Hackfest Development Environment Set Up

Gerardo García (Telefónica, OSM TSC chair)
Pedro Escaleira (IT Aveiro, Expert)

OSM#15

12/06/2023

Disclaimer

The following instructions are intended to be generic and applicable to all setups.

For every challenge, you will have dedicated instructions on how to setup your development environment.

General aspects

- Recommended editor: VS Code
- Development can be local or in a remote machine (with VS Code Remote Explorer extension)
- Other requirements: git, Docker, kubectl, openstack-client

Prepare environment to develop in Ubuntu22.04 (1/4)

```
# Install Python 3.10
sudo apt-get update
sudo apt-get install python3 python3-pip python3-dev
python3 --version     # Python 3.10.X expected as output

# Install git
sudo apt-get install git
```

Prepare environment to develop in Ubuntu22.04 (2/4)

```
# Install VSCode (https://code.visualstudio.com/docs/setup/linux)
sudo apt-get install wget gpg
wget -qO- https://packages.microsoft.com/keys/microsoft.asc | gpg --dearmor >
 packages.microsoft.gpg
sudo install -D -o root -g root -m 644 packages.microsoft.gpg
 /etc/apt/keyrings/packages.microsoft.gpg
sudo sh -c 'echo "deb [arch=amd64,arm64,armhf signed-
 by=/etc/apt/keyrings/packages.microsoft.gpg]
 https://packages.microsoft.com/repos/code stable main" >
 /etc/apt/sources.list.d/vscode.list'
rm -f packages.microsoft.gpg
sudo apt install apt-transport-https
sudo apt update
sudo apt install code # or code-insiders
```

Prepare environment to develop in Ubuntu22.04 (3/4)

```
# Install Docker (https://docs.docker.com/engine/install/ubuntu/ and
 https://docs.docker.com/engine/install/linux-postinstall/)
sudo apt-get update
sudo apt-get install ca-certificates curl gnupg
sudo install -m 0755 -d /etc/apt/keyrings
curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o
 /etc/apt/keyrings/docker.gpg
sudo chmod a+r /etc/apt/keyrings/docker.gpg
echo "deb [arch="$(dpkg --print-architecture)" signed-by=/etc/apt/keyrings/docker.gpg]
 https://download.docker.com/linux/ubuntu "$(. /etc/os-release && echo
 "$VERSION_CODENAME")" stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
sudo apt-get update
sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-
 compose-plugin
sudo groupadd docker
sudo usermod -aG docker $USER
newgrp docker
# logout and login
```

Prepare environment to develop in Ubuntu22.04 (4/4)

```
# Install Openstack CLI (https://docs.openstack.org/newton/user-guide/common/cli-install-
 openstack-command-line-clients.html)
sudo apt install python-dev python-pip
pip install python-openstackclient

# Install kubectl (https://kubernetes.io/docs/tasks/tools/install-kubectl-linux/)
sudo apt-get update
sudo apt-get install -y ca-certificates curl
sudo curl -fsSLo /etc/apt/keyrings/kubernetes-archive-keyring.gpg
 https://packages.cloud.google.com/apt/doc/apt-key.gpg; echo "deb [signed-
 by=/etc/apt/keyrings/kubernetes-archive-keyring.gpg] https://apt.kubernetes.io/
 kubernetes-xenial main" | sudo tee /etc/apt/sources.list.d/kubernetes.list'
echo "deb [signed-by=/etc/apt/keyrings/kubernetes-archive-keyring.gpg]
 https://apt.kubernetes.io/ kubernetes-xenial main" | sudo tee
 /etc/apt/sources.list.d/kubernetes.list
sudo apt-get update
sudo apt-get install -y kubectl
```

Prepare environment to develop in Windows (1/2)

- Recommended setup:
  - Install Docker Desktop: https://docs.docker.com/desktop/install/windows-install/
  - Install Windows Subsystem for Linux (WSL): https://learn.microsoft.com/en-us/windows/wsl/install
  - Install VSCode: https://code.visualstudio.com/
    - Install extensions related to Python
    - Install other extensions depending on the development environment: WSL, Remote Explorer

