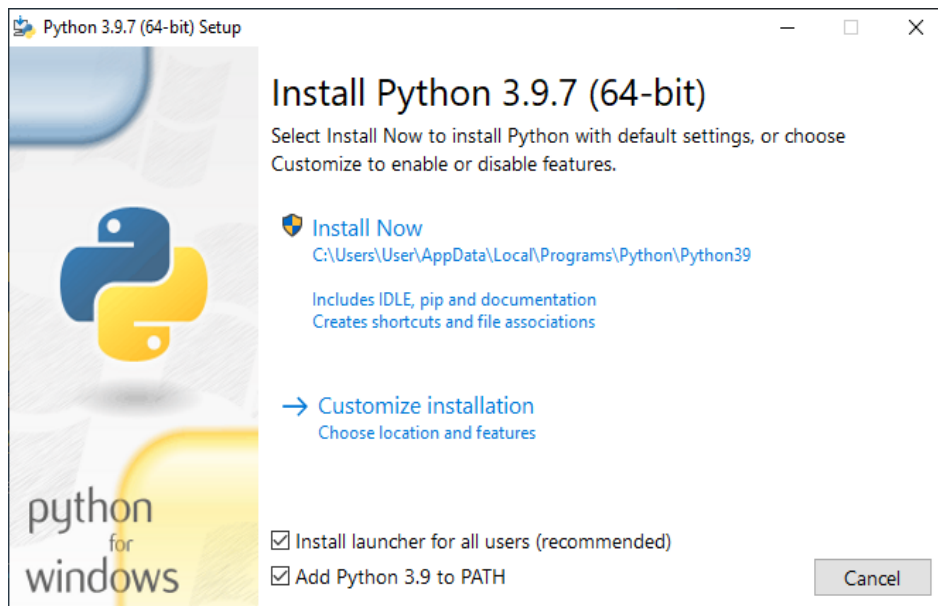


Python Installation

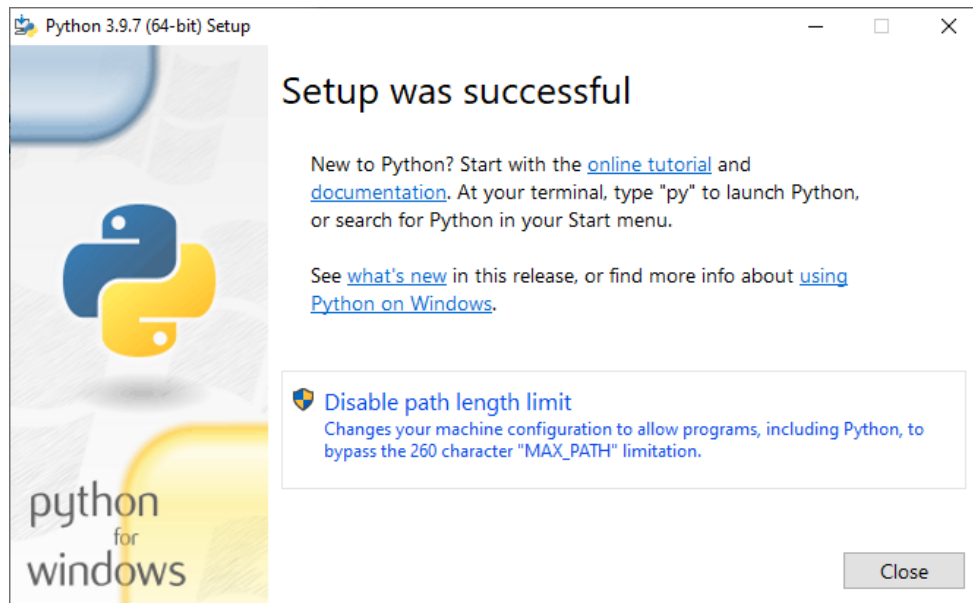
1. Open the official Python web: <https://www.python.org/downloads/>
2. The newest Python version will be offered there (3.9.7 when these instructions were written)
 - a) Download the newest version by clicking the yellow button “Download Button”



- b) Alternatively, you can download the Python version 3.8.7 with which the script was tested. It is available here:
<https://www.python.org/ftp/python/3.8.7/python-3.8.7-amd64.exe>
3. Launch the installation file.
 4. Tick off the “Add Python 3.9 to PATH” option and choose “Install Now”. The option “Add Python 3.9 to PATH” will ease the launching of Python later.



