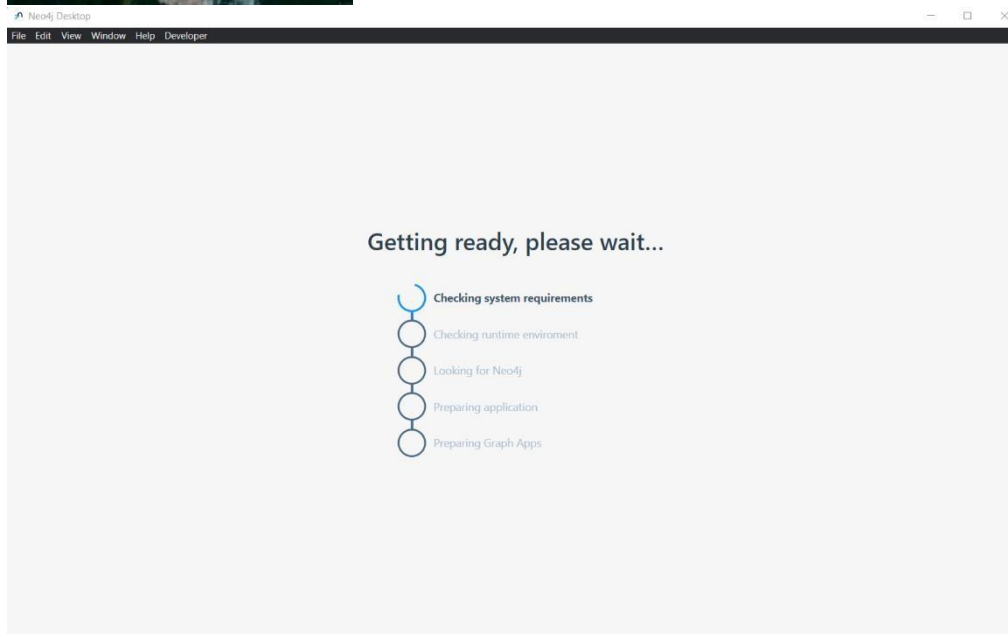


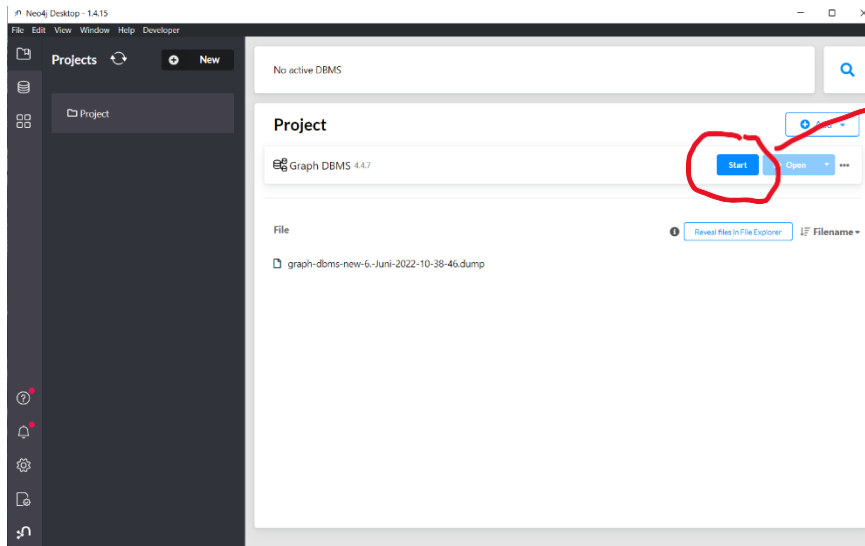
Quick-Start Guid:

1. Start the Neo4J Desktop Instance

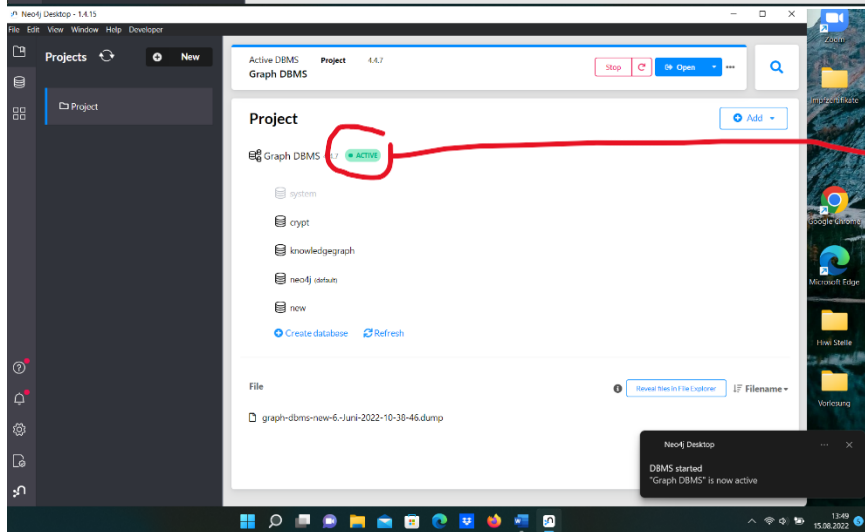
Double-click with the left mouse button on the "Neo4j Desktop" Symbol



