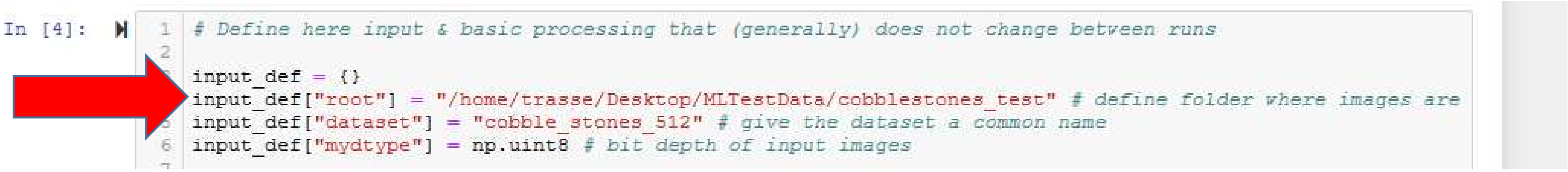
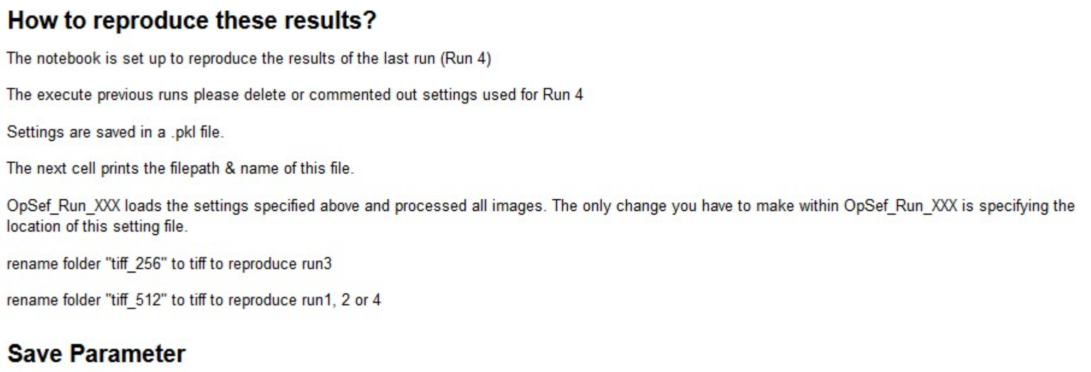
1) Download repository
2) Download data from https://owncloud.gwdg.de/index.php/s/nSUqVXkkfUDPG5b
3) Install environment
4) Execute OpSeF_IV_Configure_001.ipynb (only once after installation)
5) Open any demo notebook
6) Define the path, where you put the data: input_def["root"] & execute notebook



```
# Define here input & basic processing that (generally) does not change between runs

input_def = {}
input_def["root"] = "/home/trasse/Desktop/MLTestData/cobblestones_test" # define folder where images are
input_def["dataset"] = "cobble_stones_512" # give the dataset a common name
input_def["mydtype"] = np.uint8 # bit depth of input images
```

In some examples notebooks you need to modify the data-folder before proceeding to the next step. Each demo-notebook has a section that explains how:



How to reproduce these results?

The notebook is set up to reproduce the results of the last run (Run 4)

The execute previous runs please delete or commented out settings used for Run 4

Settings are saved in a .pkl file.

The next cell prints the filepath & name of this file.

