

Follow the steps to install the planner optic-cplex using the terminal:

```
kpb20194@pd-michae2: ~/bin
kpb20194@ssh:~$ mkdir bin
kpb20194@ssh:~$ cd Downloads
kpb20194@ssh:~/Downloads$ unzip optic-cplex.zip
Archive:  optic-cplex.zip
  inflating: optic-cplex
kpb20194@ssh:~/Downloads$ mv optic-cplex ~/bin/optic-cplex
kpb20194@ssh:~/Downloads$ cd ~/bin
kpb20194@ssh:~/bin$ chmod +x optic-cplex
kpb20194@ssh:~/bin$ optic-cplex
OPTIC: Optimising Preferences and Time-Dependant Costs
By releasing this code we imply no warranty as to its reliability
and its use is entirely at your own risk.

Usage: optic-cplex [OPTIONS] domainfile problemfile [planfile, if -r specified]

Options are:

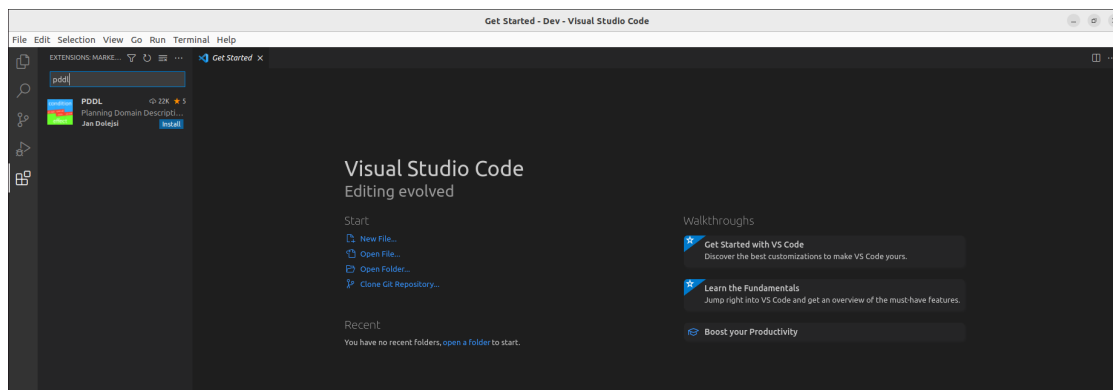
  -N      Don't optimise solution quality (ignores preferences and costs);
  -O      Abstract out timed initial literals that represent recurrent windows;
  -n<lim> Optimise solution quality, capping cost at <lim>;

  -citation  Display citation to relevant papers;
  -b         Disable best-first search - if EHC fails, abort;
  -E         Skip EHC: go straight to best-first search;
  -e         Use standard EHC instead of steepest descent;
  -h         Disable helpful-action pruning;
  -k         Disable compression-safe action detection;
  -c         Enable the tie-breaking in RPG that favours actions that slot into the partial order earlier;
  -S         Sort initial layer facts in RPG by availability order (only use if using -c);
  -m         Disable the tie-breaking in search that favours plans with shorter makespans;
  -F         Full FF helpful actions (rather than just those in the RP applicable in the current state);
  -r         Read in a plan instead of planning;
  -T         Rather than building a partial order, build a total-order
  -v<n>      Verbose to degree n (n defaults to 1 if not specified).
  -L<n>      LP verbose to degree n (n defaults to 1 if not specified).

kpb20194@ssh:~/bin$
```

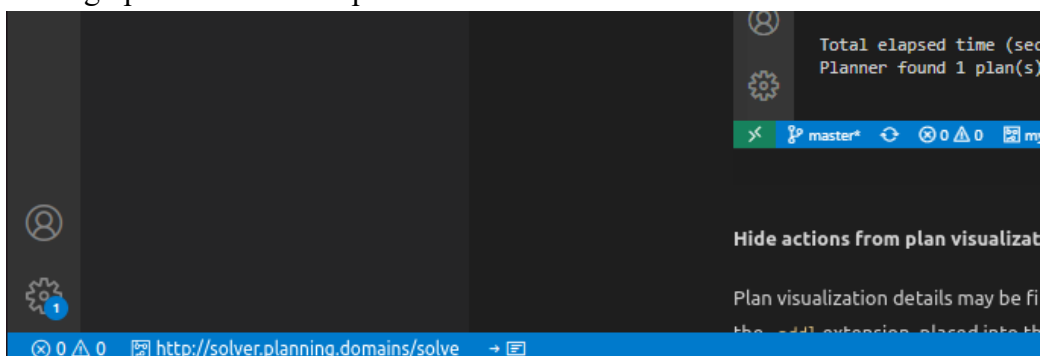
Open VSCode, click on the extensions in the toolbar on the right, search for PDDL and hit install.