A white window will occur. There will happens some processes in the background. Please wait some time



Once everything goes right, this window will open. To start your database system please click on the blue „Start“ - button

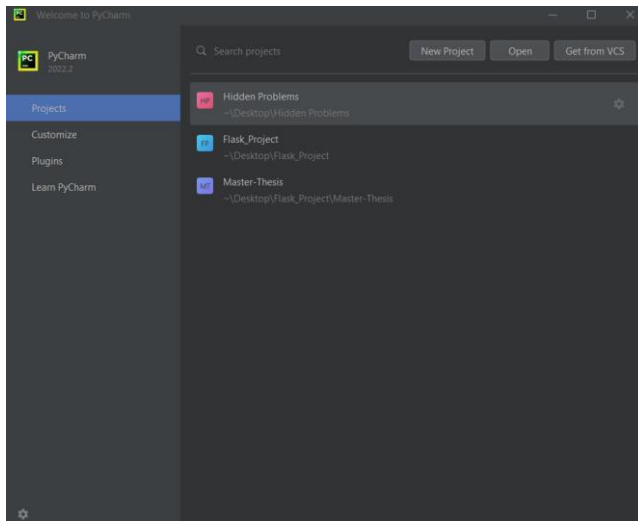


If you see a similar overview with the green „Activate“ property -then your database is successfully started. You can just minimize the window.

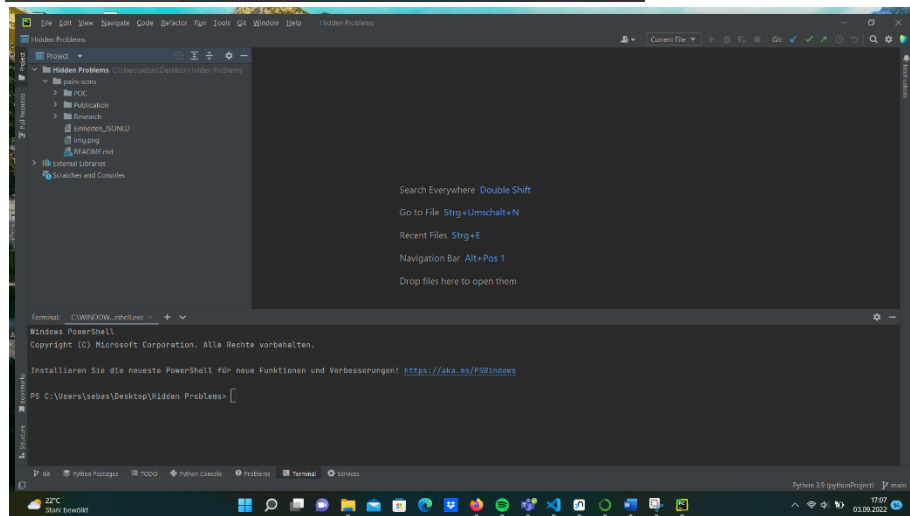
2. Start the development environment „Pycharm Community“



To start the development environment please double-click with the left mouse-button on that symbol.



