:: Documentation ::
Team -5

How to Run a Large Language Model (LLM) for Biological Simulations Using basico

This guide will walk you through the steps needed to set up and run a large language model (LLM) to simulate biological models (such as glycolysis) using the basico library, a web interface built with Streamlit, and an LLM to interact with your simulations.

Steps to Follow:

1. Setup Your Capsule Environment
Before running the LLM model, ensure that your environment is properly set up. Follow the detailed instructions provided in the link below to configure your capsule:

- Capsule Setup Instructions

This guide will help you:

- Install necessary tools and dependencies.
- Set up the environment for running simulations and interacting with the LLM.

2. Open a New Terminal
Once your capsule environment is set up, you need to open a terminal to start interacting with the code.

- On **Windows**: Open the Command Prompt or Windows PowerShell.
- On **macOS/Linux**: Open the Terminal application.

3. Navigate to the Code Directory
Change the directory to the location where your simulation code and Streamlit app are located.
bash
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cd /code
This will move you into the /code directory, where the main application script (streamlit_app.py) is located.

4. Run the Streamlit Application
To launch the Streamlit application (which provides a user-friendly interface for running your simulations), enter the following command:
bash
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streamlit run streamlit_app.py
This command will start the Streamlit server locally.

5. Open the Link in Your Browser
Once the Streamlit app starts running, it will generate a local URL that looks something like this:

arduino
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Local URL: http://localhost:8501
Network URL: http://<your_ip_address>:8501
Open this link in your browser to access the Streamlit interface.

6. Ask a Question to the LLM Model

You can now interact with the LLM model to run simulations. Follow these steps:

1. In the input box on the web page, type your query. For example sample description can be as :

Run the model with ID 64 for 100 minutes. Please make sure the initial concentration of Sic is 0.005.

1. Once you've typed your question, click on the **"Ask a question"** button to run the LLM model. For example sample question can be as :

which species has maximum dynamics other than time ?

The LLM will interpret your request, run the model simulation with the specified parameters, and display the results, including a time-course simulation plot, species concentrations, and other outputs.