Prepare environment to develop in Windows (2/2)

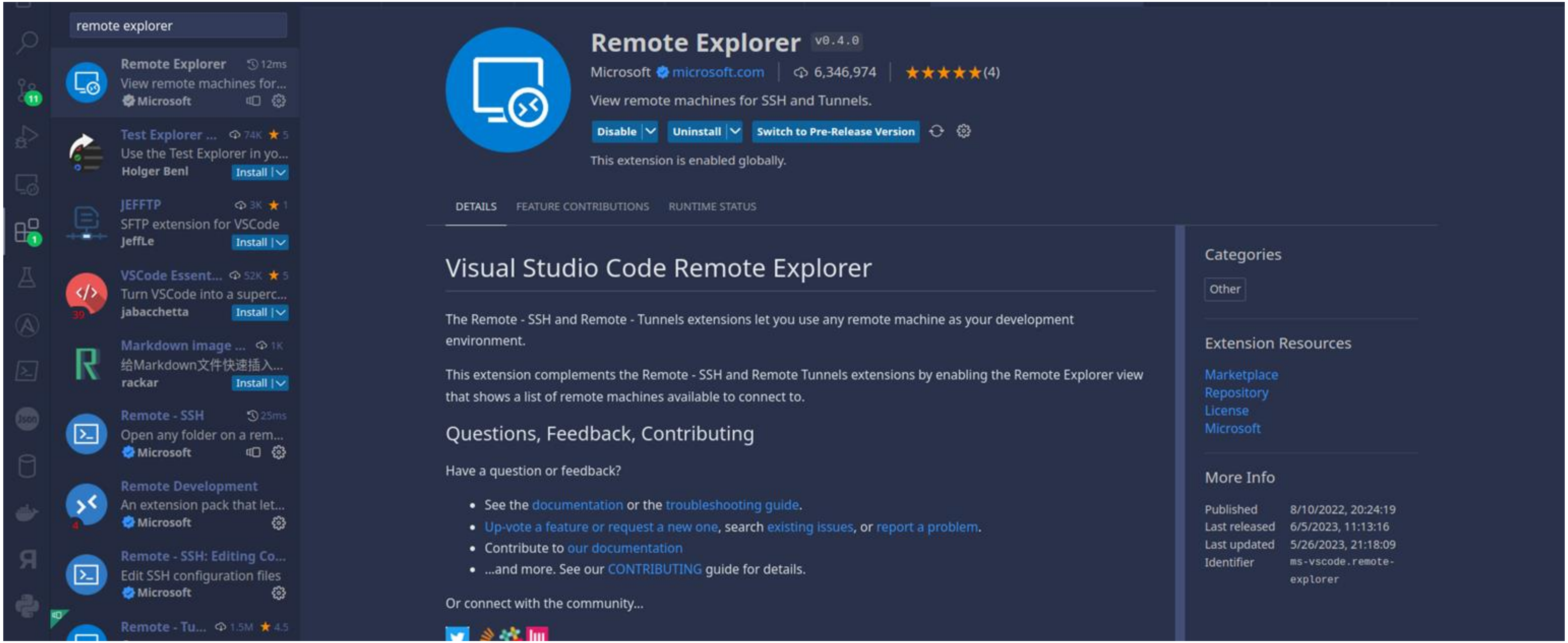
- For WSL, you can open Windows CMD and run the following commands:

```
# List current installed distributions
wsl -l -v
# List available distros
wsl -l –o
# Install Ubuntu (latest stable version)
wsl --install
# Install a specific distro
wsl --install -d Ubuntu-22.04
```

- Once you have WSL running, you can follow the steps for Linux installation, but avoiding the installation of Docker.

