Guide on using Brosnan with VSCode from your local computer

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Chapter 1

Getting started

1.1 Requirements

Before starting you need the followings.

- You need to have an account (username and password) on Brosnan, or the other remote server that you are going to use.
- You need to have VSCode installed on your local computer (your laptop or PC). VSCode is a free editor and you can install it from its official website `https://code.visualstudio.com/`.

Assuming you already have the above two requirements, now you need to install a VSCode extension. VSCode extensions provide syntax highlighting for a programming language or other tasks. The extension that we are going to use is called `Remote-SSH` created by Microsoft. The following figure will help you to choose the right one, there might be more extensions with similar names when you search for `Remote-SSH` in the search bar of extensions in VSCode. To search for an extension, just go to the extension tab in the right side of your VSCode

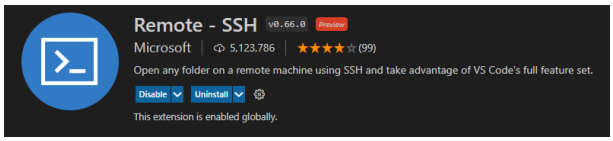


Figure 1.1: The correct "Remote - SSH" extension which is used in this manual.

and type name of the extension you are looking for similar to the following figure. You need to be connected to the internet. After finding the correct extension, click on its name/icon and then click on "install" in the window that gets opened on the right side.

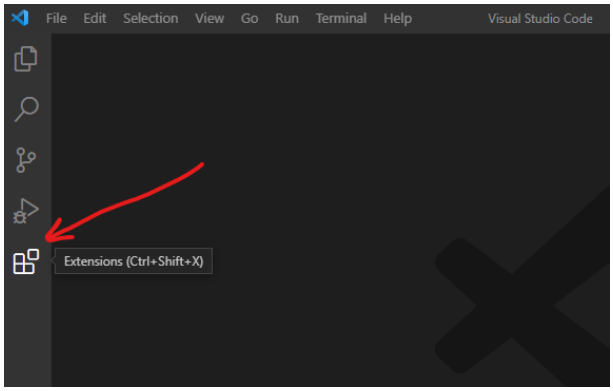


Figure 1.2: Location of the extensions tab in the VSCode window.

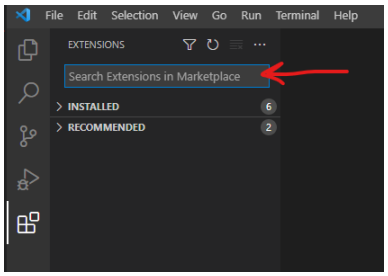


Figure 1.3: The search bar in the extension tab where you can type name of an extension to search for it. You need to be connected to the internet.

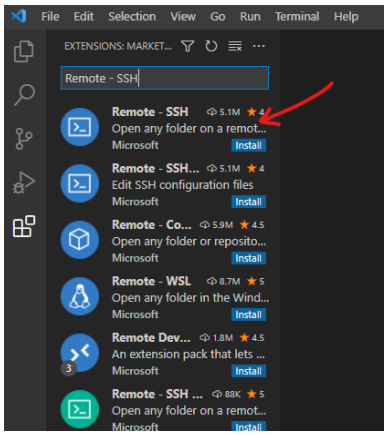


Figure 1.4: The result of searching "Remote - SSH" in the search bar of the extensions tab.

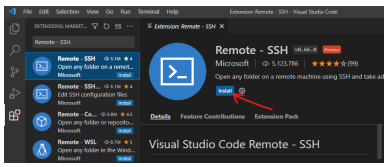


Figure 1.5: The introduction page of `Remote-SSH` extension which appears in the right side after clicking on its name/icon in the search result. You can install it by clicking on "install". You could click on "install" in the search result list as well, but it is a better idea to open the extension's page first to be double sure that this is the extension that you were looking for.

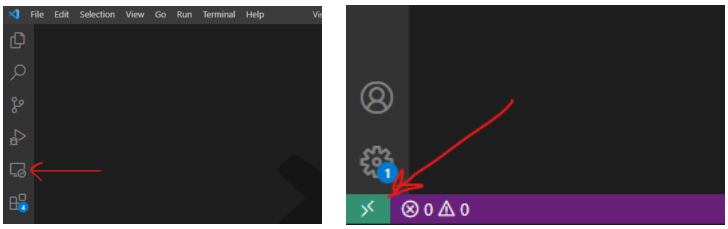


Figure 1.6: After installing `Remote-SSH`, you will see two new things added to your VSCode window.

You can always disable an extension if needed by just going to the extensions tab, right clicking on an extension and choosing "disable". The same process about enabling a disabled extension.