Once

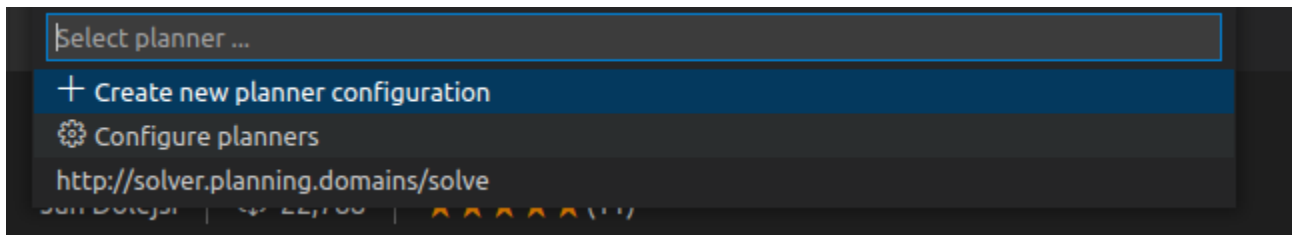


installed, you should see a blue bar at the bottom. Click on “<https://solver.planning.domains/solve>”. This should bring up a menu at the top of the screen.

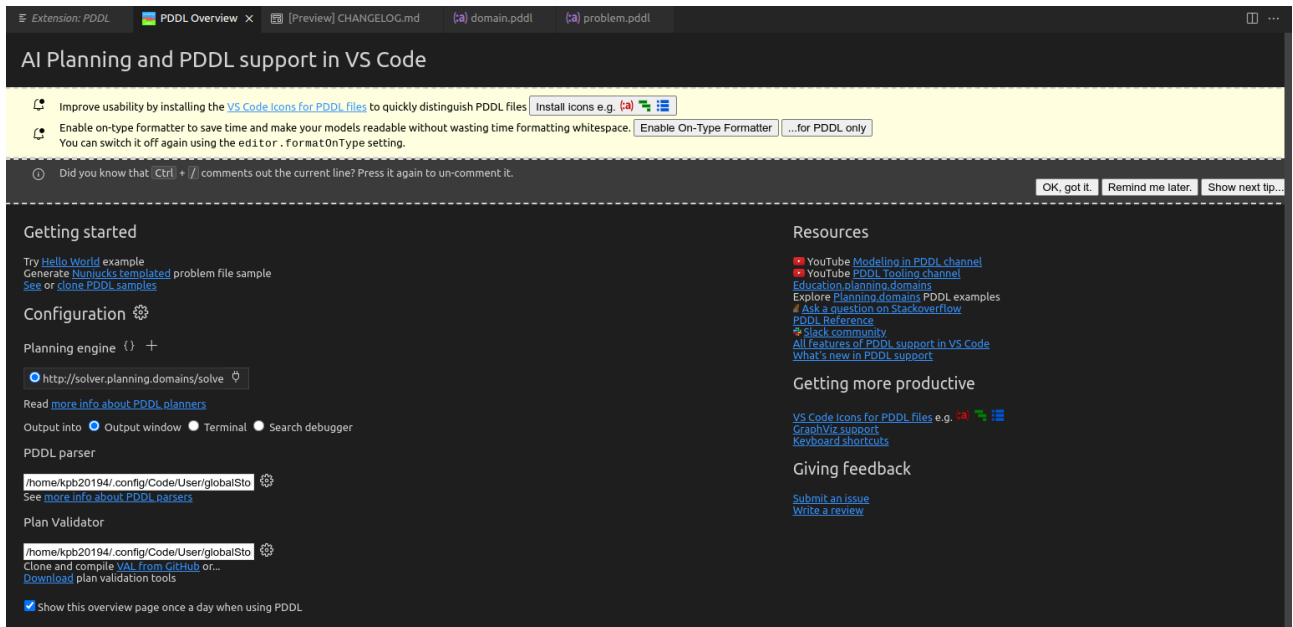
Hit



