

neo4j graphsummit

Workshop Preparation

Preparation for the Graph Summit Workshops

Thank you for your interest in the Graph Summit Workshops. To ensure the best experience, we would encourage you to prepare for the sessions by following the contents of this document.

There are two workshops, and you can find checklists below to follow for whichever one you have chosen to attend (you can change your mind!)

You will need a Neo4j Database to work with in either workshop, and there are two ways to get that setup. Neo4j Sandbox provides a free online database instance that will expire within 3 days. Neo4j Desktop is an application that will run on your laptop, doesn't expire and can subsequently be used for development.



If you are using the Sandbox option, you will need to do this within 3 days of the workshop to ensure it doesn't expire beforehand, and you will need to be able to access port 7687 through your machine. Desktop has no constraints and can be setup as early as you want.



If you have any problems with the instructions in this document, at each Graph Summit there is an 'Ask the Experts' area where you can feel free to ask any questions and get help.

Checklists

Please use these to ensure you are all setup for the workshop you are interested in.

Checklist – Architecting Innovative Graph Applications

<i>Either</i> Setup Environment in Aura Free	
<i>or</i> Setup Environment in Sandbox	
<i>Or</i> Setup Environment in Desktop	
Graph Applications Workshop - Ingest	

Checklist – Enabling GenAI Breakthroughs with Knowledge Graphs

<i>Either</i> Setup Environment in Sandbox	
<i>Or</i> Setup Environment in Desktop	
GenAI Workshop - Colab	

Aura Free

This section gives instructions on how to setup the Neo4j Aura Free environment ready for use with the workshop.



If you *already* have an Aura Free environment, it will be wiped for the workshop. If you are not happy with that, please use either the Sandbox or Desktop instructions.



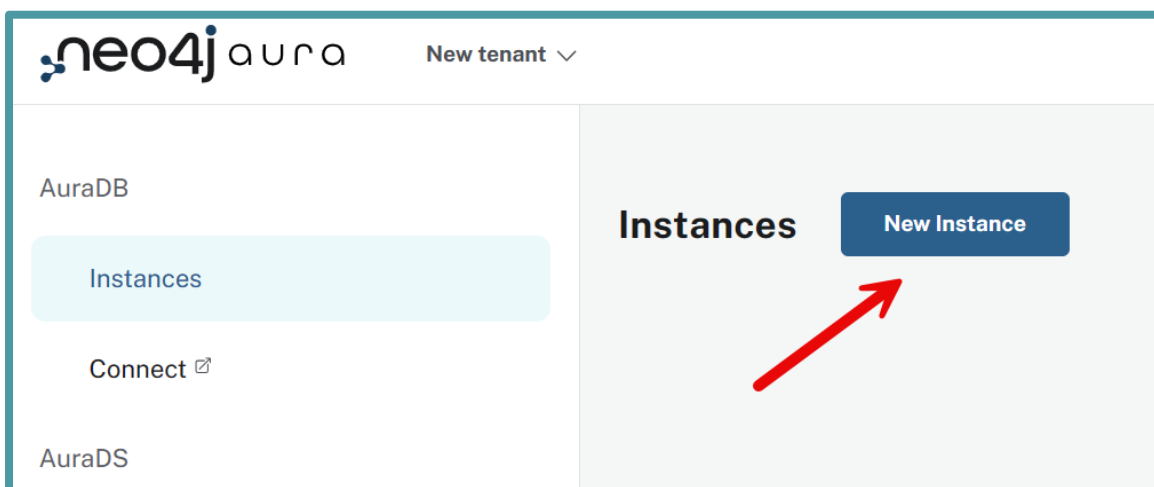
Neo4j Aura is *ONLY* able to be used with the Architecting Innovative Graph Applications workshop

1. Open the link to Neo4j Aura: <https://console.neo4j.io>



<https://console.neo4j.io>

2. Select 'New Instance'



3. Choose 'Create Free instance'

Create an AuraDB instance

Instance type:

Free

For small development projects, learning, experimentation, and prototyping

Create Free instance

1 GB / instance

200K nodes, 400K relationships

✓

One on-demand only

Automatic after 3 days of inactivity

On-demand

—

—

GCP

Professional

For medium-scale applications in advanced development or production environments

Select Professional instance

up to 64 GB / instance

Unlimited

✓

Daily scheduled and on-demand

On-demand

On-demand

✓

✓

GCP, AWS, Azure

Memory

Graph size

Graph tools ⓘ

Snapshots ⓘ

Pause ⓘ

Resume ⓘ

Clone ⓘ

API ⓘ


Cloud provider options

4. Copy the password (Download and Continue)

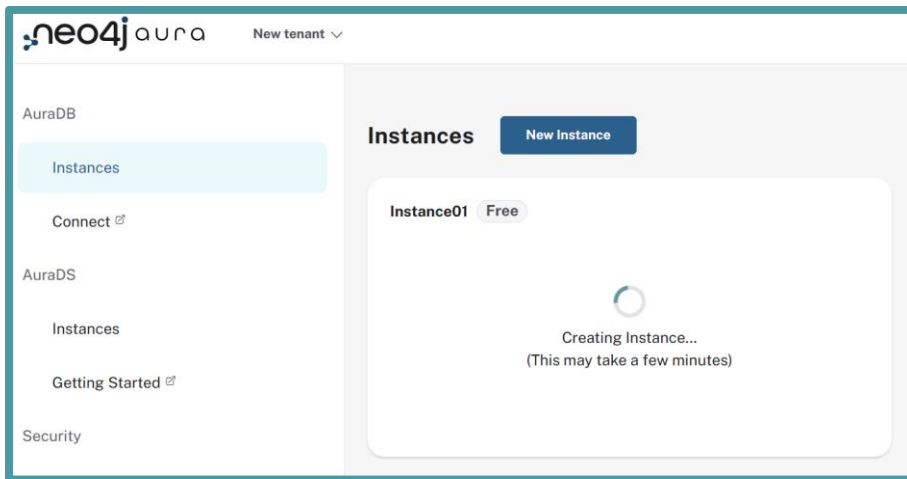
Credentials for Instance01

Username: neo4j

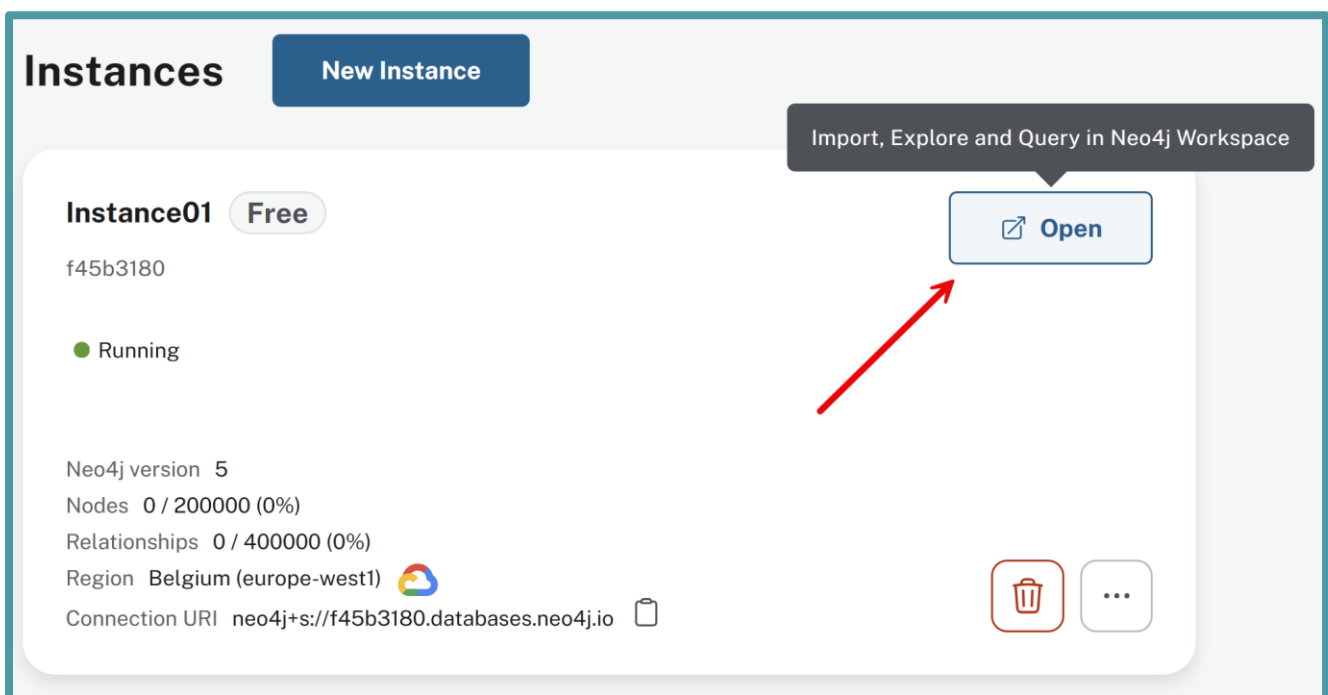
Generated password

 Note that the password will not be available after this point.