5. At the end of the installation, you should disable Windows system limitation, choose the option “Disable path length limit”. (It has to do with historical path length and file names limitation of Windows, it is better to disable the limit because certain Python libraries might exceed it.

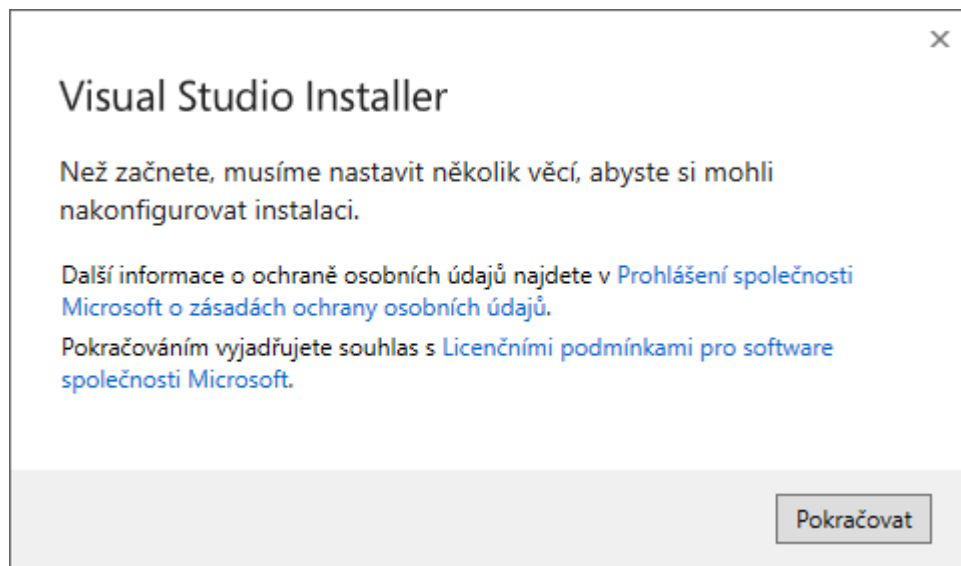


6. You can close the installation with the “Close” button.

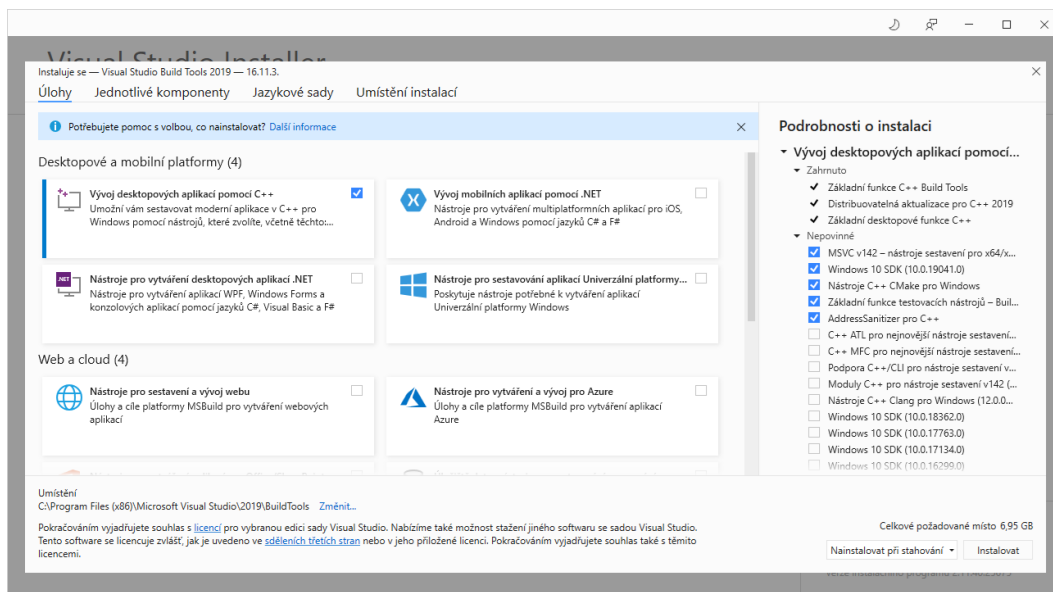
Installation of Visual Studio Build Tools

