

# ACSE Quick installation guide

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## 1 Requirements

- Windows 10 build 14393 or above.
- The ACSE source code version 1.1.5 or above. This can be provided by your lecturer on the appropriate channels (e.g: BeeP).
- Microsoft Visual Studio Code

## 2 Installation of Windows Subsystem for Linux (WSL)

In order to provide a clean installation of the required binaries for the compiler to work, without the need to install a complete Virtual Machine on the System or to use the dual boot, the best option is to opt for the WSL. Windows Subsystem for Linux is a lightweight version of a Linux distro under Windows 10 environment. With it, the POSIX syscalls of the virtualized machine are on-the-fly translated into Windows NT system calls.

1. Press  + , type **powershell** and press  +  + . Insert the Administrator password if prompted.

2. Type:

```
Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Windows-Subsystem-Linux
```

and press . Reboot the computer if asked.

3. Go to the Microsoft Store Application and install a packaged Linux distro. Penguin or Ubuntu are recommended. Once opened the previous installed Linux distro and waited the environment to set up, choose a UNIX username and a password.

4. Install the required packages:

```
sudo apt update && sudo apt install gcc flex bison
```

5. In Windows, open Visual Studio Code and install the Remote - WSL extension. This will prevent you from installing `code` under Linux environment.

### 3 First setup and usage of ACSE

1. In Windows, open Explorer and type `\\wsl$\<YOUR_DISTRO_NAME>` in the search bar (for example: `\\wsl$\Ubuntu`) and press `Enter`. Use this Virtual Server to access Linux directories.
2. Download the ACSE archive and unzip it into a handy Linux directory (for example `\home\<YOUR_USER_NAME>`).
3. From Windows, open Visual Studio Code, press the green button in the button left corner and choose **Remote - WSL: New Window**. A new window will open, connected to the Linux environment.
4. Open a new Terminal (`Terminal` `>>` `New Terminal`). With this window open, the output will be from Linux's `bash` and no longer from `cmd`.
5. Use `cd` to select the previous ACSE folder, then type `make`. Note that this is required *every time* the source files (including `Acse.lex` and `Acse.y`) are modified, since `acse` binary must be recompiled.