Installing plan4EU requires to :

* first install the p4r-env environment (container) (see [CERL / Plan4Res / p4r-env · GitLab](https://gitlab.com/cerl/plan4res/p4r-env) )
* then install the ‘add-ons’, ie the softwares :
  + StOpt (see [Stochastic Control / StOpt · GitLab](https://gitlab.com/stochastic-control/StOpt)) : stochastic optimisation library used for solving the SSV problem
  + SMS++ (see [SMS++ / The SMS✛✛ Project · GitLab](https://gitlab.com/smspp/smspp-project)) : modelling and optimisation library including the 3 main solvers of plan4EU
  + Formatting tool (except if you are creating the NetCDF input data files in the format required by SMS++ on your own) ; this tool creates input data file with the format required by SMS++ taking into input user friendly CSV and XLSX files

## Instal p4r-env

### New instal

1. Choose an empty directory (eg P4R)
2. If a former install of p4r exsts, clean :

p4r-env/bin/p4r -c

delete p4r-env directory

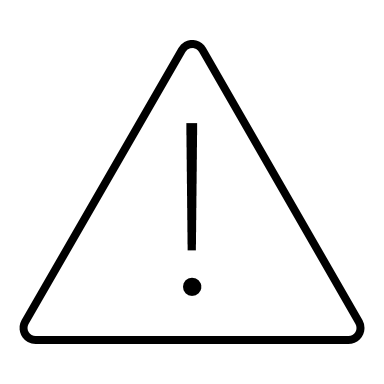
1. Download p4r-env:

git clone --recursive <https://gitlab.com/cerl/plan4res/p4r-env.git>

1. cd p4r-env
2. bin/p4r

### Update existing Instal

1. cd p4r-env
2. bin/p4r

 bin/p4r downloads an updated SIF image, whose size is very big, and can thus take a long time…

bin/p4r -t checks if the install is ok

## instal Add-ons : StOpt, SMS++ and formatting tool

In order to run plan4EU you need to install :

* StOpt
* SMS++ which will create the 3 executables for the CEM, SSV and EUC models

You may also instal the Formatting tool, which will create Netcdf input files for SMS++ out of excel and csv input data files

### SMS++

SMS++ uses its own solving libraries as well as external libraries for solving linear problems. It is able to use both Cplex or Skip. In case you are using cplex for solving LPs, you first need to copy your cplex installer file in the p4r\_env directory, and ensure your cplex licence is ok.

StOpt must be installed first.

1. Install StOpt :

bin/p4r add-on stopt

1. Install SMS++ :

bin/p4r add-on sms++

see [SMS++ / The SMS✛✛ Project · GitLab](https://gitlab.com/smspp/smspp-project) for more options.

### Formatting Tool

bin/p4r add-on trsf