One of the libraries of the script requires having Visual Studio Build Tool installed.

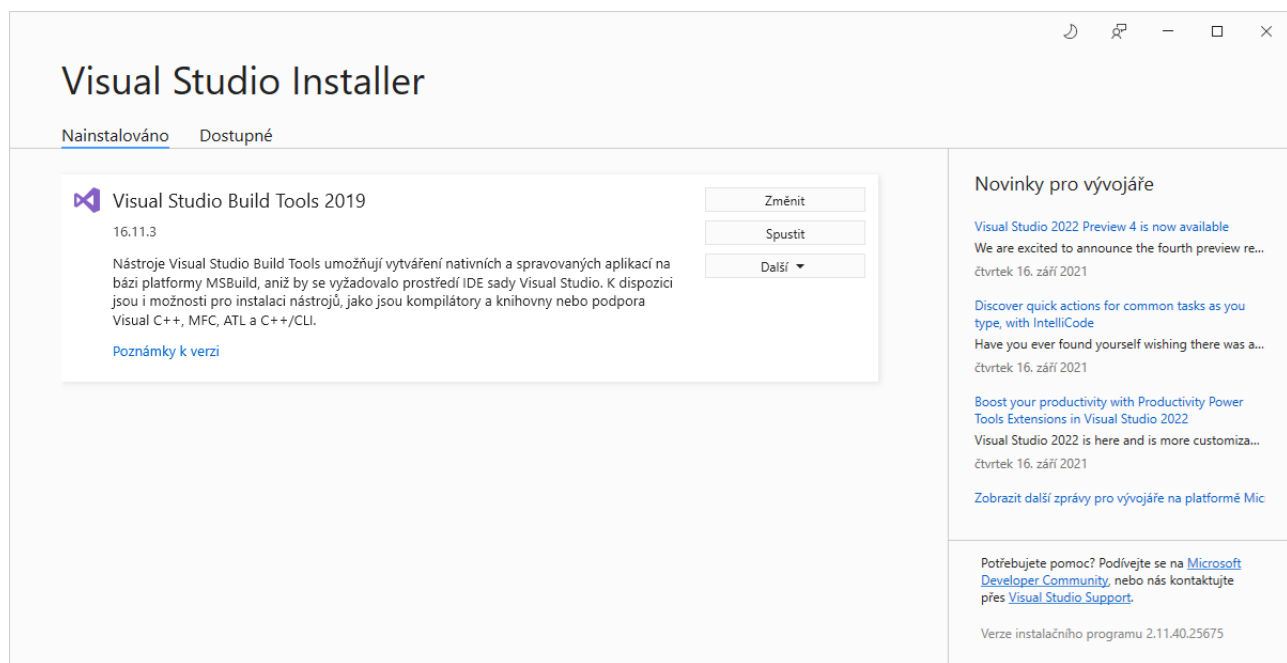
1. Use the following link to download the installation file by pressing the violet button “Download Build Tools”: <https://visualstudio.microsoft.com/visual-cpp-build-tools/>
2. Open the file and click “Continue”. The installation will download additional files needed.



- When the installation is ready, a dialog box will open with many options to choose from. Tick off the “Development of desktop application with C++” and click “Install” in the down right corner.



- When the installation finishes, a dialog box will show you what has been installed. You can close it.

