Installation Manual Python

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FCN | Future Energy Consumer Needs and Behavior

E.ON Energy Research Center

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Agenda

1. Introduction
2. Installation of Anaconda
3. Gurobi license
4. Testing the installation
5. Potential errors

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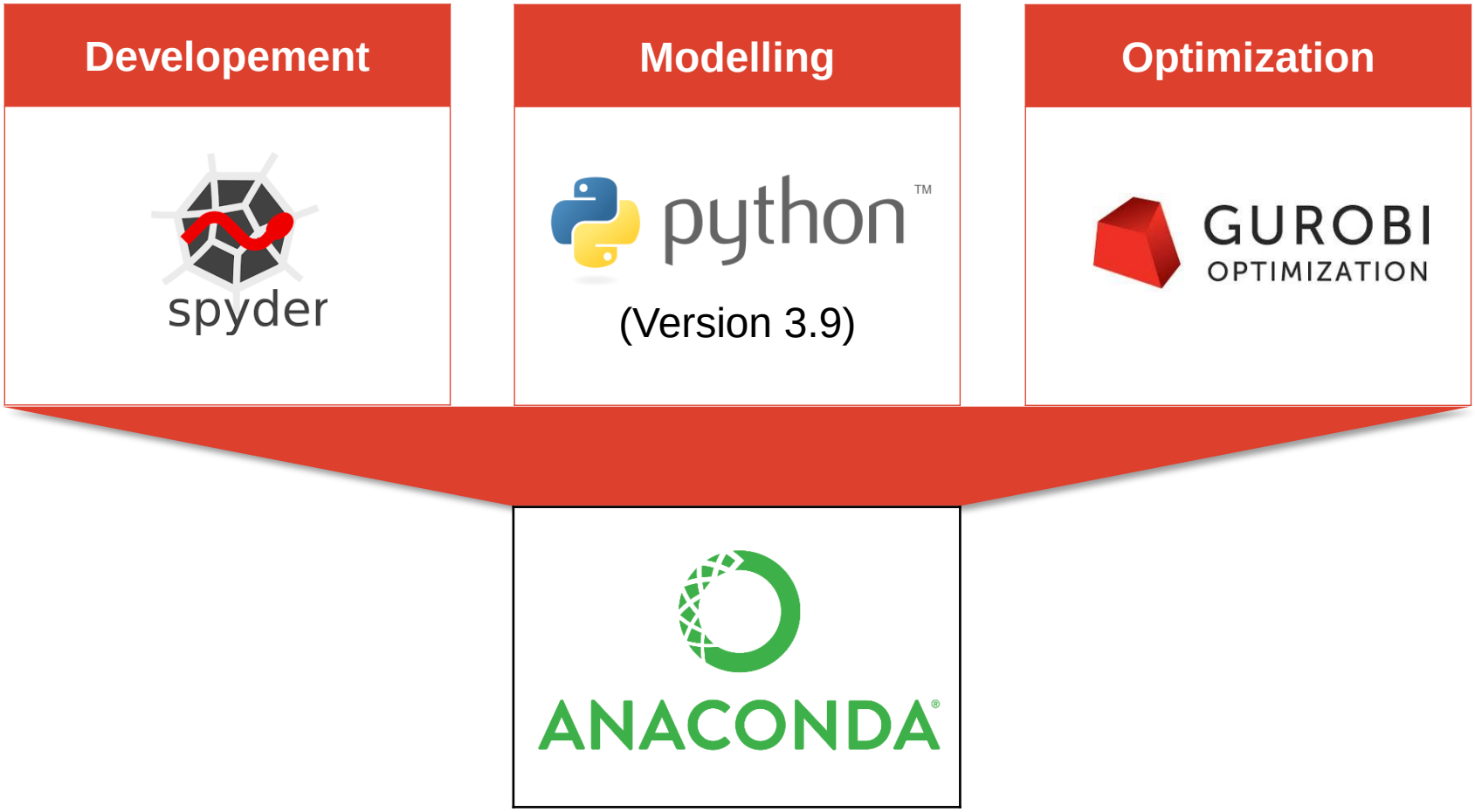
Required Components