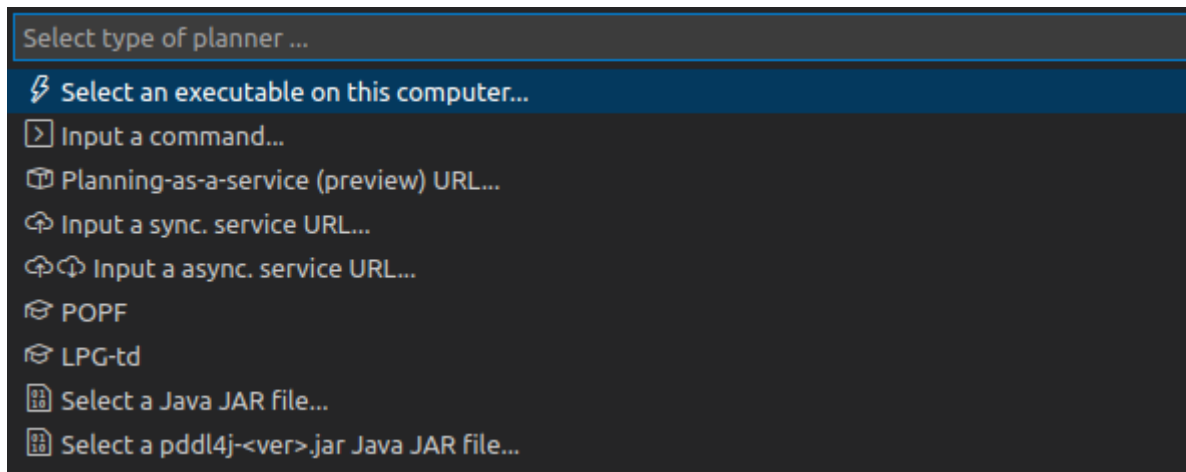
“Configure planners”.



This should bring the following screen up:



Next to Planning engine hit the + and press Select an executable on this computer.

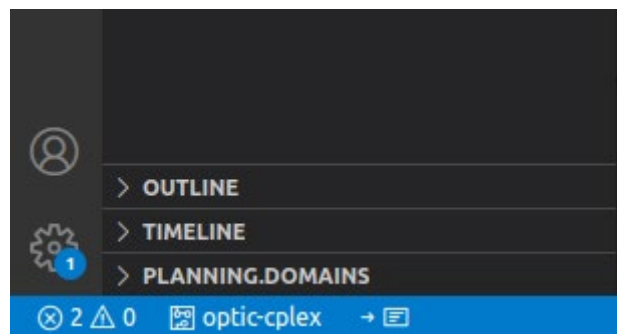


Navigate to Home/bin and select optic-cplex.