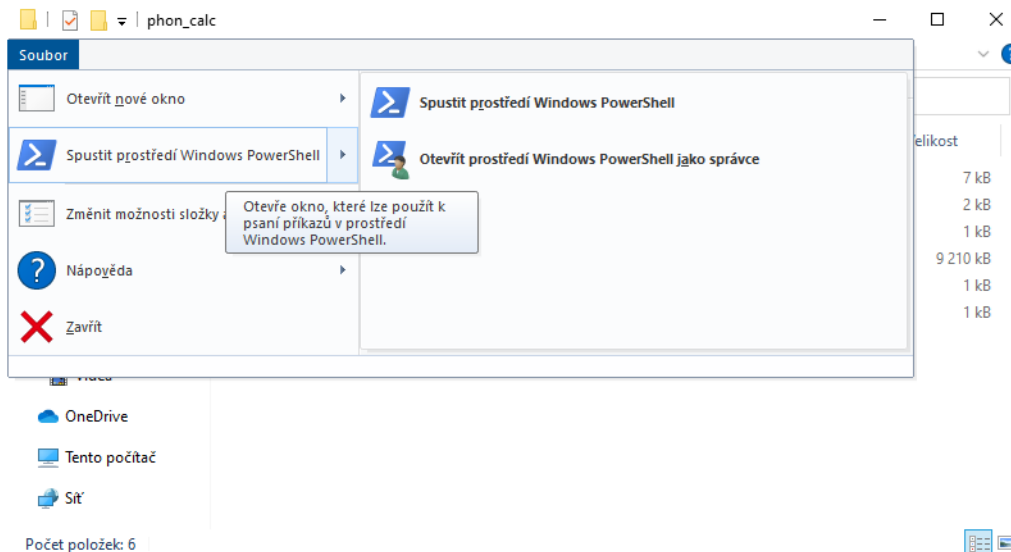


Creation of Virtual Environment (optional, recommended)

Virtual environment in the Python language allows to split up installations of various libraries to separate environments. Different projects in Python may need the same libraries, but different versions. Separate virtual environments allow to have one library of version X in one environment and the same library of version Y in another.

(A tip for working in PowerShell environment: often you can write only the beginning of a command (e. g. "Set-Exec") and press TAB key. PowerShell will try to complete your command. It is a good way how to avoid errors in commands or files.)

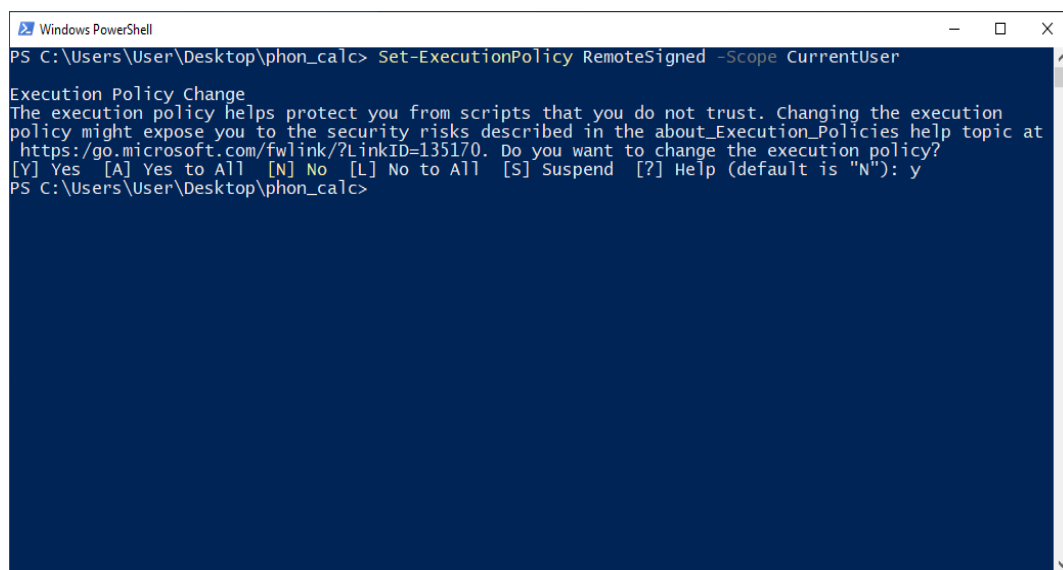
1. Open the folder with the script
2. Click "File" in the menu and choose "Start Windows PowerShell environment". A PowerShell window will open, and it will be set for the script folder.