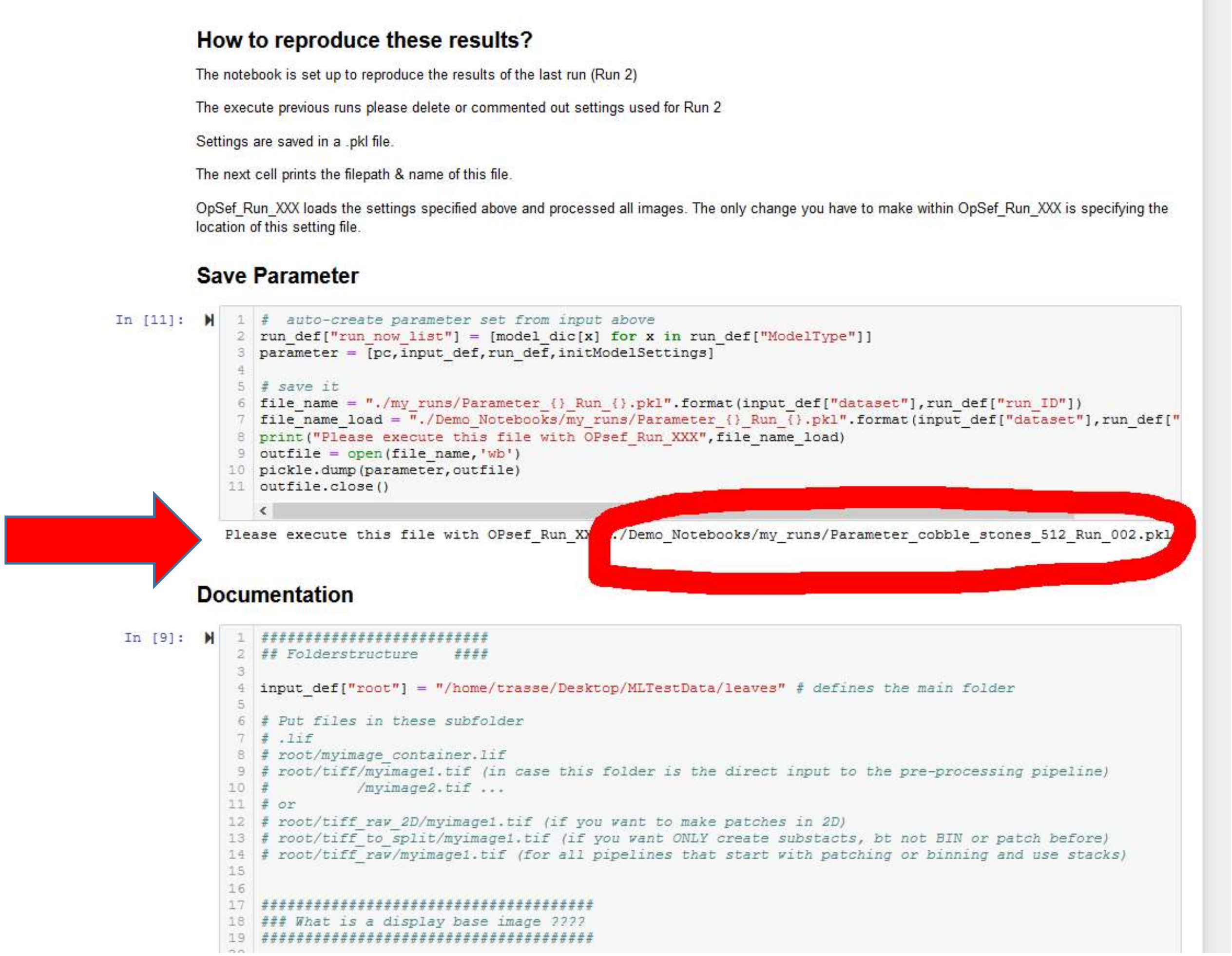
OpSef_Run_XXX loads the settings specified above and processed all images. The only change you have to make within OpSef_Run_XXX is specifying the location of this setting file.

rename folder "tiff_256" to tiff to reproduce run3

rename folder "tiff_512" to tiff to reproduce run1, 2 or 4

Save Parameter

7) Copy this file-path:



How to reproduce these results?

The notebook is set up to reproduce the results of the last run (Run 2)

The execute previous runs please delete or commented out settings used for Run 2

Settings are saved in a .pkl file.

The next cell prints the filepath & name of this file.

OpSef_Run_XXX loads the settings specified above and processed all images. The only change you have to make within OpSef_Run_XXX is specifying the location of this setting file.