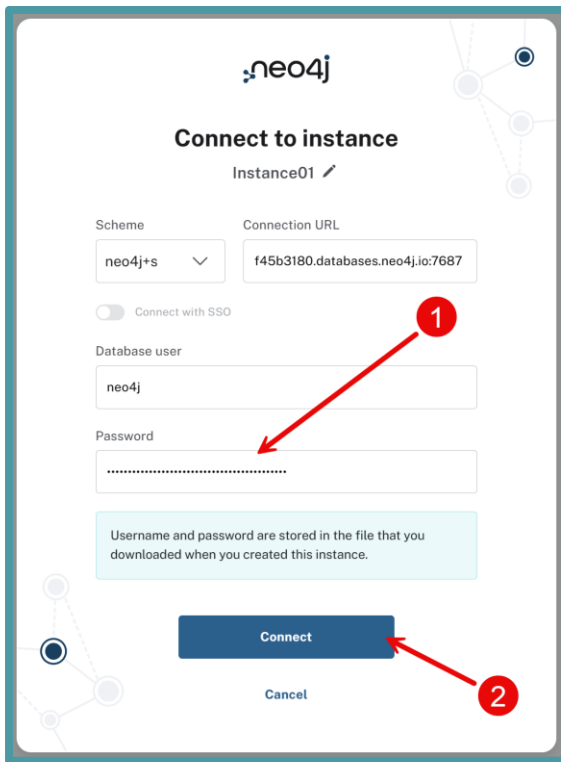
5. Wait for the instance to be created



6. Press the 'Open' button:

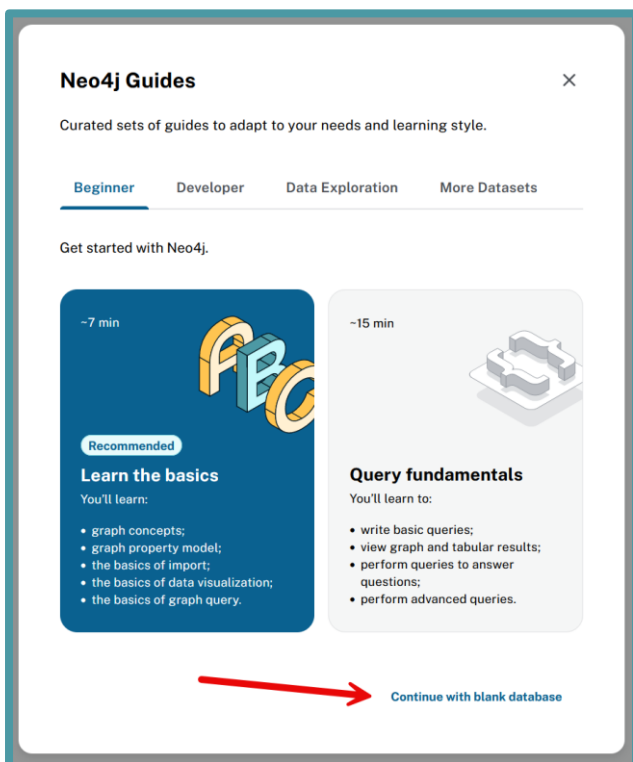


7. Connect using the details (password) that you downloaded/copied in step 4



The image shows the 'Connect to instance' dialog box in the Neo4j interface. At the top, it says 'neo4j' and 'Connect to instance'. Below that, it says 'Instance01' with an edit icon. There are two input fields: 'Scheme' with a dropdown menu showing 'neo4j+s' and 'Connection URL' with the text 'f45b3180.databases.neo4j.io:7687'. Below these is a toggle switch for 'Connect with SSO'. Then, there are input fields for 'Database user' (containing 'neo4j') and 'Password' (containing dots). A red arrow labeled '1' points to the password field. Below the password field is a light blue box with text: 'Username and password are stored in the file that you downloaded when you created this instance.' At the bottom, there are two buttons: 'Connect' and 'Cancel'. A red arrow labeled '2' points to the 'Connect' button.