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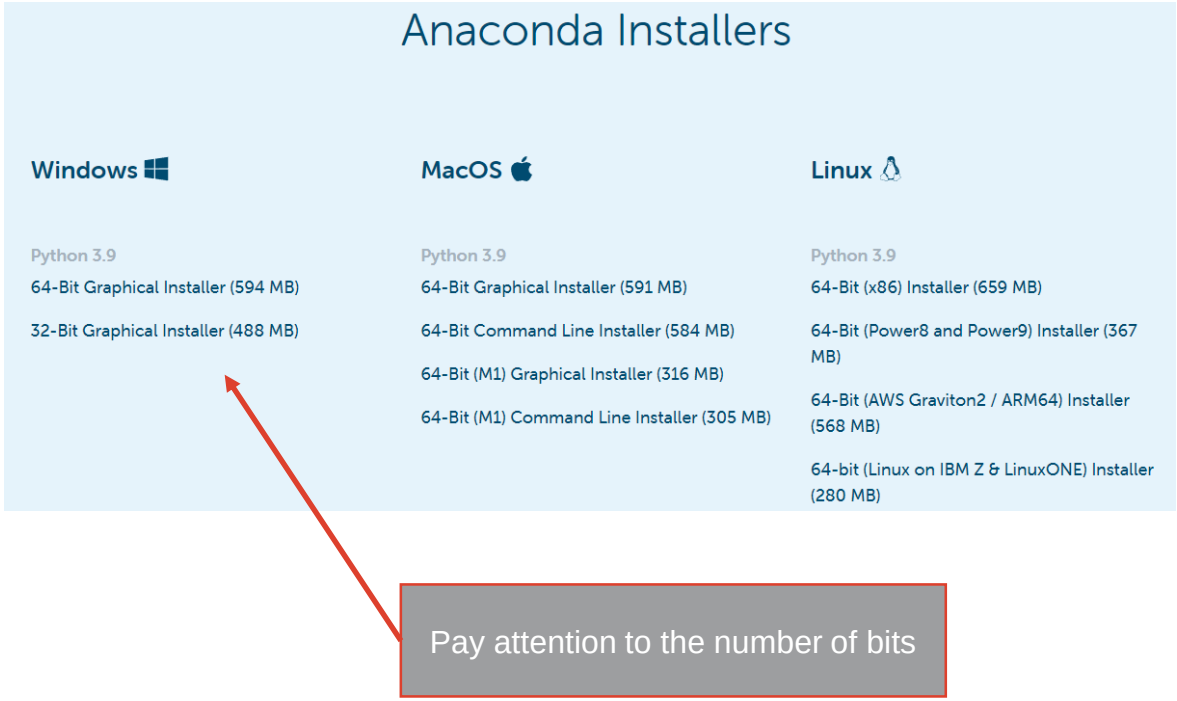
Anaconda: Download

- Visit this website: https://www.anaconda.com/products/individual
- Select the appropriate Graphical Installer for your operating system at the bottom of the page
- Make sure you know how many bits (32/64) your operating system has. Information on this can be found here: Windows



Anaconda: Download

Windows & Mac

- Run the downloaded installation file
- Follow the installation instructions. All settings can be kept unchanged.
- Accept the download when asked by typing "y" and clicking Enter

Linux

- Change the directory to the folder where you saved the downloaded installation file
- Run the following command:

```
bash Anaconda3-5.3.0-Linux-x86_64.sh
```

- You have now successfully installed (among others) the Anaconda Navigator and the Anaconda Prompt under Windows

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Anaconda: Installing Gurobi

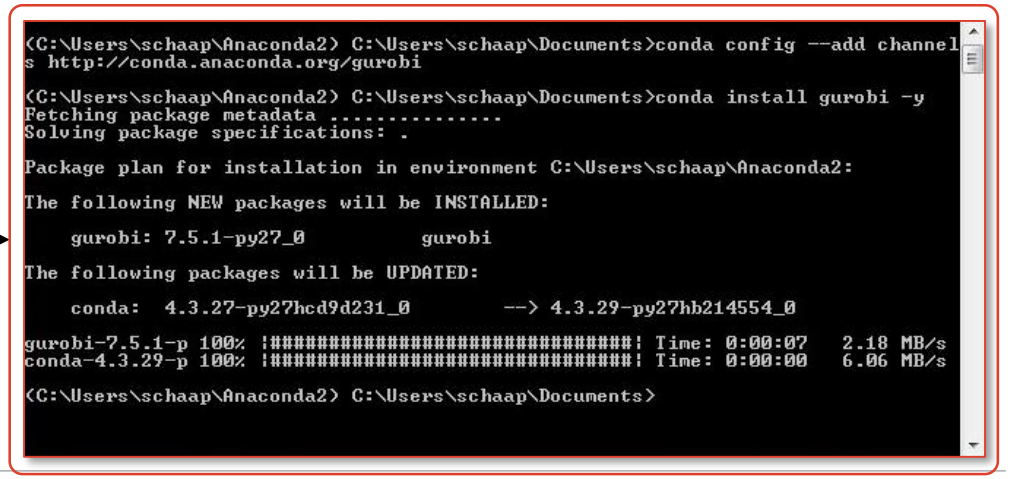
- Python and Spyder are already included in the installation of Anaconda. The Gurobi package still needs to be installed.
- To do this, start the Anaconda prompt or a terminal in the bin folder for Linux & Mac.
- Add the Gurobi channel to the package search list by entering the following command in the Anaconda prompt and pressing Enter:

```
conda config --add channels http://conda.anaconda.org/gurobi
```