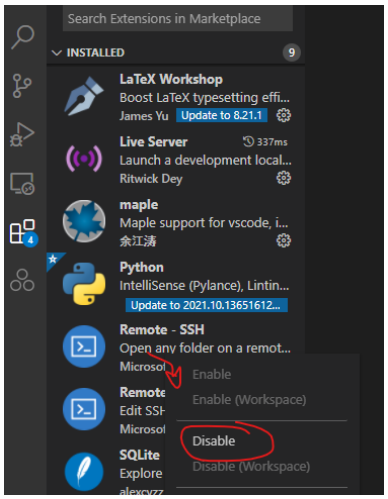


Figure 1.7: To disable an extension, right click on that extension in the extensions tab and choose disable. For enabling a disabled extension, do the same, but choose enable.

1.2 Connecting to the remote server

Now that you have VSCode with Remote - SSH extension on it, just open the command palette which you can frind from the view menu top or by pressing the keyboard shortcut `ctrl+shift+P`. And then start typing `Remote-SSH: Connect to Host...`. After that type your username, atsign symbol and name of the host server. For example if your username on Brosnan is `xx0000`, then type `xx0000@brosnan` and press Enter.

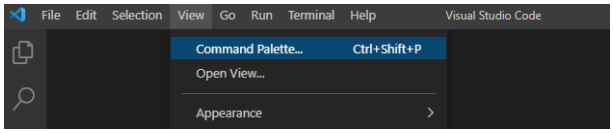


Figure 1.8: You can access the command palette from the view menu.

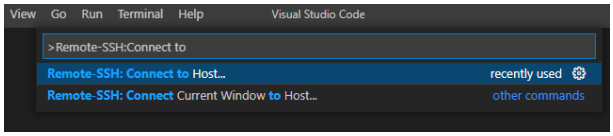


Figure 1.9: To connect to a server, type `Remote-SSH: Connect to Host...` in the command palette.

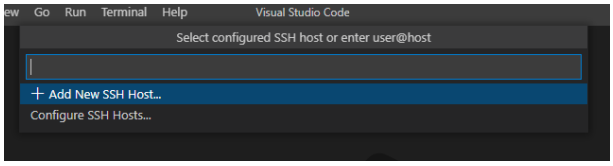


Figure 1.10: After typing `Remote-SSH: Connect to Host...` in the command palette and pressing Enter, you need to insert your username and name of the host in the `username@hostname` format.

If you have typed your username and host name correctly, then it will ask your account's password. Note that if you are connected to Brosnan for example in your PowerShell out of VSCode, then you may need first to disconnect in PowerShell before connecting via VSCode. Also do not get surprised if VSCode opens a new window for your session on the server.

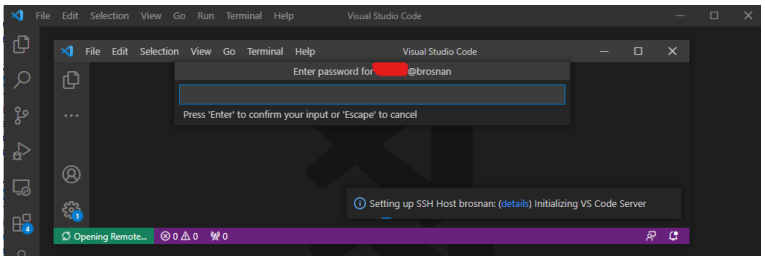


Figure 1.11: After connecting to the server, VSCode opens your new session in a new window. The previous VSCode window is still on your local computer, but the new window is on the server. Of course you should first insert your password to finalize the connection.

As you can see in the figure, after a successful connection to Brosnan, in the bottom left side of VSCode new session you see name of Brosnan. Now if you open a terminal, instead of let's say a windows terminal of my laptop, a bash terminal of Brosnan will be opened.

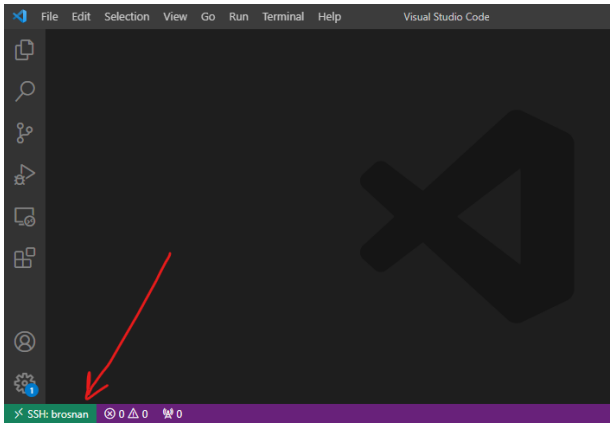


Figure 1.12: In bottom left you can see name of the host server that your VSCode session is on it.

