

Ensure you can connect to matrix before proceeding here.

See the "CP4P_Visual-Studio-demo.pdf" file

> "Transfer, Compile, and Test on matrix"

> Connection Requirements.

Matrix, a Linux (unix) server, uses a [command-line](#) character/text-based user interface.

Commands are entered from the keyboard to the local or remote computer.

Your OS has built-in command line utilities to connect from your computer to servers.

The command line is accessed from a "[terminal](#)" which can be started in Windows or macOS by launching "Terminal".

Visual Studio or Visual Studio Code > menu > View > Terminal [Ctrl + `]

shows the Developer PowerShell terminal where you can input the same commands to access matrix.

One time only: create a directory (mkdir) on matrix for your C source files.

> `ssh seneca_user_id@matrix.senecacollege.ca`

[case matters on Linus/Unix OS, when in doubt use lower case]

seneca_user_id@matrix.senecacollege.ca's password: `*****`

\$ `mkdir Csource` (make a directory called "Csource". *note the upper-case C*)

\$ `chmod 700 Csource` (changes default security so no one else can access your files)

\$ `logout`

Transfer a C source file

> `cd "C:\Users\user\source\repos\ProjectName"` [full path to folder with .c file]

When you "Configure your new project" in Visual Studio,

check the box to "Place solution and project in the same directory" to avoid the next step...

PS C:\Users\user\source\repos\ProjectName> `ls *.c -r`

If you see this,

Directory: C:\Users\user\source\repos\ProjectName

then skip down to running the `scp` command.

If you see this,

Directory: C:\Users\user\source\repos\ProjectName\ProjectName

then change to the sub-directory

PS C:\Users\user\source\repos\ProjectName> `cd ProjectName`

Run Secure Copy Protocol (scp) to transfer the source code file with -verbose option.

> `scp -v *.c [TAB key]` [TAB tells system to find any file with a .c extension.
Repeat to see more .c files.]

> `scp -v .\helloWorld.c` [then add user@host:dir]

> `scp -v .\helloWorld.c seneca_user_id@matrix.senecacollege.ca:Csource`

seneca_user_id@matrix.senecacollege.ca's password: `*****`

Compile a C source file

```
> ssh seneca_user_id@matrix.senecacollege.ca
```

```
seneca_user_id@matrix.senecacollege.ca's password: *****
```

```
[seneca_user_id@mtrx-node03pd ~]$ cd Csource
```

```
[seneca_user_id@mtrx-node03pd ~]$ gcc -Wall helloWorld.c -o helloWorld
```

Run a C program

```
[seneca_user_id@mtrx-node03pd ~]$ ./helloWorld
```

```
Hello, World!
```

```
This is Quidam here. My story is ...
```

```
[seneca_user_id@mtrx-node03pd ~]$ logout
```

```
> exit
```