8. Create a Blank Database



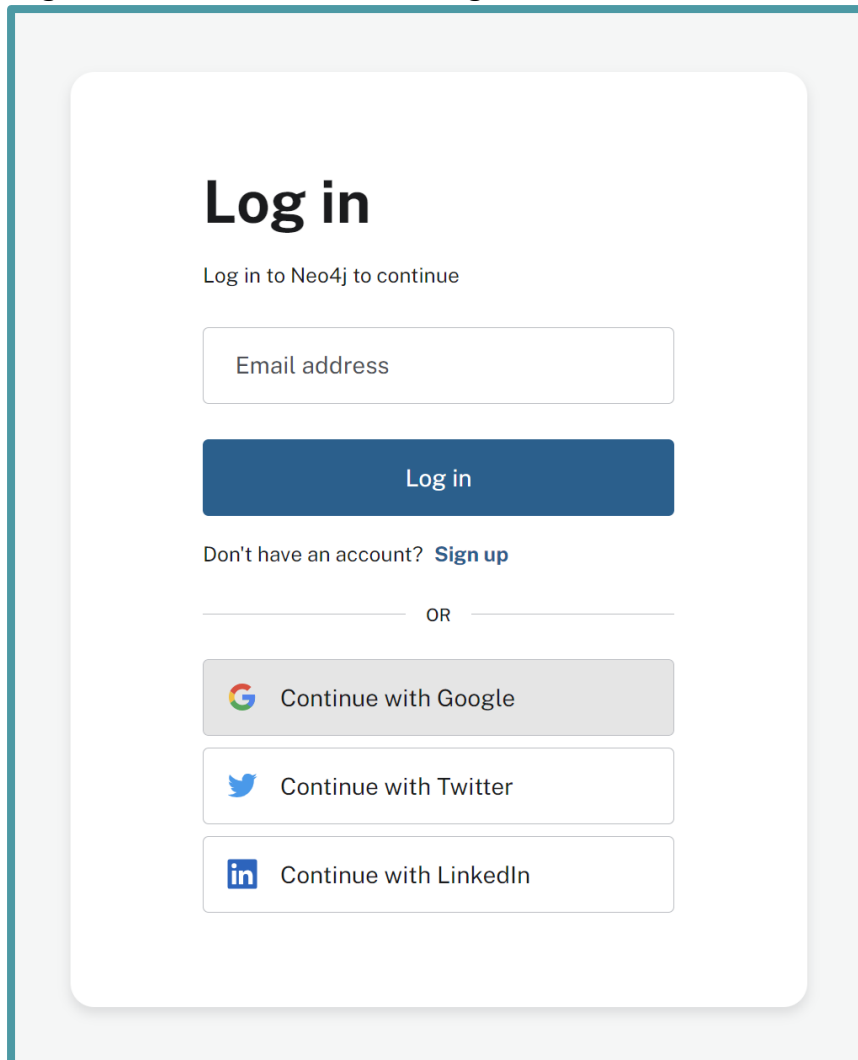
The image shows the 'Neo4j Guides' interface. At the top, it says 'Neo4j Guides' with a close icon. Below that, it says 'Curated sets of guides to adapt to your needs and learning style.' There are four tabs: 'Beginner', 'Developer', 'Data Exploration', and 'More Datasets'. The 'Beginner' tab is selected. Below the tabs, it says 'Get started with Neo4j.' There are two guide cards. The first card is blue and titled 'Learn the basics' with a 'Recommended' badge. It says 'You'll learn:' and lists: 'graph concepts;', 'graph property model;', 'the basics of import;', 'the basics of data visualization;', and 'the basics of graph query.' The second card is light gray and titled 'Query fundamentals'. It says 'You'll learn to:' and lists: 'write basic queries;', 'view graph and tabular results;', 'perform queries to answer questions;', and 'perform advanced queries.' A red arrow points from the bottom of the first card to a link that says 'Continue with blank database'.

9. Please go to the next section specific for the workshop: Graph Applications Workshop - Ingest

Sandbox

This section gives instructions on how to setup the Neo4j Sandbox environment ready for use with the workshop.

10. Go to <https://sandbox.neo4j.com>
11. Login (or create an account and login)

The image shows a login page for the Neo4j Sandbox. It features a white card with a light blue border on a light gray background. The card has a large 'Log in' heading, followed by the text 'Log in to Neo4j to continue'. Below this is a text input field labeled 'Email address'. A dark blue 'Log in' button is positioned below the input field. Underneath the button, it says 'Don't have an account? Sign up' with 'Sign up' as a link. A horizontal line with 'OR' in the center separates the email login section from the social login section. The social login section contains three buttons: 'Continue with Google' (with the Google logo), 'Continue with Twitter' (with the Twitter logo), and 'Continue with LinkedIn' (with the LinkedIn logo).

12. Once you have logged in, select the 'Blank Sandbox'

Select a project

☐ For Developers (14) ☐ For Data Scientists (7)

Featured Dataset

Movies

A guide to common graph query patterns involving connections between movies, actors, and directors.

Libraries Enabled:

OpenStreetMap

A graph solution to the shortest-path problem with Cypher involving points of interest and routing of Central Park in New York City.

Libraries Enabled:

Graph Data Science

Leverage Neo4j Graph Data Science library to explore graph algorithms for analytics and feature engineering.

Libraries Enabled:

ICIJ Offshoreleaks

The Offshore leaks dataset and guide from the International Consortium of Investigative Journalists (ICIJ).

Your own data

Blank Sandbox

A sandbox to explore connections in your own data - by importing CSV, using Neo4j drivers or any other way you like.