After this
vscode
should
be

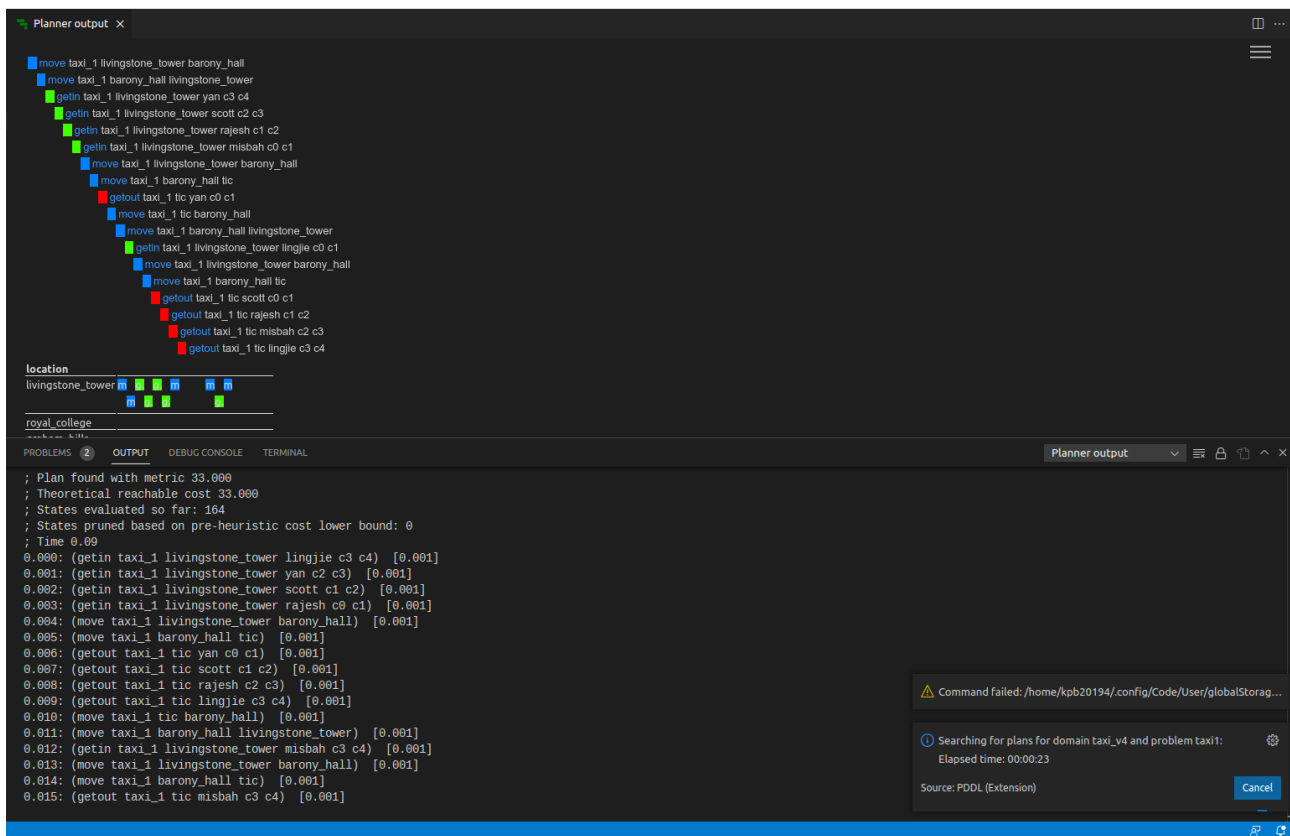


configured to use optic-cplex. At the blue bar at the bottom you can select optic-cplex.