Use VS Code Remote Explorer Set Up (1/3)

- Install Remote Explorer extension (https://marketplace.visualstudio.com/items?itemName=ms-vscode.remote-explorer)



remote explorer

Remote Explorer 12ms
View remote machines for...
Microsoft

Test Explorer ... 74K ★ 5
Use the Test Explorer in yo...
Holger Benl Install

JEFFTP 3K ★ 1
SFTP extension for VSCode
JeffLe Install

VSCode Essent... 52K ★ 5
Turn VSCode into a superc...
jabacchetta Install

Markdown image ... 1K
给Markdown文件快速插入...
rackar Install

Remote - SSH 25ms
Open any folder on a rem...
Microsoft

Remote Development
An extension pack that let...
Microsoft

Remote - SSH: Editing Co...
Edit SSH configuration files
Microsoft

Remote - Tu... 1.5M ★ 4.5

Remote Explorer v0.4.0

Microsoft microsoft.com | 6,346,974 | ★★★★★(4)

View remote machines for SSH and Tunnels.

Disable | Uninstall | Switch to Pre-Release Version

This extension is enabled globally.

DETAILS FEATURE CONTRIBUTIONS RUNTIME STATUS

Visual Studio Code Remote Explorer

The Remote - SSH and Remote - Tunnels extensions let you use any remote machine as your development environment.

This extension complements the Remote - SSH and Remote Tunnels extensions by enabling the Remote Explorer view that shows a list of remote machines available to connect to.

Questions, Feedback, Contributing

Have a question or feedback?

- See the documentation or the troubleshooting guide.
- Up-vote a feature or request a new one, search existing issues, or report a problem.
- Contribute to our documentation
- ...and more. See our CONTRIBUTING guide for details.

Or connect with the community...

Categories

Other

Extension Resources

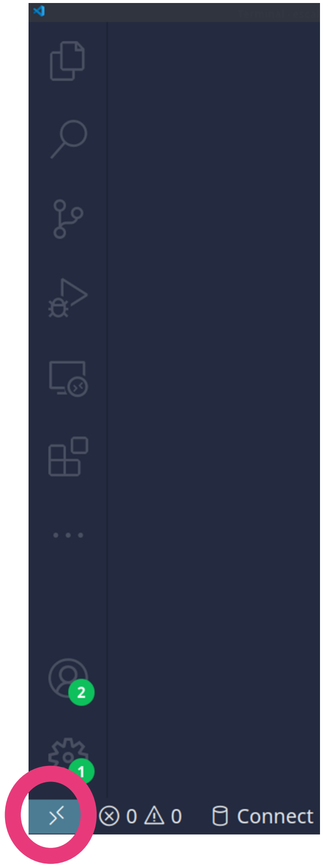
Marketplace
Repository
License
Microsoft

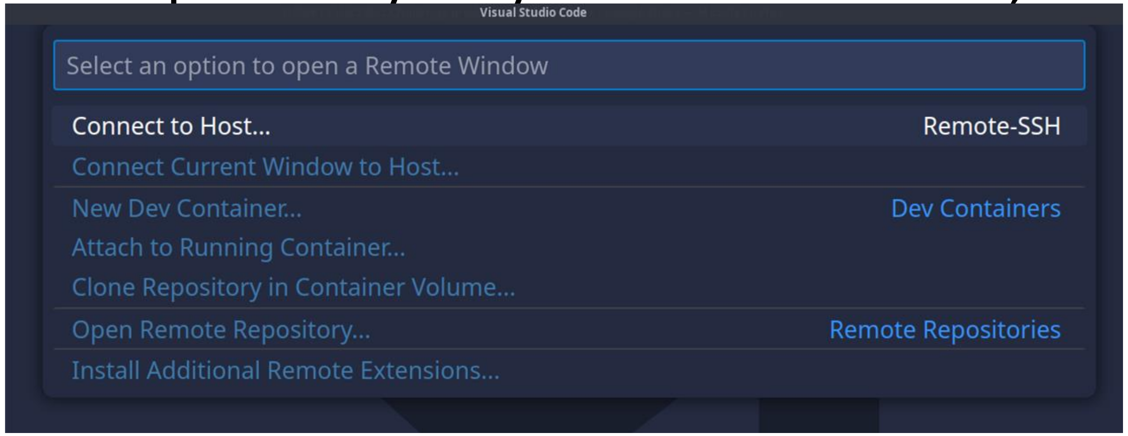
More Info

Published	8/10/2022, 20:24:19
Last released	6/5/2023, 11:13:16
Last updated	5/26/2023, 21:18:09
Identifier	ms-vscode.remote-explorer

VS Code Remote Explorer Set Up (2/3)

- You may develop directly on your attributed VM, using VS Code.