- Install the Gurobi package by entering the following command in the Anaconda prompt and confirming with "y" Enter. An Internet connection is required.

```
conda install gurobi
```

The output should look something like this



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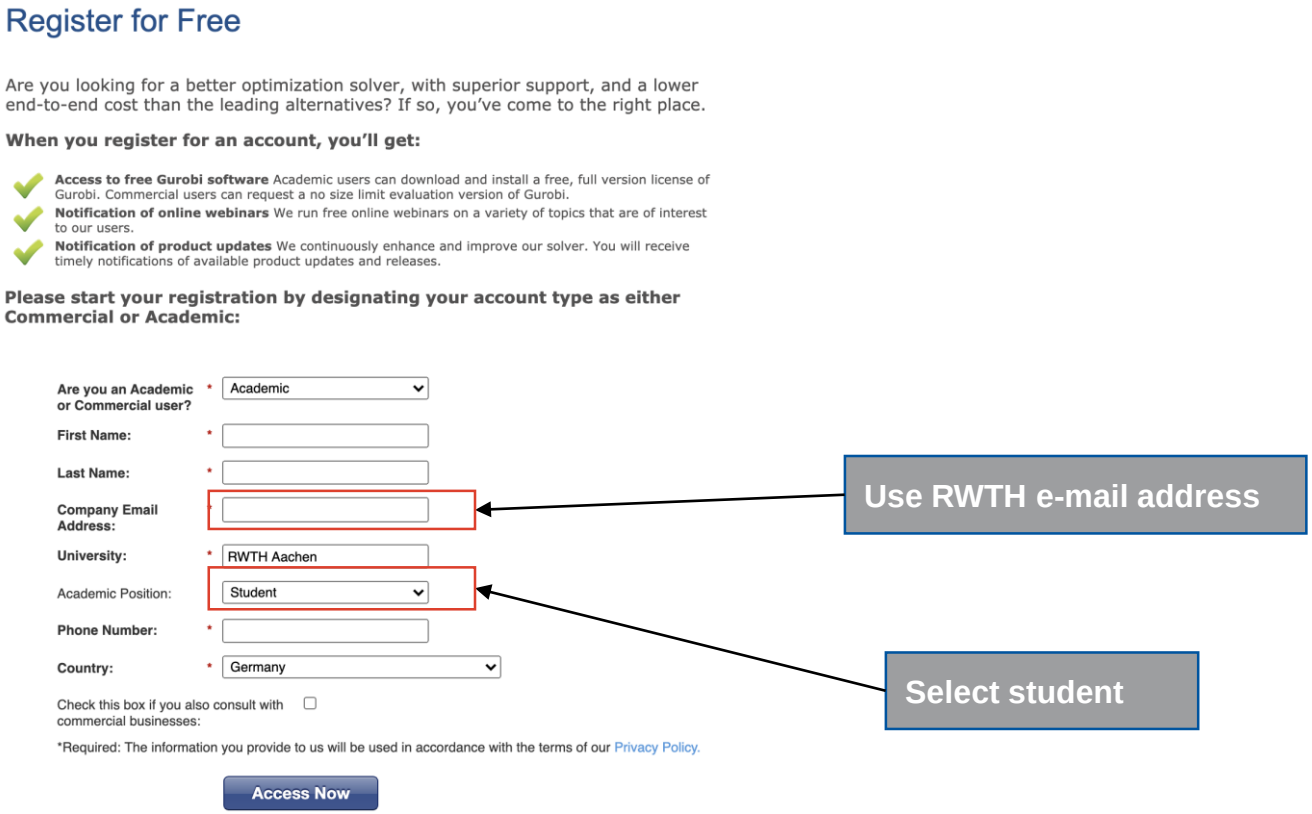
Creating an Account