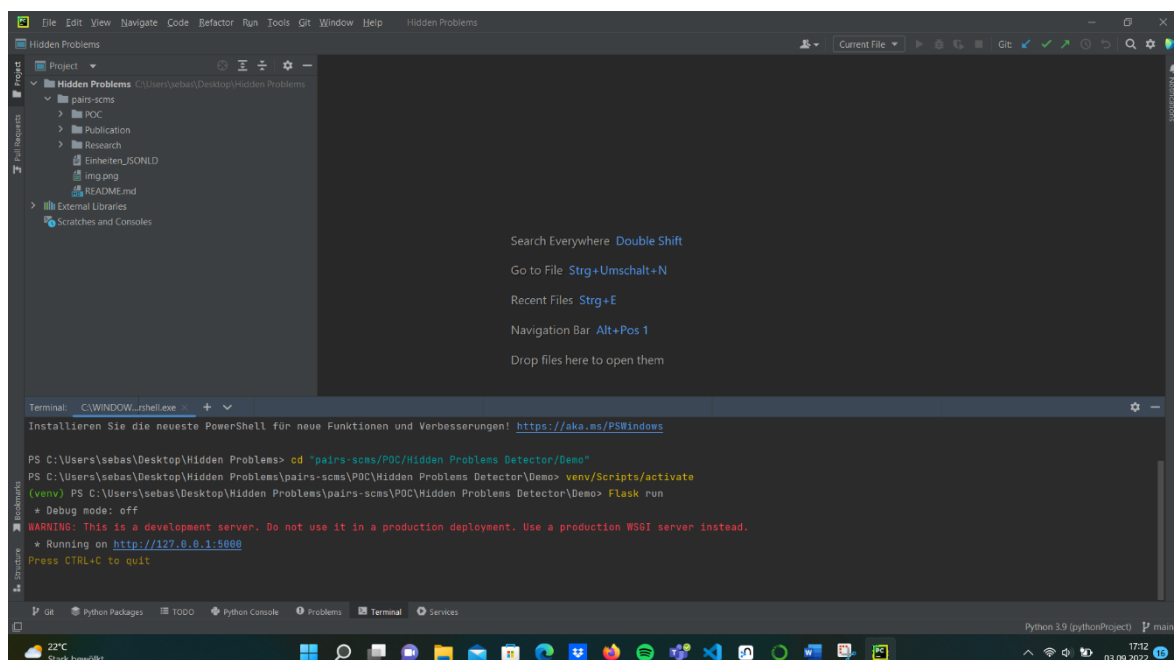
It can happen that you have to choose the project, which should be opened. In your case please select the folder in which you cloned the “pairs-scms” repository

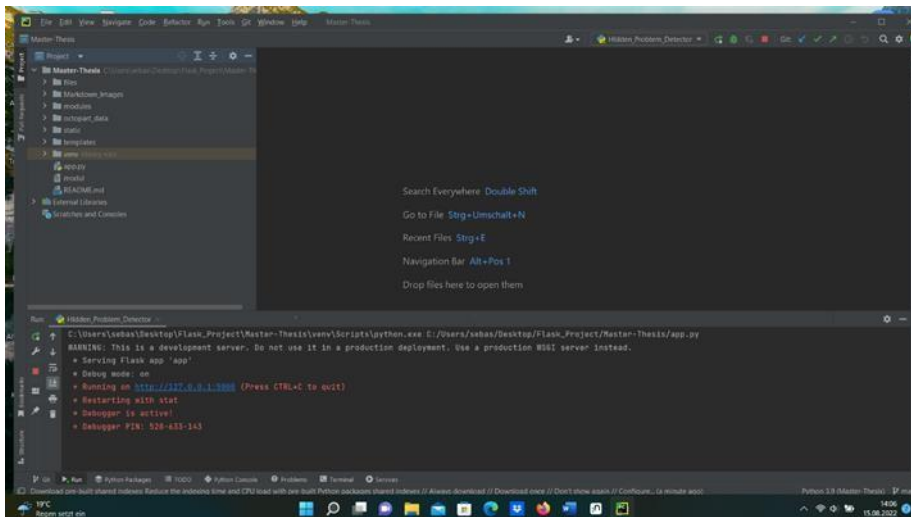


After selecting the folder you see the repository overview.

To start the Demonstrator, please type the following commands into the Terminal:

1. `cd "pairs-scms/POC/Hidden Problems Detector/Demo"`
2. `venv/Scripts/activate`
3. `Flask run`





The development environment opens a console. With an URL

Click on that URL

1. Build a Data-Graph 2. Enrich the Graph with market information 3. Calculate Node Similarity 4. Analyze the Graph

Hidden Problem Detector

An graph-based approach to detect problems in the extended supply-chain

General Idea

Today's component-based supply chains include participants from all over the world. The increasing complexity and length of the chain leads to intransparency, which means that emerging problems are not noticed in time. A graph-based approach can increase transparency and analyze the supply chain with respect to neuralgic points. The Hidden Problem Detector builds a graph and keeps historical market data so that the structure of the supply chain can be analyzed and "hidden problems" can be noticed before the problem affects the own business.

Diagram illustrating the supply chain structure and data flow:

- Nodes: Component, Manufacturer, Category, Supplier, Location, Product.
- Relationships: isPartOf, consistsOf, has, supplies, isPartOf, consistsOf.
- Data sources: Data sheets (Stücklisten), Lead times, Total availability, Prices, Time history.

A browser tab should be opened. You got it. You successfully started the Hidden Problem Detector. Feel free to interact with anything.