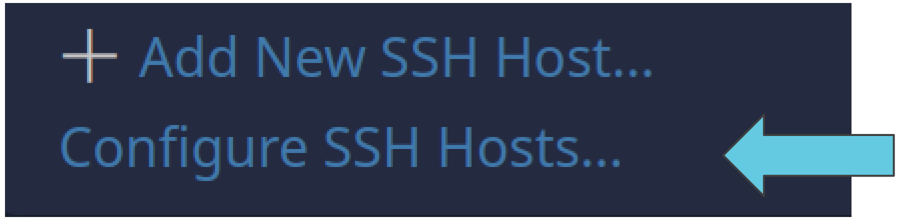




Visual Studio Code

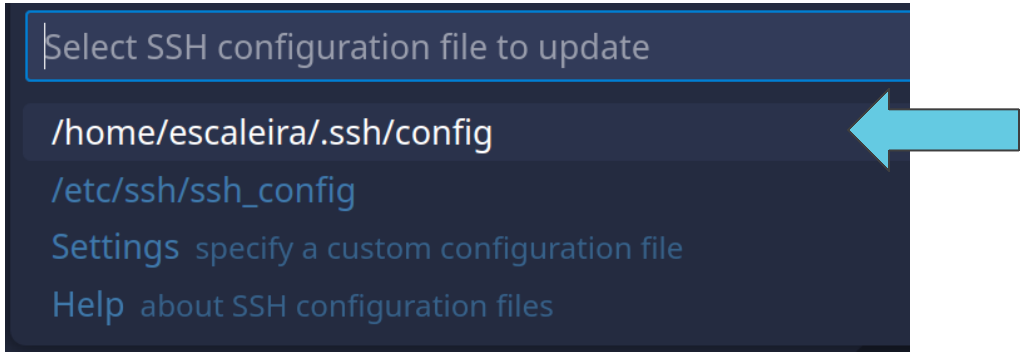
Select an option to open a Remote Window

Connect to Host...	Remote-SSH
Connect Current Window to Host...	
New Dev Container...	Dev Containers
Attach to Running Container...	
Clone Repository in Container Volume...	
Open Remote Repository...	Remote Repositories
Install Additional Remote Extensions...	



+ Add New SSH Host...

Configure SSH Hosts...