Project: Blank Sandbox

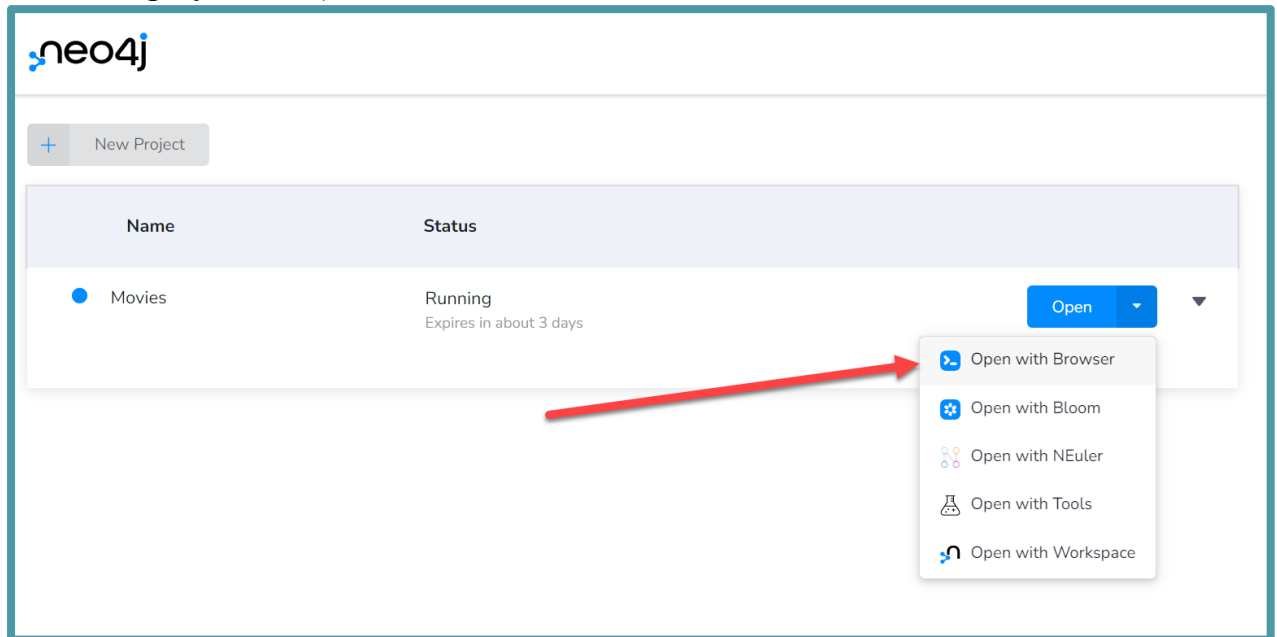
13. The database will then be created

neo4j

+ New Project

Name	Status	
Movies	Running Expires in about 3 days	<input type="button" value="Open"/> ▼

14. At this stage, you can open the Browser



15. Please go to the next section specific for your workshop:
Graph Applications Workshop - Ingest
GenAI Workshop - Colab

