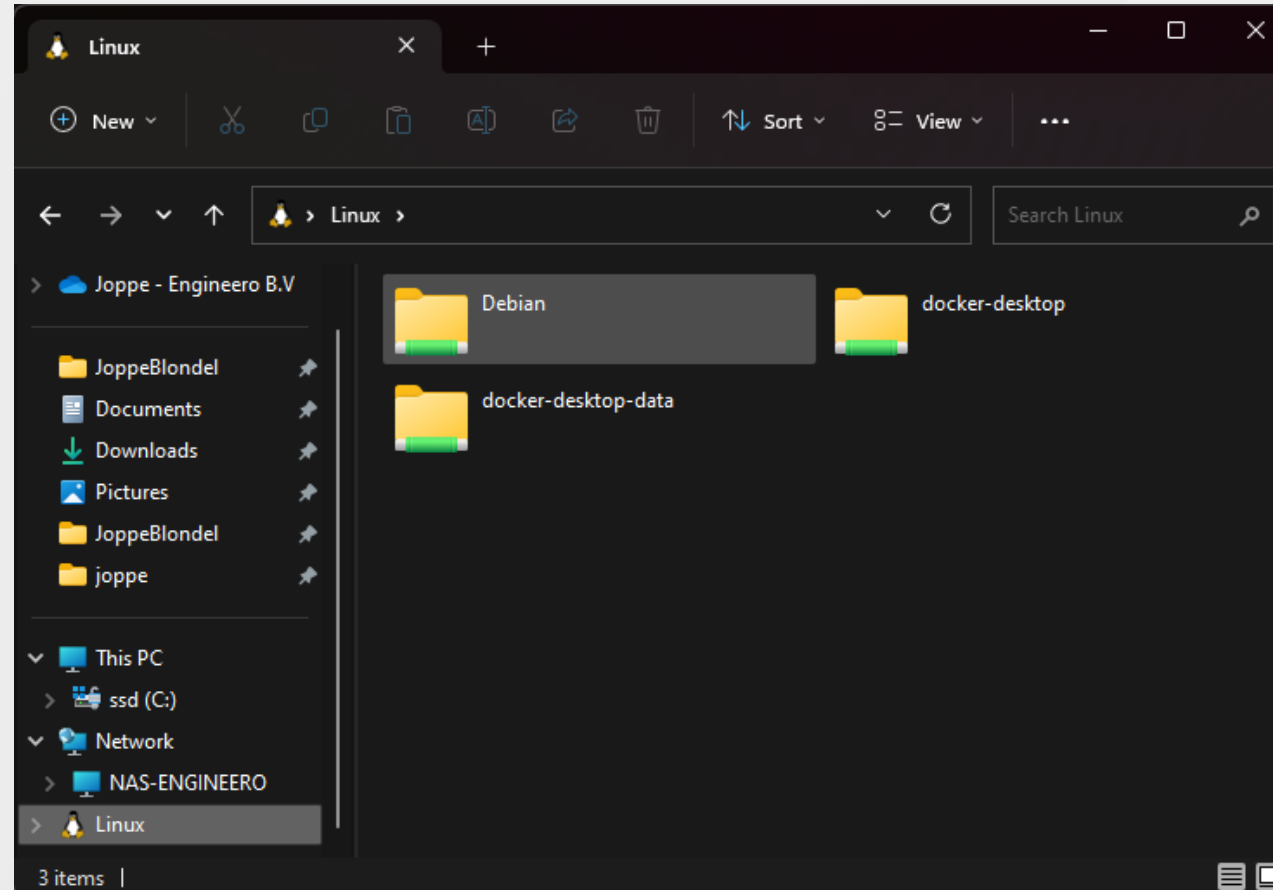
- Containers run on WSL
- Files on Windows must be shared to WSL: slow...
- Fix: Work from WSL