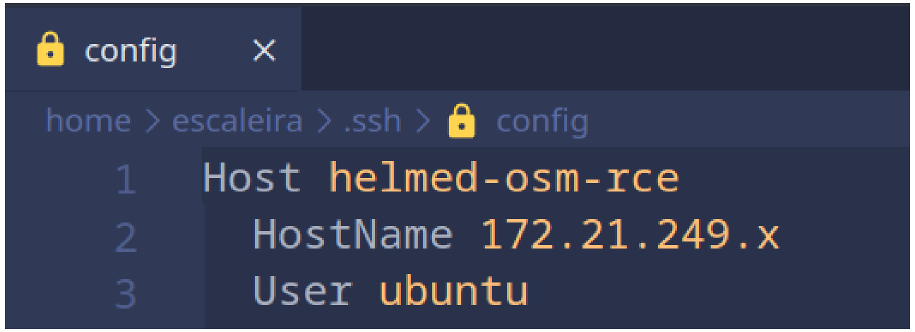
Select SSH configuration file to update

/home/escaleira/.ssh/config

/etc/ssh/ssh_config

Settings specify a custom configuration file

Help about SSH configuration files

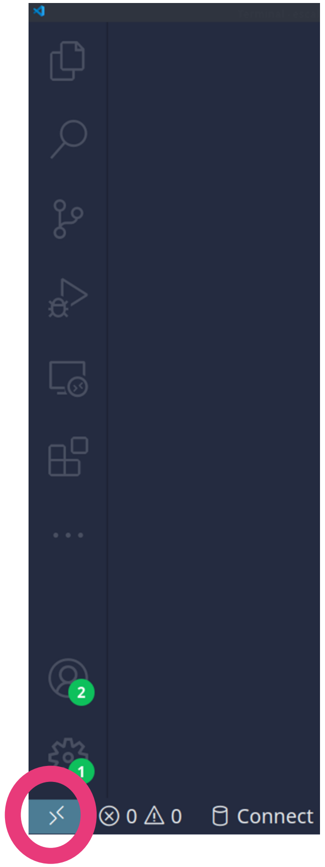


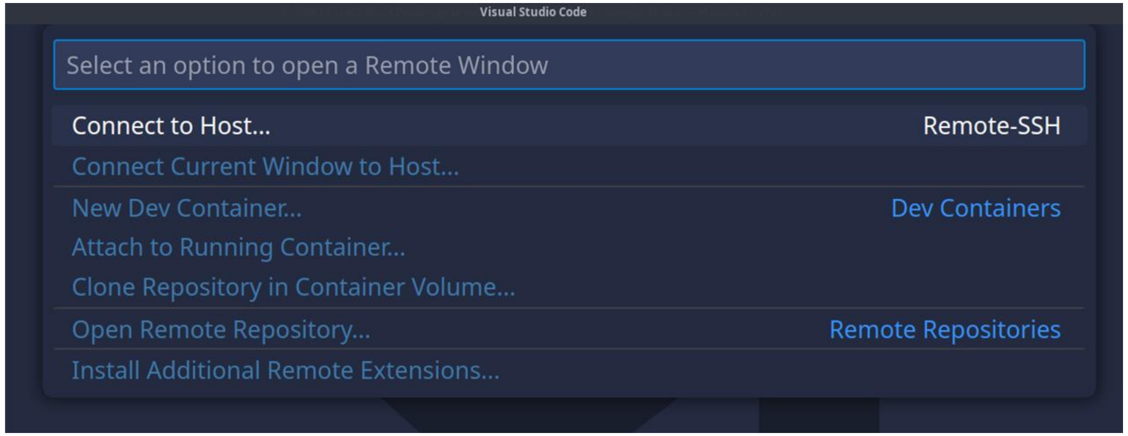
config ×

home > escaleira > .ssh > config

```
Host helmed-osm-rce
  HostName 172.21.249.x
  User ubuntu
```

VS Code Remote Explorer Set Up (3/3)





Visual Studio Code

Select an option to open a Remote Window

Connect to Host... Remote-SSH

Connect Current Window to Host...

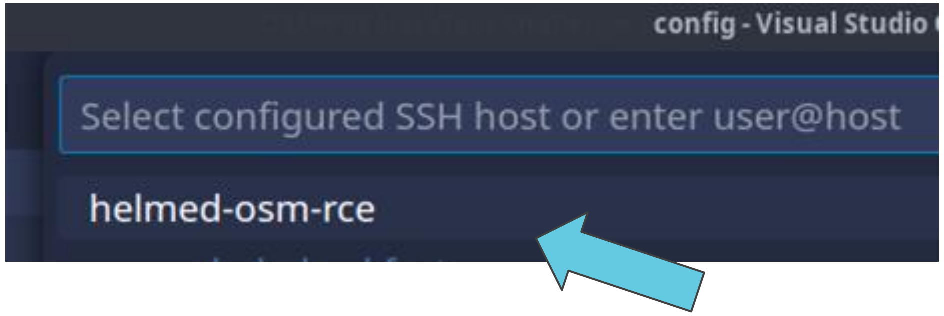
New Dev Container... Dev Containers

Attach to Running Container...

Clone Repository in Container Volume...

Open Remote Repository... Remote Repositories

Install Additional Remote Extensions...



config - Visual Studio

Select configured SSH host or enter user@host

helmed-osm-rce

Open Source MANO
by ETSI

Thank You!