- A license is required to use Gurobi
- Register here for free as an academic user
- Follow the instructions below



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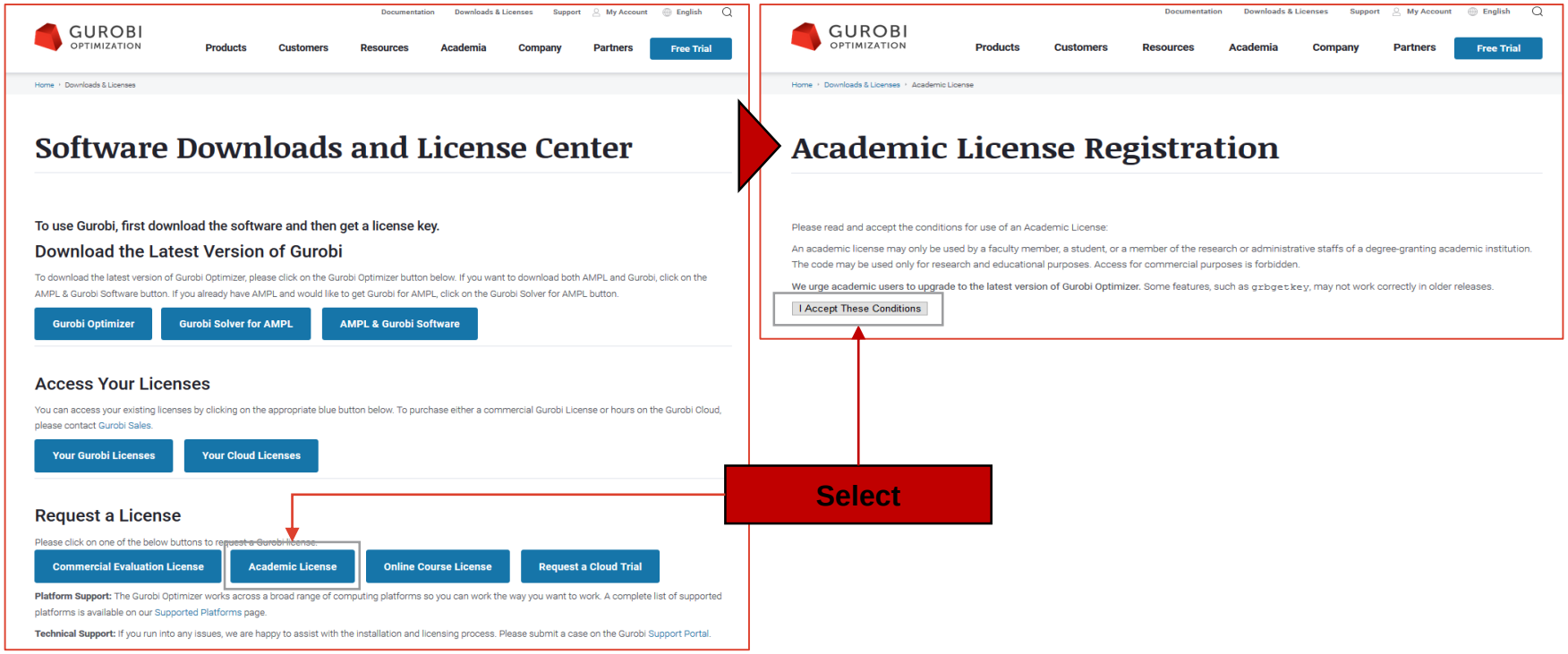
Creating an Account

- You will now receive an email to your RWTH address. Follow the instructions to complete the account creation.
- To ensure that the following links lead to the correct pages, you should be logged in for the following steps
- The license can now be finally applied for here



