

What to do after installation of Julia and VS Code?

Assuming that you were able to install Julia and VS Code, here is what you could try to do next.

(1) Create a directory for the workshop

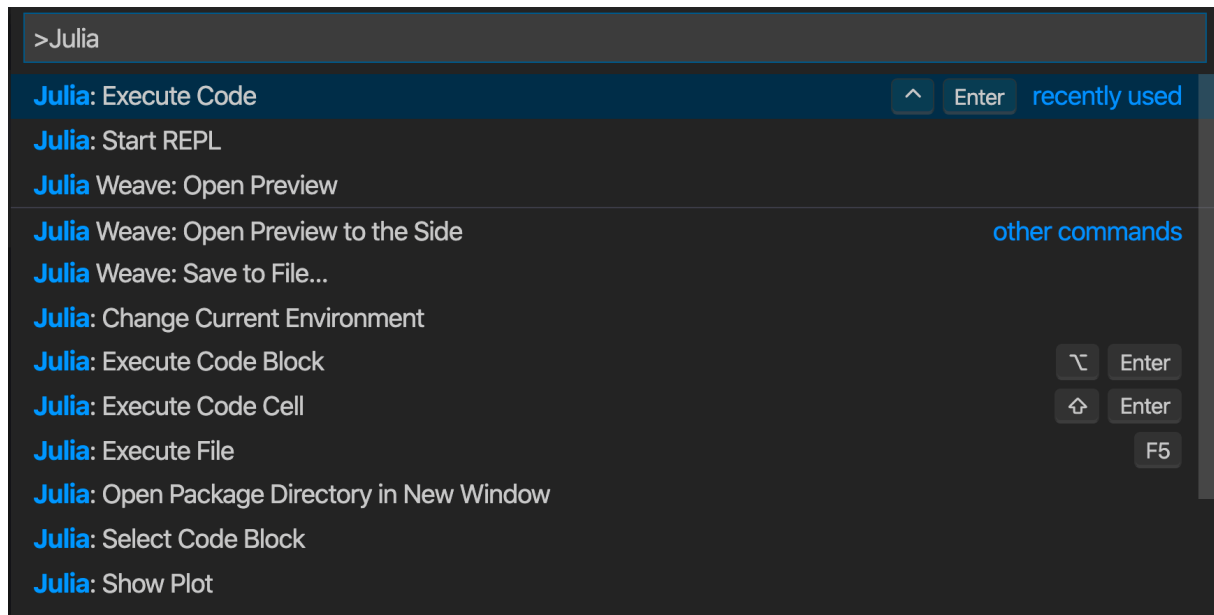
(2) Copy the two attached files in this directory (MRK17_Exp1_rk00.jmd, MRK17_Exp1_xtra.csv)

(3) Start VS Code

(4) File > Open MRK17_Exp1_rk00.jmd

This is a julia markdown file. We use such scripts to weave HTML / PDF reports of the analyses.

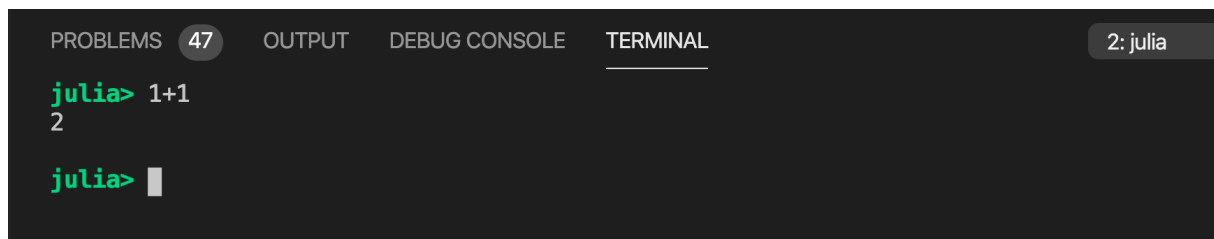
(5) **Cmd-Shift-P** (MacOS) or **Cntrl-Shift-P** (Windows) opens a panel with commands (see screen shot). This is probably the most useful command when you start out with the VSCode IDE. Enter Julia in search field:



If Julia commands don't show up you need to install the Julia Extension for VSCode. In this case see (10) below or come back to me. In principle, the Julia Extension should be pre-installed globally. Above are some of the Julia commands available. You can always select them from here until you know or define your own key shortcuts.

(6) Select **Julia: Start REPL**

This opens a terminal /shell with the **Julia>** prompt



This means that everything is fine. Now you can work interactively with Julia.

(7) We need to make sure that Julia is “looking” at your “smlp2020” directory. Enter **pwd()** at the Julia> prompt. Do you see the correct directory? In this case it does not; it sees the home directory. Therefore, we need to change the directory. One option is to change the directory with the following command: **;cd Documents/smlp2020**). The “;” before the command switches the prompt from **julia>** to **shell>** where the **cd** command is understood. Enter **pwd()** again shows the correct directory.

```
julia> pwd()
"/Users/reinholdkliegl"

shell> cd Documents/smlp2020
/Users/reinholdkliegl/Documents/smlp2020

julia> pwd()
"/Users/reinholdkliegl/Documents/smlp2020"
```

(8) We need to add a few packages to your installation, i.e., the equivalent of *install.packages()* in R. For this we switch to Pkg mode by entering “J” at the **julia>** prompt changing the prompt to **(@v1.5) pkg>**. We recommend that we generate a Julia environment in this directory by simply entering the command **activate**. Then we add the packages needed for this example with **add Weave, CSV, DataFrames, MixedModels** as shown in the next screenshot. (Also included is what happens if you mistype a package name.)

```
(@v1.5) pkg> activate
Activating environment at `~/julia/environments/v1.5/Project.toml`

(@v1.5) pkg> add Weave, CSV, DateFrames, MixedModels
Updating registry at `~/julia/registries/General`
Updating git-repo `https://github.com/JuliaRegistries/General.git`
ERROR: The following package names could not be resolved:
* DateFrames (not found in project, manifest or registry)

(@v1.5) pkg> add Weave, CSV, DataFrames, MixedModels
Resolving package versions...
No Changes to `~/julia/environments/v1.5/Project.toml`
No Changes to `~/julia/environments/v1.5/Manifest.toml`
```

To return from the package mode **(@v1.5) pkg>** to the Julia mode **julia>** press the <delete> key.

(9) Now you can execute commands from the jmd file. Put the cursor at the beginning of a code line (or select several code lines; don’t include Markdown lines), use **Cmd-Enter**(MacOS) or **Cntrl-Enter** (Windows). The output appears in the TERMINAL window. This works fine for all the commands in the file.

(10) You can also weave the entire markdown file into an HTML with the following two commands in the REPL.

```
julia> using Weave

julia> weave("MRK17_exp1_rk00.jmd", doctype="md2html")
r Info: Weaving chunk 1 from line 10
l progress = 0.0
r Info: Weaving chunk 2 from line 16
l progress = 0.25
r Info: Weaving chunk 3 from line 28
l progress = 0.5
r Info: Weaving chunk 4 from line 36
l progress = 0.75
r Info: Weaved all chunks
l progress = 1
[ Info: Report weaved to MRK17_exp1_rk00.html
"/Users/reinholdkliegl/Documents/smlp2020/MRK17_exp1_rk00.html"
```

Give it a try with an example from your own research. **Have fun!**