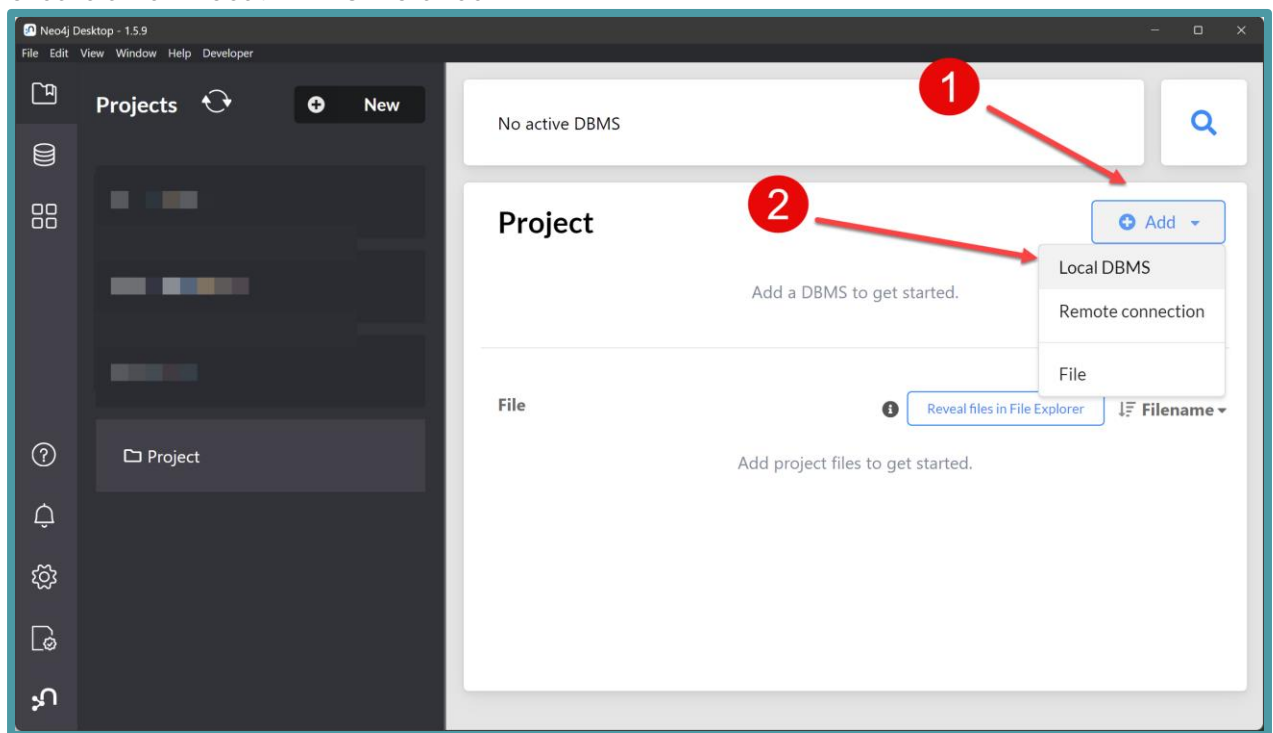
Desktop

This section gives instructions on how to setup the Neo4j Desktop environment ready for use with the workshop. If you are intending to use the Sandbox, please see the section above.

You can get Neo4j Desktop from the Neo4j Deployment Center: <https://neo4j.com/deployment-center/>

Once you have it installed, you can setup the environment by following the steps below:

1. Create a new Local DBMS instance



2. Select the latest version (at the time of writing that was 5.17.0, but you can tell by the '(latest)' text that will always be there)

Project + Add

Name

Password

Version
 5.17.0 (latest) 2

× Cancel ✓ Create

3. We need to add some plugins to the database. To do so, click on the Area indicated by 1. Then select the 'Plugins' and install APOC by selecting the 'Install' button.

Project + Add

1 Graph DBMS 5.17.0 Start Open ...

File Reveal files in File Explorer Filename

Add project files to get started.

Details **Plugins** Upgrade 2

▼ APOC

Compatible version: 5.17.1

The APOC library consists of many (about 450) procedures and functions to help with many different tasks in areas like collections manipulation, graph algorithms, and data conversion.