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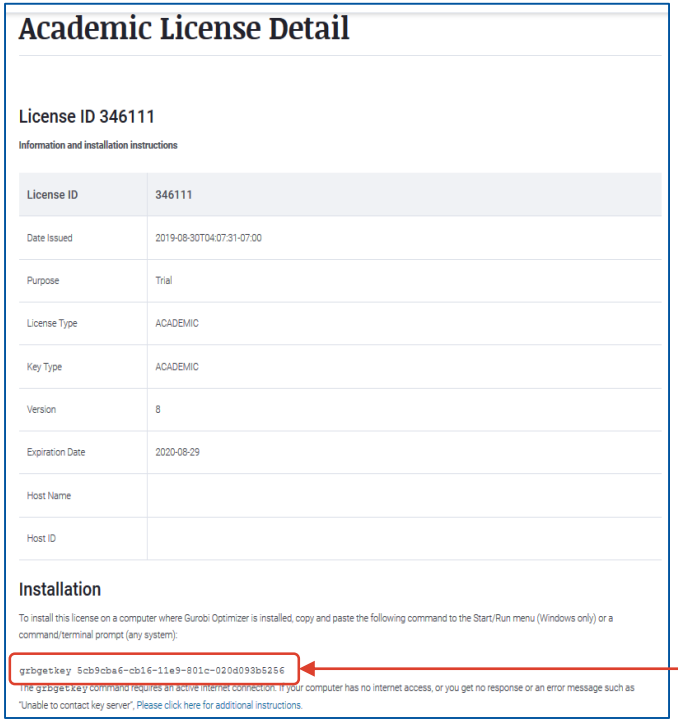
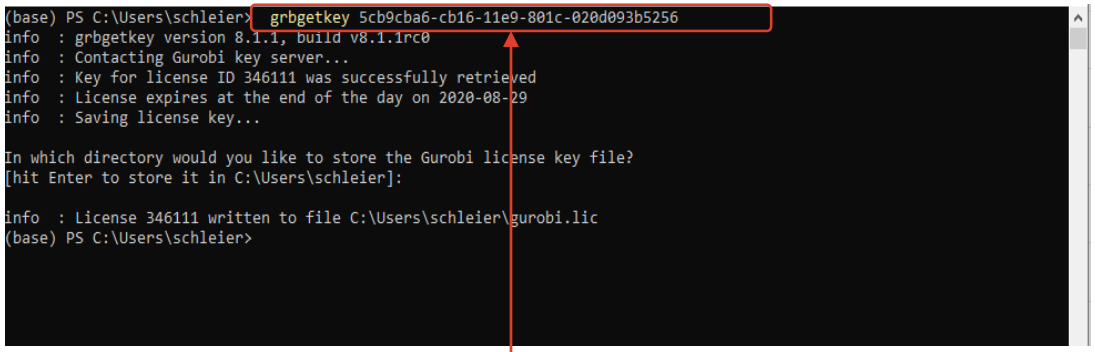
Verify license

- Attention! The license can only be verified via Eduroam or VPN (description of how to set up a VPN channel can be found here)
- Copy the Grbgetkey command and run it in the Anaconda prompt (Windows) or Terminal (Linux & Mac):
- To avoid problems, you should use the suggested location





Copy Grbgetkey command

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Testing the Installation

- Download the file "test_file.py" from the Moodle learning room
- Start Spyder (this may take a few seconds! For macOS via the Anaconda navigator)
- In Spyder, open the downloaded file " test_file.py" and run it with "F5". You should get an output of the following form:

```
Academic license - for non-commercial use only
Optimize a model with 0 rows, 0 columns and 0 nonzeros
Coefficient statistics:
  Matrix range     [0e+00, 0e+00]
  Objective range  [0e+00, 0e+00]
  Bounds range     [0e+00, 0e+00]
  RHS range        [0e+00, 0e+00]
Presolve time: 0.16s
Presolve: All rows and columns removed
Iteration    Objective       Primal Inf.    Dual Inf.      Time
       0    0.0000000e+00   0.000000e+00   0.000000e+00      0s

Solved in 0 iterations and 0.17 seconds
Optimal objective  0.000000000e+00
```

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Potential Errors

- If the installation of Anaconda fails, this may be due to the installation path and the username it may contain. If this contains spaces, umlauts or special characters, a different directory should be selected so that neither spaces, umlauts nor special characters are contained.

- Under macOS it is necessary to open Anaconda to access Spyder

- If the execution of `conda config --add channels http://conda.anaconda.org/gurobi` fails (due to typos etc.) the installation will fail. The address is stored in C:\User\[username]\.condarc. In case of doubt, the file can be deleted so that a new one is created automatically.

Contact

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