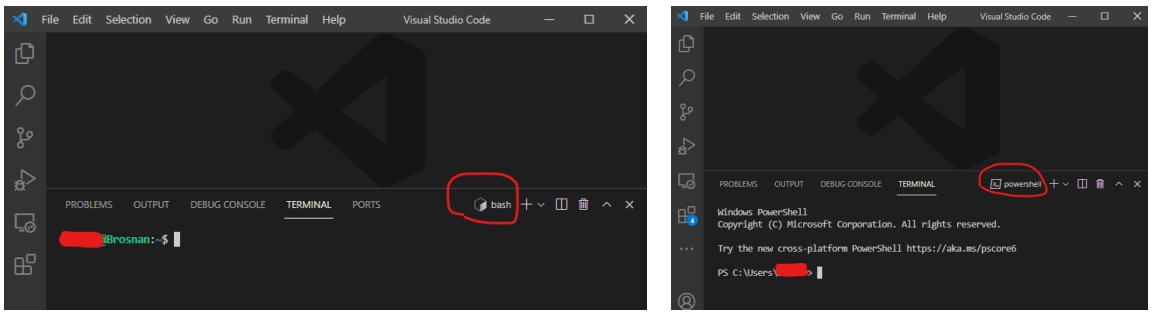


Figure 1.13: You can open a new terminal in VSCode by clicking on `NEw Terminal` in `Terminal` menu. Compare what you will get if you open a new terminal in a VSCode session connected to Brosnan (in the left side) with what you will get in a VSCode session which is not connected to Brosnan assuming your local computer is using windows 10 with the same version as mine (in the right side).

1.3 Working on your server without need of typing in a terminal environment

You do not need to use the terminal to open a folder or a file now. You can simply use the `Open Folder` or `Open File` items from the File menu. You might be asked for your password again when you open a folder for a project session in VSCode. After opening a folder as your project, you can see the files and folders inside your project in the left Explorer tab of VSCode window the same way you would see them if they were on your local computer. But, remember that VSCode is not moving your folder from the server on your computer. And whatever modification you do is being done directly on your files on the server. Also remember that this VSCode session does not use software and programming languages that are installed on your local computer. For example as you can see in the figure, it shows the version of the python as 3.6 which is the one on Brosnan, while the one on my laptop is 3.9. You will also be asked to install extensions for syntax highlighting for the session on your server even if you had before for the VSCode on your local computer. Once you install for VSCode on your server, you do not need to repeat it for your later sessions connected to that server.

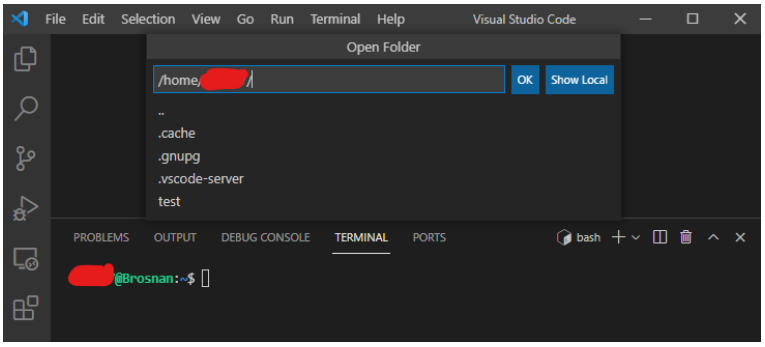
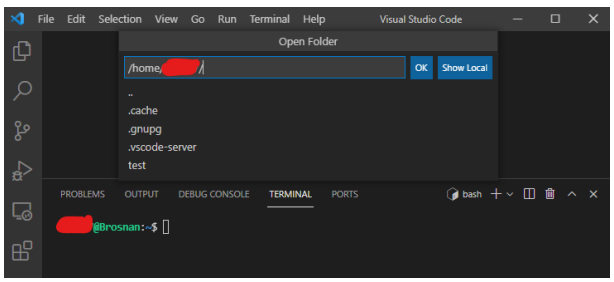


Figure 1.14: Opening a folder on Brosnan as my project folder in VSCode session.



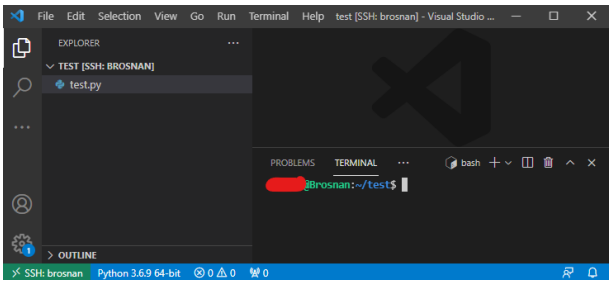


Figure 1.15: Opening a folder on Brosnan as my project folder in VSCode session. After choosing the folder of your interest, press ok. You might be asked to re-enter your password. As you can see this VSCode session is only using whatever is installed on your server. Therefore in the bottom left you see the version of Python is 3.6 which is the one installed on Brosnan, different than the version installed on my local computer.