3. To activate the virtual environment, you need to allow launching PowerShell scripts in the system. Write and run this command:

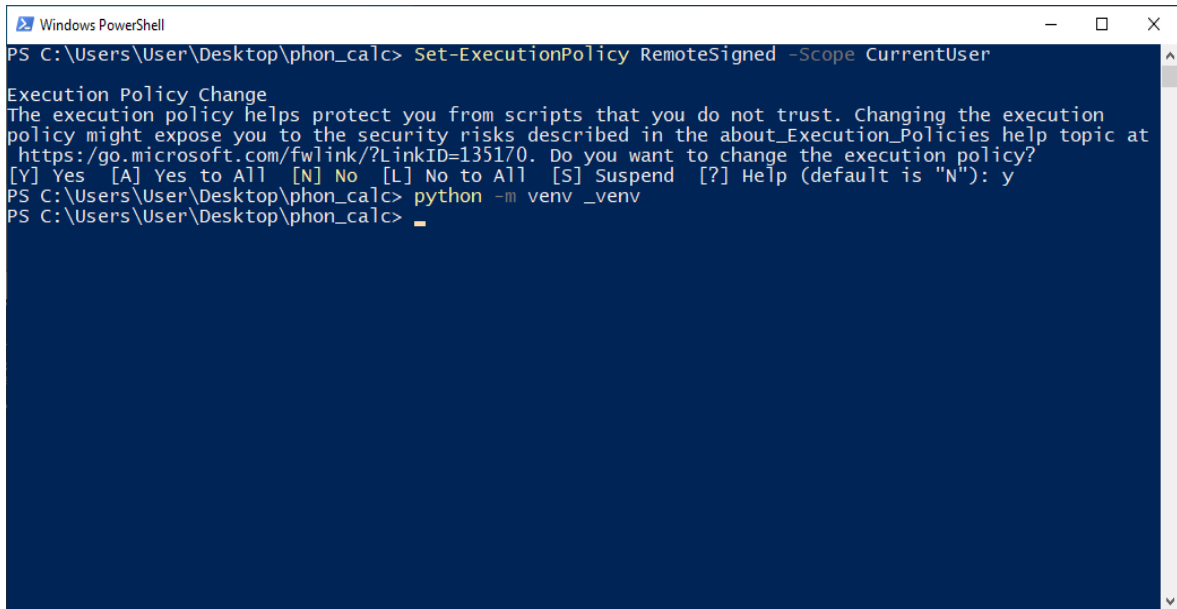
`Set-ExecutionPolicy RemoteSigned -Scope CurrentUser`