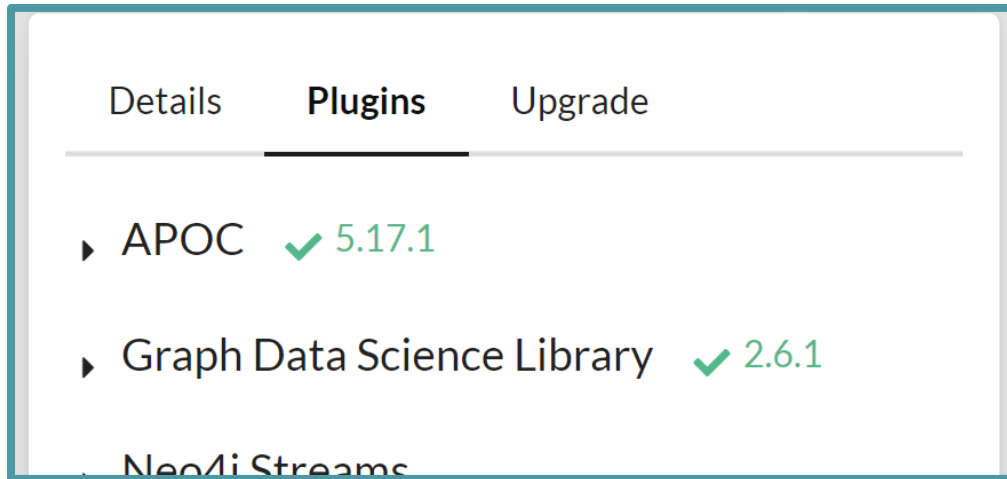
GitHub Documentation

Install 3

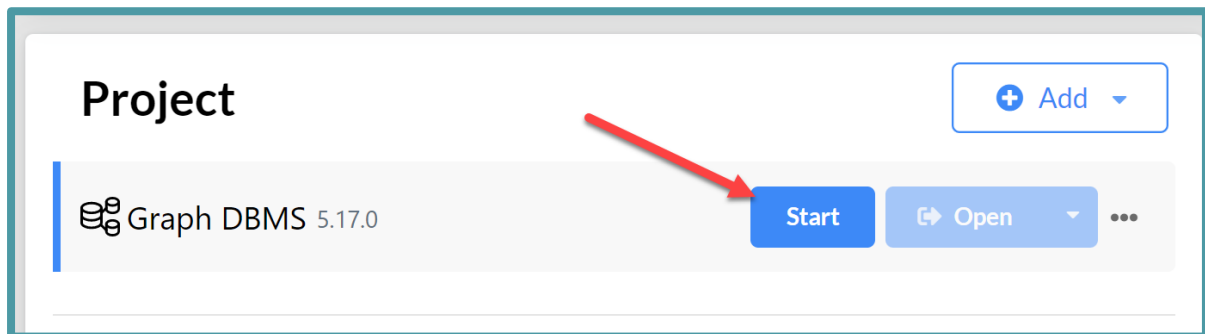
► Graph Data Science Library

► Neo4i Streams

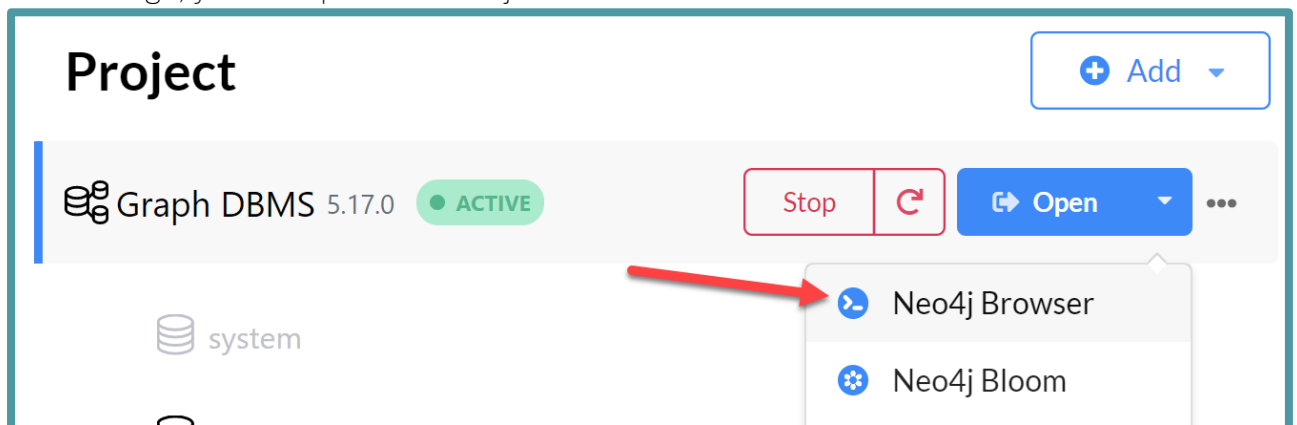
4. Repeat step (3) for the Graph Data Science Library. Once complete the plugins panel should look similar to this (the version numbers may be different).



5. Now we can start the database:



6. At this stage, you can open the Neo4j Browser



7. Please go to the next section specific for your workshop:
Graph Applications Workshop - Ingest
GenAI Workshop - Colab

Graph Applications Workshop - Ingest

In this section we describe how to do the initial ingestion of data for the Workshop. You will execute a script in the browser, which will load some data.

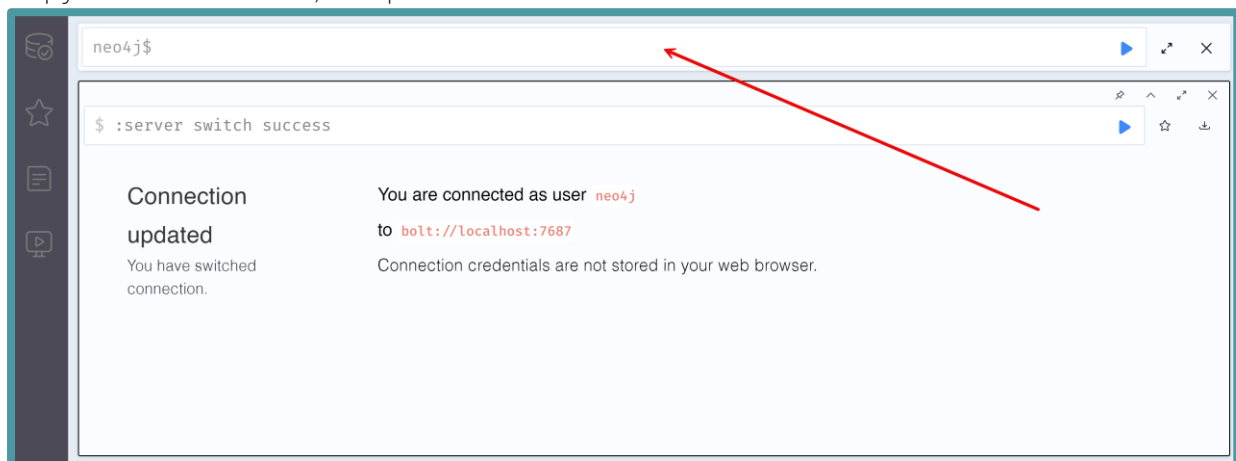
If you have any problems with this stage. Please let your instructor know at the beginning of the session, and they can try to help you.