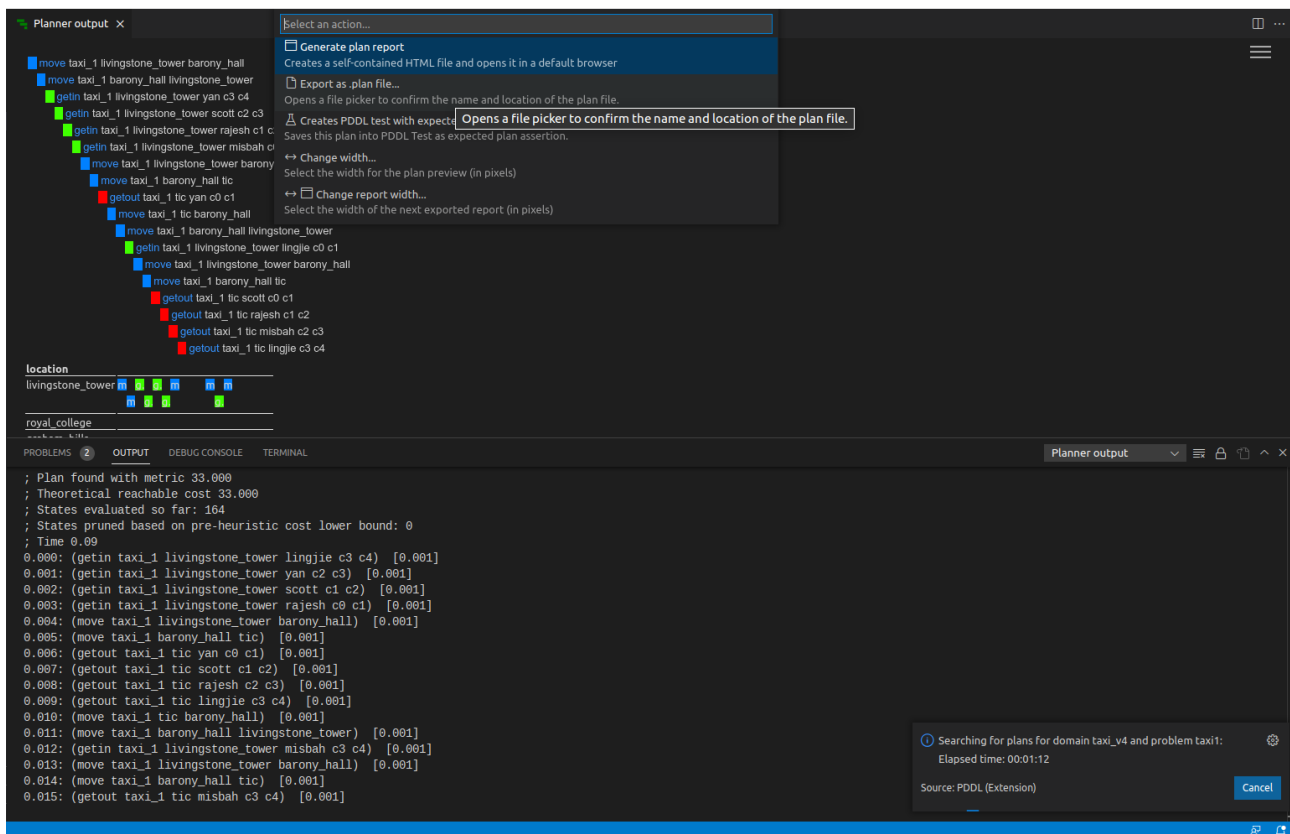


Provided you have a valid PDDL problem and domain file if you have the problem file open in vscode you can simply type alt+p to invoke the planner.

The planner output should then be something like this:



You can save the plan as a pddl .plan file by clicking the three bars in the top right and clicking “export as a .plan file”



You should now have a plan as below:

cs823 > taxi_prob.plan

```
1  ;;!domain: taxi_v4
2  ;;!problem: taxi1
3
4  0.00000: (move taxi_1 livingstone_tower barony_hall) [0.00100]
5  0.00100: (move taxi_1 barony_hall livingstone_tower) [0.00100]
6  0.00200: (getin taxi_1 livingstone_tower yan c3 c4) [0.00100]
7  0.00300: (getin taxi_1 livingstone_tower scott c2 c3) [0.00100]
8  0.00400: (getin taxi_1 livingstone_tower rajesh c1 c2) [0.00100]
9  0.00500: (getin taxi_1 livingstone_tower misbah c0 c1) [0.00100]
10 0.00600: (move taxi_1 livingstone_tower barony_hall) [0.00100]
11 0.00700: (move taxi_1 barony_hall tic) [0.00100]
12 0.00800: (getout taxi_1 tic yan c0 c1) [0.00100]
13 0.00900: (move taxi_1 tic barony_hall) [0.00100]
14 0.01000: (move taxi_1 barony_hall livingstone_tower) [0.00100]
15 0.01100: (getin taxi_1 livingstone_tower lingjie c0 c1) [0.00100]
16 0.01200: (move taxi_1 livingstone_tower barony_hall) [0.00100]
17 0.01300: (move taxi_1 barony_hall tic) [0.00100]
18 0.01400: (getout taxi_1 tic scott c0 c1) [0.00100]
19 0.01500: (getout taxi_1 tic rajesh c1 c2) [0.00100]
20 0.01600: (getout taxi_1 tic misbah c2 c3) [0.00100]
21 0.01700: (getout taxi_1 tic lingjie c3 c4) [0.00100]
22
23 ; Makespan: 0.018000000000000002
24 ; Metric: 43
25 ; States evaluated: 50
```