4. PowerShell will ask you to confirm with “y” key and pressing “Enter”.



5. Now you can create and use virtual environments in Python. To create a new environment, use this command:

`python -m venv _venv`

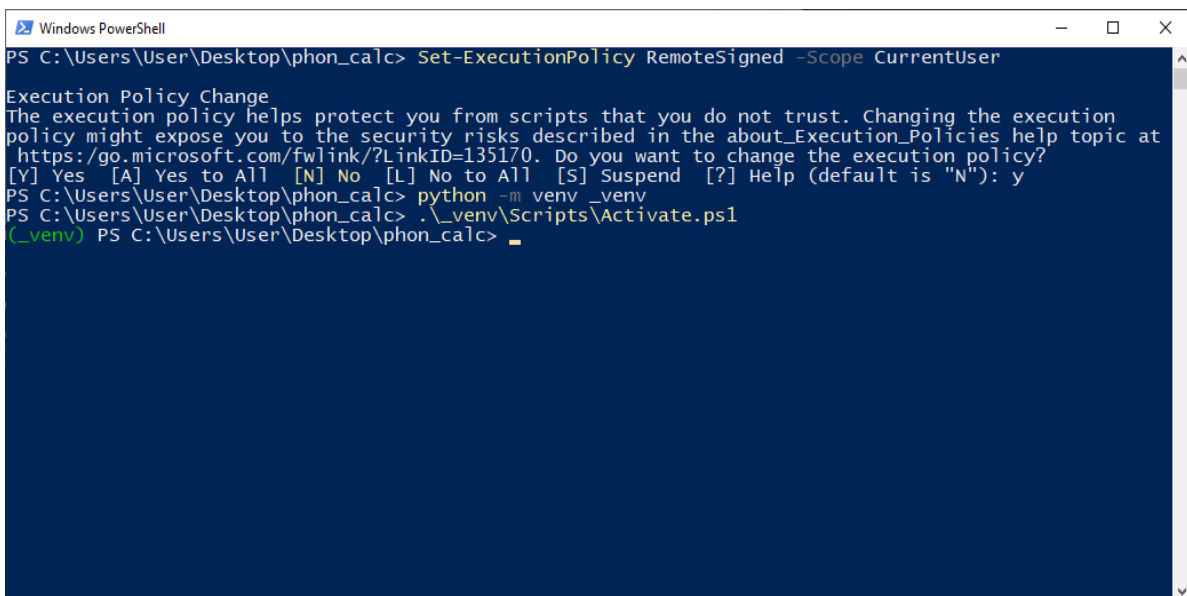


```
Windows PowerShell
PS C:\Users\User\Desktop\phon_calc> Set-ExecutionPolicy RemoteSigned -Scope CurrentUser

Execution Policy Change
The execution policy helps protect you from scripts that you do not trust. Changing the execution
policy might expose you to the security risks described in the about_Execution_Policies help topic at
https://go.microsoft.com/fwlink/?LinkID=135170. Do you want to change the execution policy?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "N"): y
PS C:\Users\User\Desktop\phon_calc> python -m venv _venv
PS C:\Users\User\Desktop\phon_calc>
```

6. After a while, the command ends, and the new environment is created. You can activate it by the following command:

`._venv\Scripts\Activate.ps1`



```
Windows PowerShell
PS C:\Users\User\Desktop\phon_calc> Set-ExecutionPolicy RemoteSigned -Scope CurrentUser

Execution Policy Change
The execution policy helps protect you from scripts that you do not trust. Changing the execution
policy might expose you to the security risks described in the about_Execution_Policies help topic at
https://go.microsoft.com/fwlink/?LinkID=135170. Do you want to change the execution policy?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "N"): y
PS C:\Users\User\Desktop\phon_calc> python -m venv _venv
PS C:\Users\User\Desktop\phon_calc> ._venv\Scripts\Activate.ps1
(_venv) PS C:\Users\User\Desktop\phon_calc>
```

Your virtual environment is activated now, and you can continue to the next step. You will know that the environment is activated by a green text `_venv` at the beginning of the command line. Next time you open PowerShell in the folder containing the script, you need to start with the command stated in step 6 again.

Installation of required libraries

The script requires installation of several libraries. This can be easily done by a command from the script folder. **Steps 1 and 2 are required only if you did not create the virtual environment or if you closed the PowerShell window.**

1. Open the folder with the script.
2. Click "File" in the menu and choose "Start Windows PowerShell environment". A PowerShell window will open, and it will be set for the script folder.
3. Run the following command by which you will install required libraries:

```
pip install -r requirements.txt
```

Python will download and install the libraries. When it finishes, it will take you back to the previous command line. At this moment, everything is ready for the script execution.

Script execution

When all the required libraries are installed, you can run the script.

1. Open the folder with the script.
2. Click "File" in the menu and choose "Start Windows PowerShell environment". A PowerShell window will open, and it will be set for the script folder.
3. If you prepared the virtual environment, you should activate it first by the following command

```
.\_venv\Scripts\Activate.ps1
```
2. You can run the script via commands described at ... or in the readme.txt file located in the script folder.