1. Open the load script:

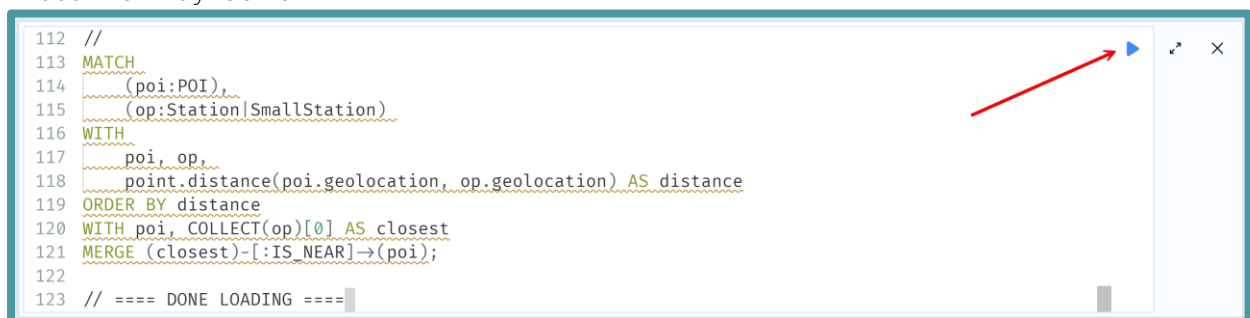


<https://bit.ly/gsummit2023-load>

2. Copy the contents of it, and paste it into the Execution Panel



3. Press the 'Play' button



4. You should get all green checks next to the executions. Any errors at all notify your instructor.

The screenshot shows the Neo4j Browser interface with a list of 10 Cypher queries. Each query is followed by a green checkmark, indicating successful execution. A red arrow points to the first query.

Query	Status
neo4j\$ CALL gds.graph.list() YIELD graphName AS toDrop CALL gds.graph.drop(toDrop) YIELD graphNa...	✓
neo4j\$ MATCH (n) DETACH DELETE n	✓
neo4j\$ CALL apoc.schema.assert({},{})	✓
neo4j\$ CREATE CONSTRAINT uc_OperationalPoint_id IF NOT EXISTS FOR (op:OperationalPoint) REQUIRE ...	✓
neo4j\$ CREATE INDEX index_OperationalPointName_name IF NOT EXISTS FOR (opn:OperationalPointName)...	✓
neo4j\$ LOAD CSV WITH HEADERS FROM "https://raw.githubusercontent.com/cskardon/gsummit2023/main/d...	✓
neo4j\$ LOAD CSV WITH HEADERS FROM "https://raw.githubusercontent.com/cskardon/gsummit2023/main/d...	✓
neo4j\$ LOAD CSV WITH HEADERS FROM "https://raw.githubusercontent.com/cskardon/gsummit2023/main/d...	✓
neo4j\$ LOAD CSV WITH HEADERS FROM "https://raw.githubusercontent.com/cskardon/gsummit2023/main/d...	✓
neo4j\$ MATCH (poi:POI), (op:Station SmallStation) WITH poi, op, point.distance(poi.geolocation, ...	✓

5. You are all ready to go!

GenAI Workshop - Colab

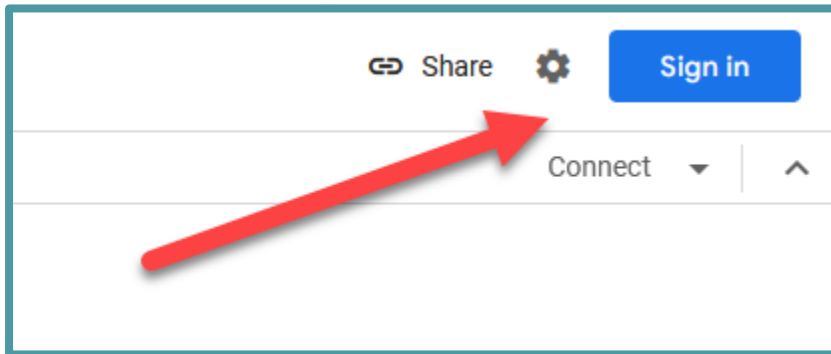
In this section we describe what you need to do to be able to take part in the Gen AI workshop.

1. Open the Google Colab Website



<https://bit.ly/genai-colab>

2. Ensure you are signed in, you can tell from the 'Sign In' button in the top right hand corner of the site. You do need a Google account to complete the workshop tasks.



3. You are now ready for the workshop