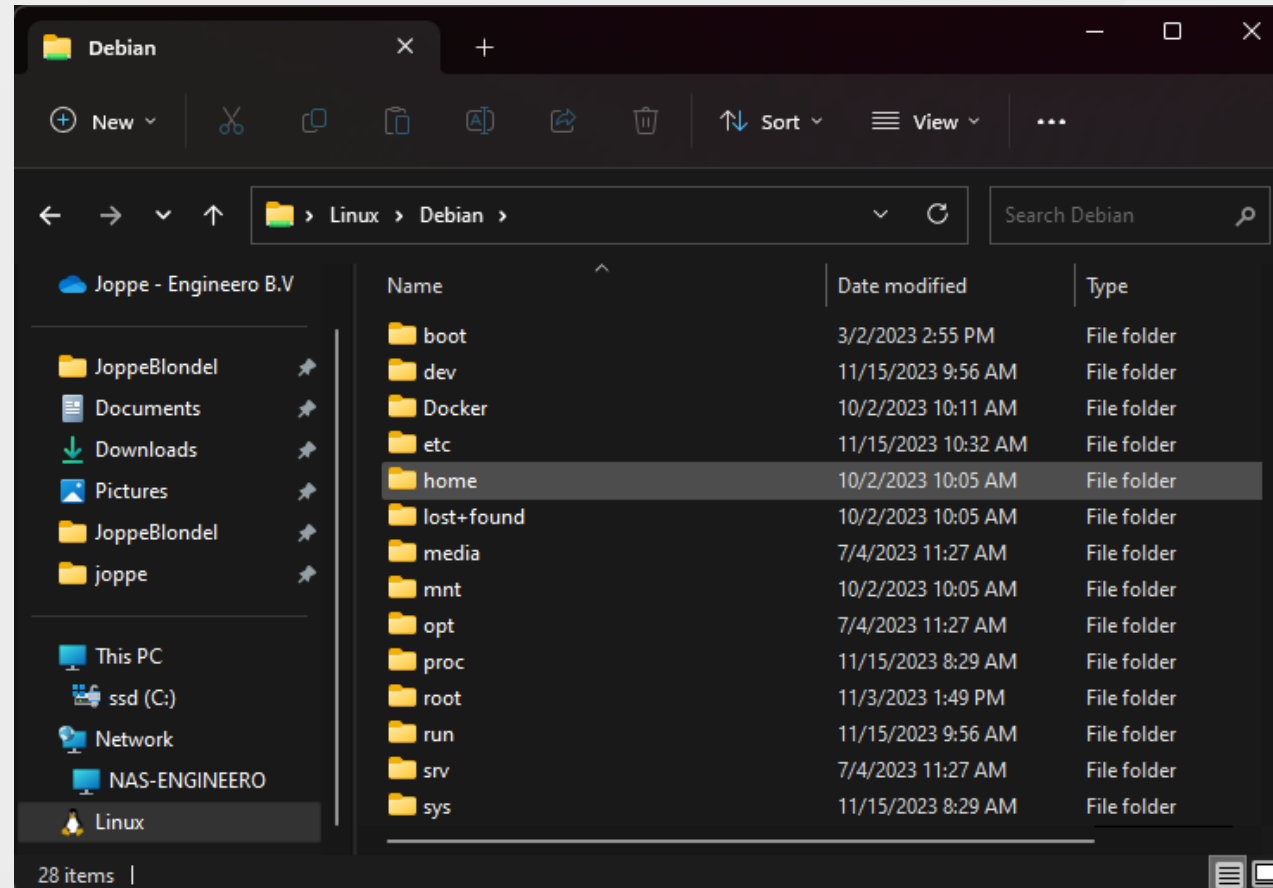
Work from WSL: Create project location



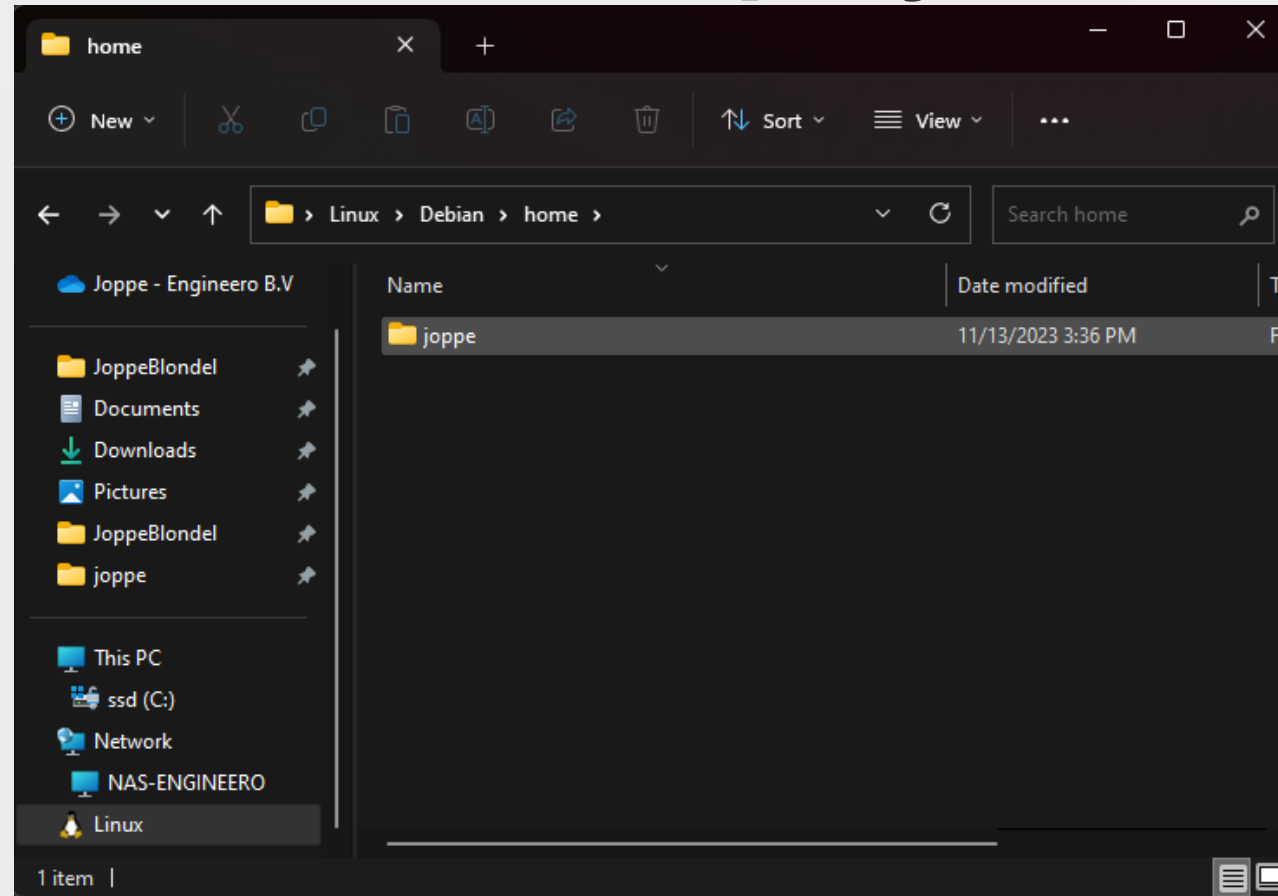
Work from WSL: Create project location



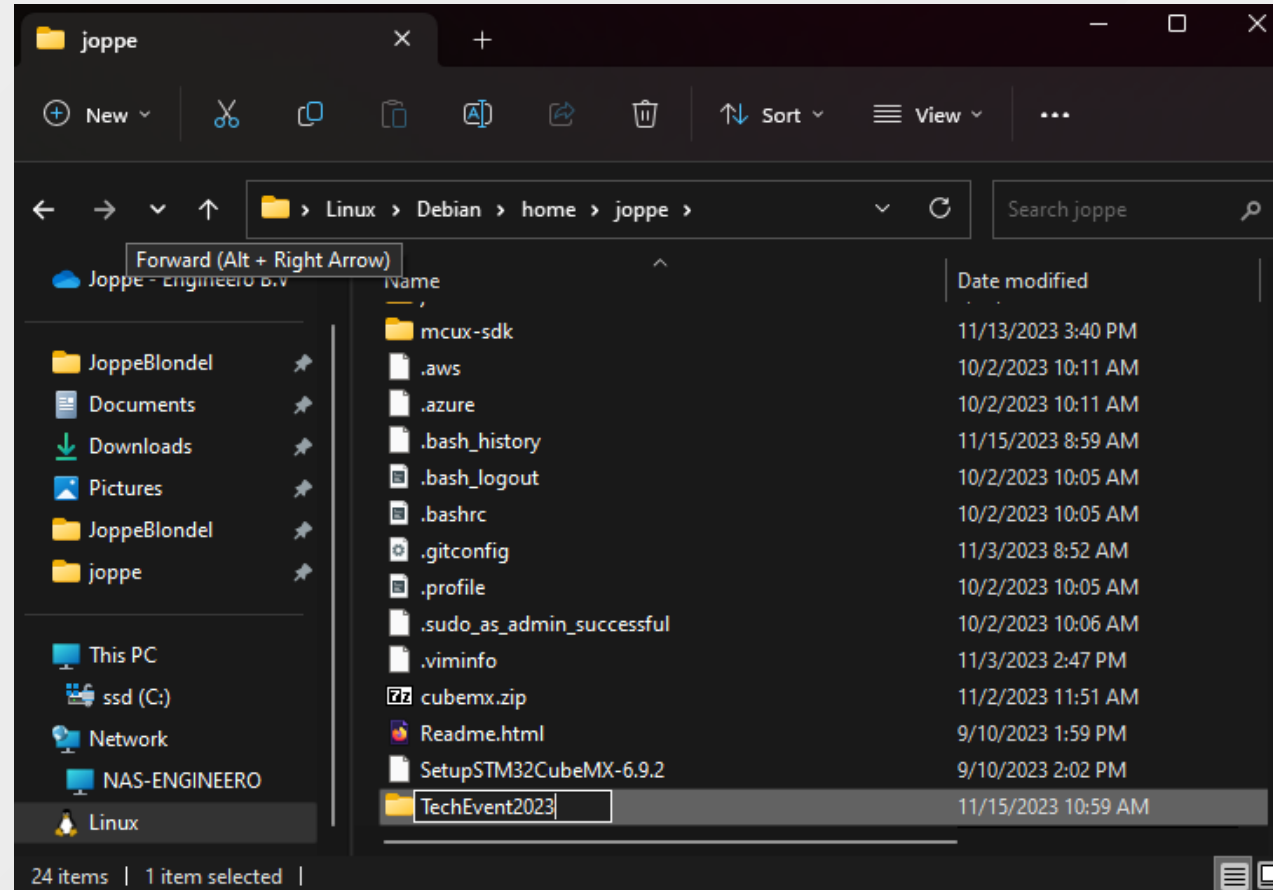
Work from WSL: Create project location



Work from WSL: Create project location



Work from WSL: Create project location

