

How to install optimization libraries for Python 3.7:

1. Go to www.anaconda.org and type cplex in the search window.
2. You will get to the following page:

The screenshot shows the Anaconda Cloud search results for the query 'cplex'. At the top, there is a navigation bar with the Anaconda Cloud logo and links for Gallery, About, Anaconda, Help, Download Anaconda, and Sign In. Below the navigation bar is a red banner stating 'You must login to search private packages'. The search bar contains the text 'CPLEX' and a magnifying glass icon. Below the search bar is a 'Filters' section with three dropdown menus: 'Type: All', 'Access: All', and 'Platform: All'. The main content area displays a table of search results. The table has columns for 'Favorites', 'Downloads', 'Package (owner / package)', and 'Platforms'. There are two results listed. The first result is for the package 'cplex' version 12.8, owned by 'IBMDDecisionOptimization'. It has 0 favorites and 7642 downloads. The description is 'The IBM CPLEX Community Edition runtime for Python'. The platforms listed are linux-64, linux-ppc64le, osx-64, and win-64. The second result is for the package 'docplex' version 2.9.141, also owned by 'IBMDDecisionOptimization'. It has 3 favorites and 7577 downloads. The description is 'The IBM Decision Optimization CPLEX Modeling for Python'. The platforms listed are linux-64, linux-ppc64le, osx-64, and win-64.

Favorites	Downloads	Package (owner / package)	Platforms
0	7642	IBMDDecisionOptimization / cplex 12.8 The IBM CPLEX Community Edition runtime for Python	linux-64 linux-ppc64le osx-64 win-64
3	7577	IBMDDecisionOptimization / docplex 2.9.141 The IBM Decision Optimization CPLEX Modeling for Python	linux-64 linux-ppc64le osx-64 win-64

3. You can choose either one. Click on the **cplex** to get to the page where the command for download and installation is displayed.

IBMDecisionOptimiz... / packages / cplex 12.8



The IBM CPLEX Community Edition runtime for Python

Conda

Files

Labels

Badges

License: Unspecified

Home: <https://onboarding-oas.doccloud.ibmcloud.com/software/analytics/doccloud/>

7642 total downloads

Last upload: 7 months and 29 days ago

Installers

conda install ?

linux-ppc64le v12.8

linux-64 v12.8

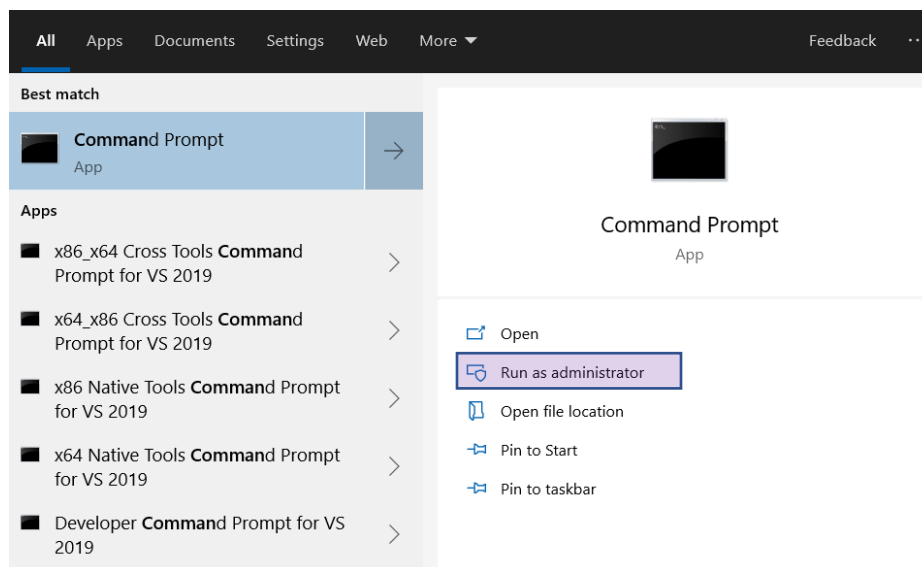
osx-64 v12.8

win-64 v12.8

To install this package with conda run:

```
conda install -c ibmdecisionoptimization cplex
```

4. Copy and paste this command into a text editor and save it.
5. Open a terminal (on Macs) or command Prompt (Windows) with administrative privileges



6. Use conda command to make a new environment called optimization (or any name you wish to call your optimization environment). For conda cheat sheet please refer to the following link:

https://docs.conda.io/projects/conda/en/latest/_downloads/1f5ecf5a87b1c1a8aaf5a7ab8a7a0ff7/conda-cheatsheet.pdf

```
conda create -n optimization python=3 pip
```

*It is important to include pip at the end of the command to install pip within the new environment otherwise your installation of libraries in the new environment could impact the base environment of Python.

7. Check a list of your environments then activate your optimization environment

```
conda env list (to get the list of your current environments. The new environment should appear in the list)
```

```
conda activate optimization (to activate optimization environment)
```




8. You can now install the cplex and other optimization packages in this newly created environment. (use the command you copied into the text editor to install the module)

```
conda install -c ibmdecisionoptimization cplex
```

9. Install the following libraries in the optimization environment:


```
conda install -c gurobi gurobi
```


Gurobi / packages / gurobi 8.1.1





Version 8.1.1 of the Gurobi Optimizer

Conda	Files	Labels	Badges
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 Home: <http://www.gurobi.com>


 129499 total downloads


 Last upload: 3 months and 22 days ago


Installers

conda install 

 linux-64 v8.1.1

 win-32 v7.5.2

 win-64 v8.1.1

 osx-64 v8.1.1

To install this package with conda run:

```
conda install -c gurobi gurobi
```

```
conda install -c anaconda cvxopt
```

anaconda / packages / **cvxopt** 1.2.0



Convex optimization package

Conda	Files	Labels	Badges
<p> License: GPL 3</p> <p> Home: http://cvxopt.org</p> <p> 16687 total downloads</p> <p> Last upload: 7 days and 10 hours ago</p>			

Installers

conda install





- linux-64 v1.2.0
- win-32 v1.2.0
- osx-64 v1.2.0
- linux-32 v1.2.0
- win-64 v1.2.0

To install this package with conda run:

```
conda install -c anaconda cvxopt
```







```
conda install -c conda-forge pulp
```

conda-forge / packages / pulp 1.6.8

5

PuLP is an LP modeler written in python. PuLP can generate MPS or LP files and call GLPK, COIN CLP/CBC, CPLEX, and GUROBI to solve linear problems.





Conda	Files	Labels	Badges
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 License: MIT
 Home: <https://github.com/coin-or/pulp>
 Development: <https://github.com/coin-or/pulp>
 Documentation: <https://pythonhosted.org/PuLP/>
 24767 total downloads
 Last upload: 9 months and 10 days ago

Installers

Info: This package contains files in non-standard labels.

conda install ?

 linux-64 v1.6.0
 win-32 v1.6.0
 win-64 v1.6.0
 osx-64 v1.6.0

To install this package with conda run one of the following:

```
conda install -c conda-forge pulp
```

```
conda install -c conda-forge/label/cf201901 pulp
```

These are the key optimization libraries we will need for this course, however, if you want to try other libraries/packages the process is the same. First find the package on Anacond.org and look for the installation commands on the corresponding page.