You can also use the icons in the explorer for creating a new file or folder. Right clicking on your files in the explorer tab to rename or delete them or moving them to another location etc.

You can also download a file or a folder to your local computer from your server by right clicking on it in the explorer tab and clicking on download and choosing the path where you want to save it.

To copy a file to your server, just drag and drop the file from your computer to the explorer tab of your VSCode session.

And of course, now you can write, edit and modify your codes and files using VSCode environment with the colors and style that you like or get used to.

You can disconnect your connection when you are done by choosing `Close Remote Connection` from the File menu in your VSCode.

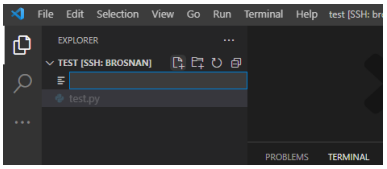


Figure 1.16: You can use the explorer tab in the left side of VSCode to manage your folders and files of your project. For example using the icon of `New File` to create a new file and naming it.

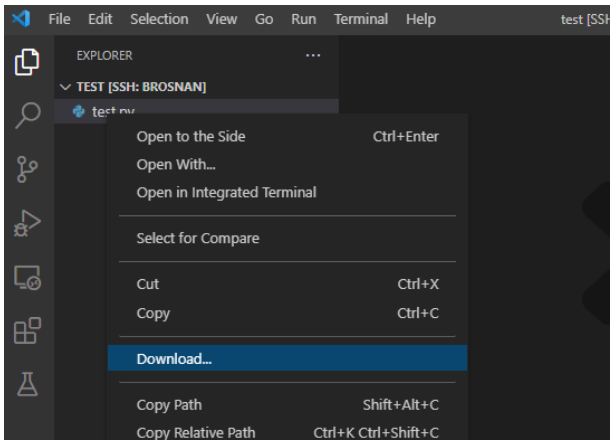


Figure 1.17: To copy a file or a folder from your server to your local computer, just right click on it and choose download.

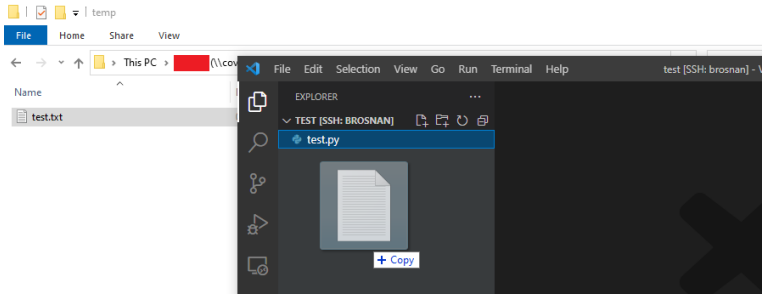


Figure 1.18: By drag-and-drop, you can copy a local file of your computer to your project folder on the server.

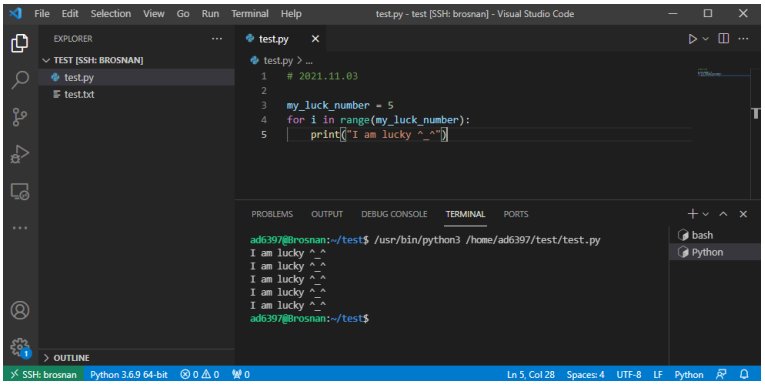


Figure 1.19: Just click on the file that you want to edit and then you will see it in the right side of your VSCode window. You can start editing and working with the them the same way you use VSCode on your local computer. You do not need to leave your coloring and theme preference behind when you are working with a server.

Chapter 2

Further reading

Here are some links from VSCode's website if you want to read more about remote SSH access via VSCode to a server or to read about editing Python files using VSCode.

- `Remote-SSH`: `https://code.visualstudio.com/docs/remote/ssh`
- `Python`: `https://code.visualstudio.com/docs/languages/python`