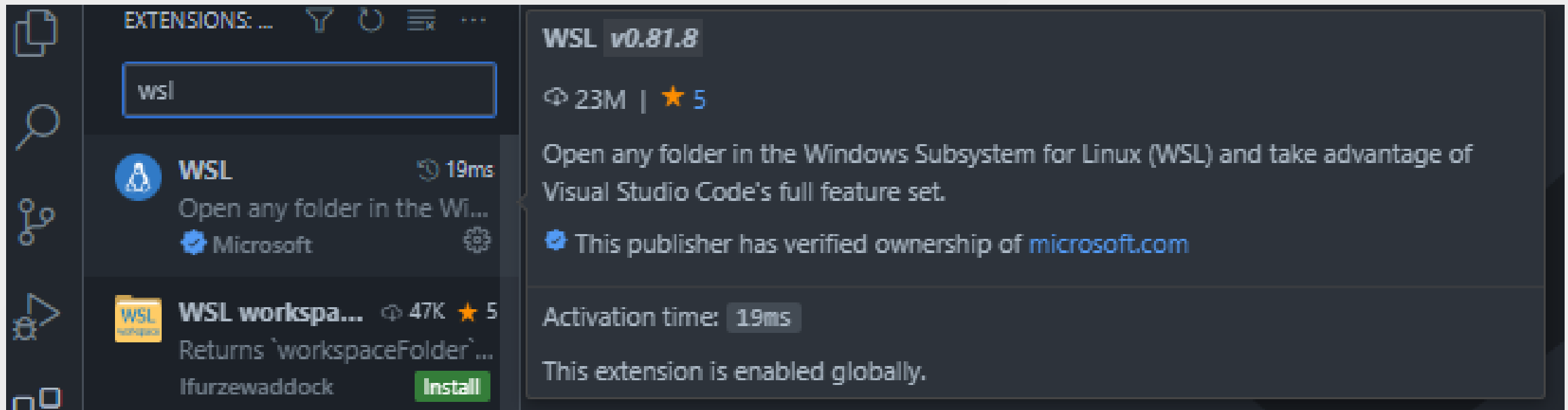


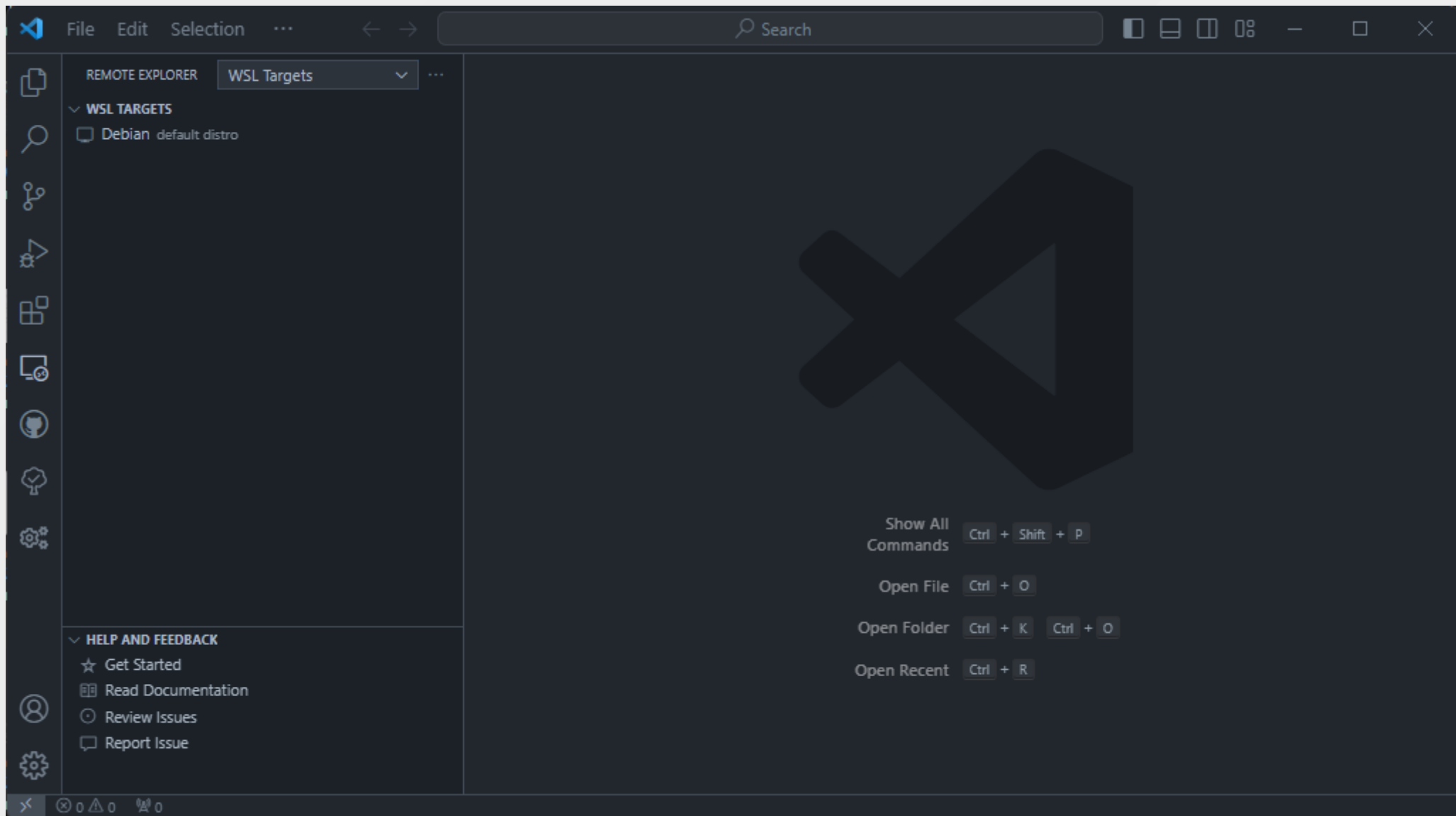
Work from WSL: Create project location

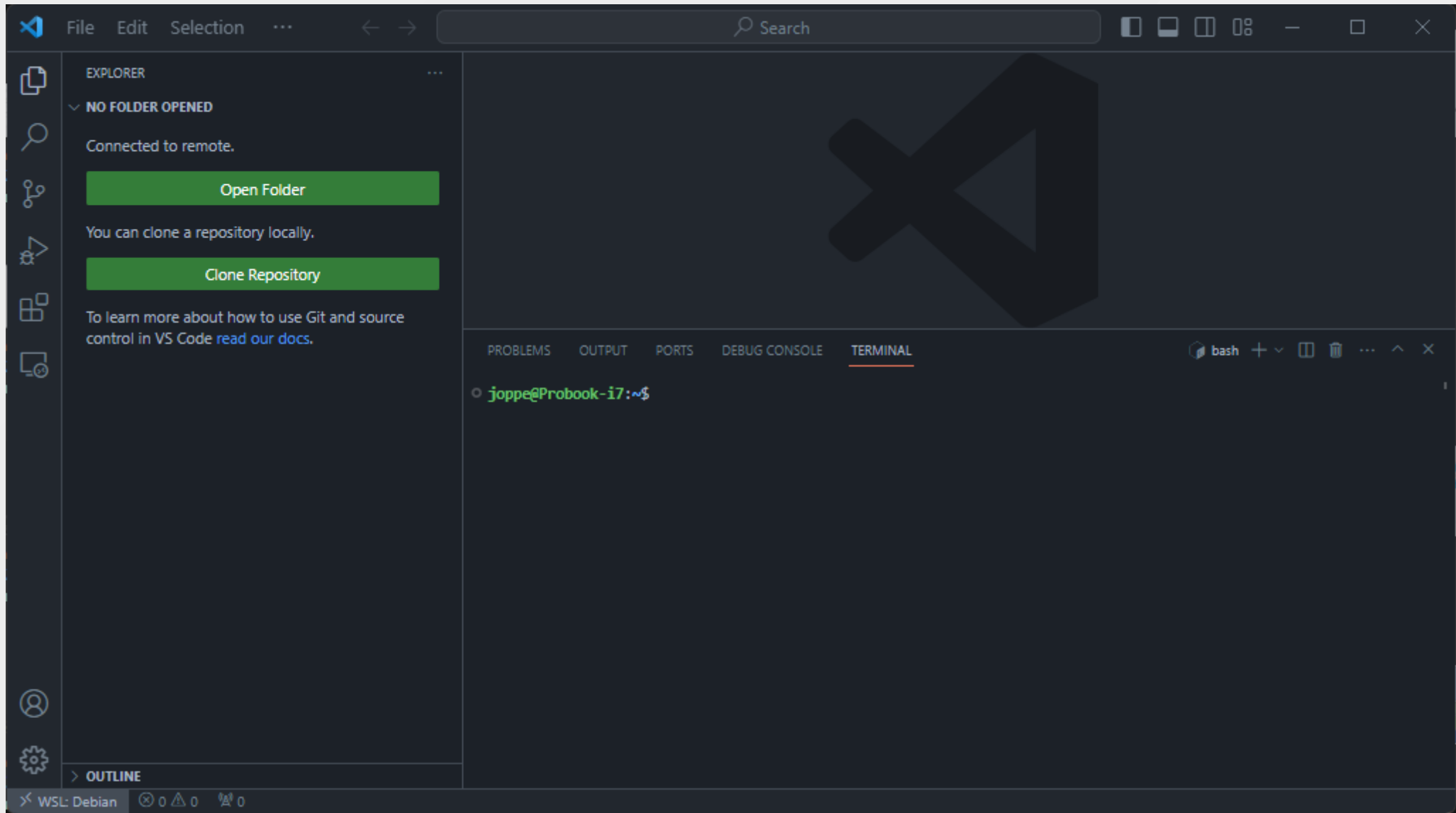
Or clone a repo in WSL

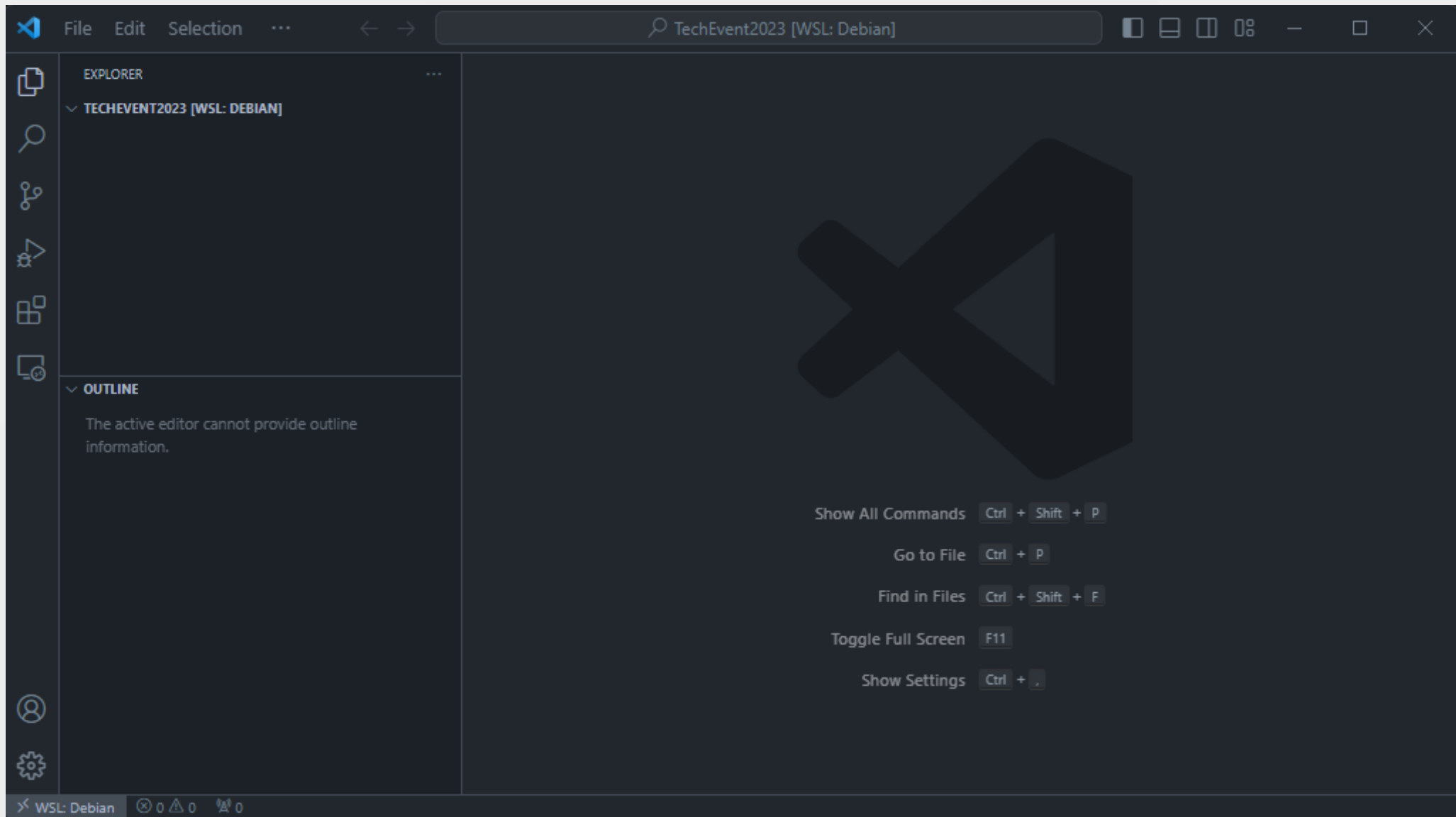
```
AzureAD+JoppeBlondel@Probook-i7 UCRT64 ~  
$ wsl  
joppe@Probook-i7:/mnt/c/msys64/home/JoppeBlondel$ cd  