Save Parameter

In [11]:

```
#  auto-create parameter set from input above
run_def["run_now_list"] = [model_dic[x] for x in run_def["ModelType"]]
parameter = [pc,input_def,run_def,initModelSettings]

# save it
file_name = "./my_runs/Parameter_{}_Run_{}.pkl".format(input_def["dataset"],run_def["run_ID"])
file_name_load = "./Demo_Notebooks/my_runs/Parameter_{}_Run_{}.pkl".format(input_def["dataset"],run_def["
print("Please execute this file with OPsef_Run_XXX",file_name_load)
outfile = open(file_name,'wb')
pickle.dump(parameter,outfile)
outfile.close()
```

```
Please execute this file with OPsef_Run_XXX ./Demo_Notebooks/my_runs/Parameter_cobble_stones_512_Run_002.pkl
```

Documentation

In [9]:

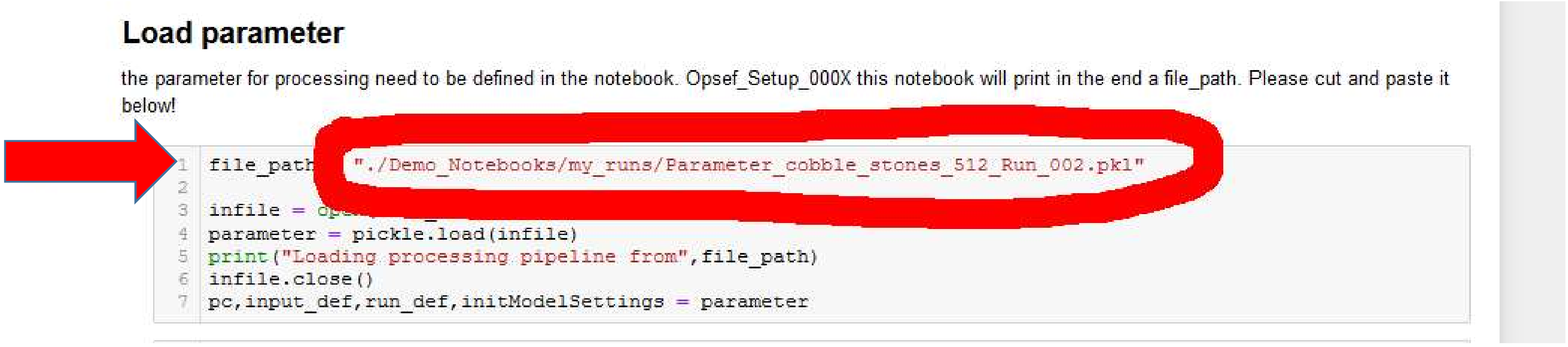
```
##########################
## Folderstructure    ####

input_def["root"] = "/home/trasse/Desktop/MLTestData/leaves" # defines the main folder

# Put files in these subfolder
# .lif
# root/myimage_container.lif
# root/tiff/myimage1.tif (in case this folder is the direct input to the pre-processing pipeline)
#           /myimage2.tif ...
# or
# root/tiff_raw_2D/myimage1.tif (if you want to make patches in 2D)
# root/tiff_to_split/myimage1.tif (if you want ONLY create substacts, bt not BIN or patch before)
# root/tiff_raw/myimage1.tif (for all pipelines that start with patching or binning and use stacks)


#######################################
### What is a display base image ????
#######################################
```

8) Open OpSeF_IV_Run_001.ipynb and paste the file-path generated in 7) here



Load parameter

the parameter for processing need to be defined in the notebook. Opsef_Setup_000X this notebook will print in the end a file_path. Please cut and paste it below!

```
file_path  "./Demo_Notebooks/my_runs/Parameter_cobble_stones_512_Run_002.pkl"

infile = op
parameter = pickle.load(infile)
print("Loading processing pipeline from",file_path)
infile.close()
pc,input_def,run_def,initModelSettings = parameter
```