joppe@Probook-i7:~$ git clone http://somerepothere.git
```

Work from WSL: Open project in WSL









OK we're in... and now?

- `.devcontainer` directory with
 - `devcontainer.json` -> Definition of the devcontainer to use
 - `Dockerfile` -> Definition of the underlying Docker container

.devcontainer/devcontainer.json

minimal setup:

```
{  
    // Give the devcontainer a name, optional  
    "name": "TechEvent2023_A",  
    // Use a docker container and point to the Dockerfile  
    "build": {  
        "dockerfile": "Dockerfile"  
    }  
}
```

.devcontainer/Dockerfile

minimal setup with gcc and cmake:

```
# Base image: Microsoft's debian image  
FROM FROM mcr.microsoft.com/vscode/devcontainers/base:debian  
# Things are ran from a script, apt needs this to run in scripts  
ENV DEBIAN_FRONTEND=noninteractive  
# Install needed software  
RUN apt-update -y && apt install -y build-essential cmake
```

Microsofts images: Alpine, Ubuntu and Debian

... Beyond git, this image / Dockerfile includes zsh, Oh My Zsh!, a non-root vscode user with sudo access, and a set of common dependencies for development.



Joppe Blondel



ABOUT ME

I am a passionate and determined engineer with love for new technologies and am not scared for a challenge. I really enjoy learning new things and keeping up with the current state of art while expanding my knowlegde about older techniques as well.

Next to technogoly and science I love theatre and am an actor in an amateur theatre association where I am an active member by not only being on stage but also helping back-stage.

SPECIALIZATION

Embedded Systems • Digital
Hardware • Embedded
Programming

INTERESTS

FPGA / RTL Design
Embedded Computing / Linux
IoT / PCB Design
Low-level programming

