Experiment 7

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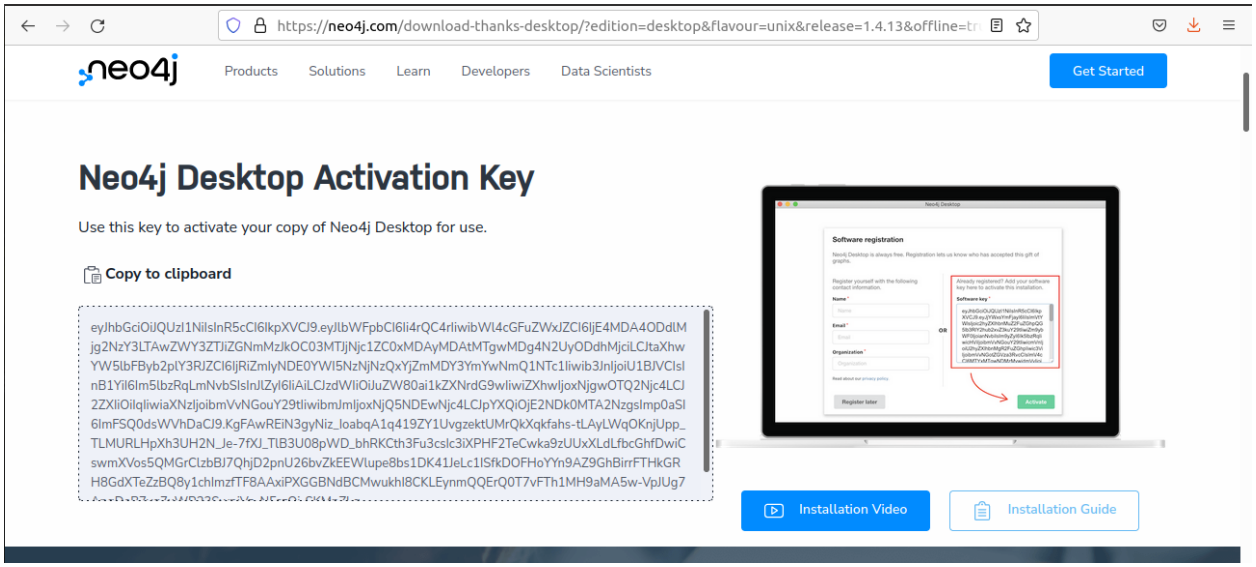
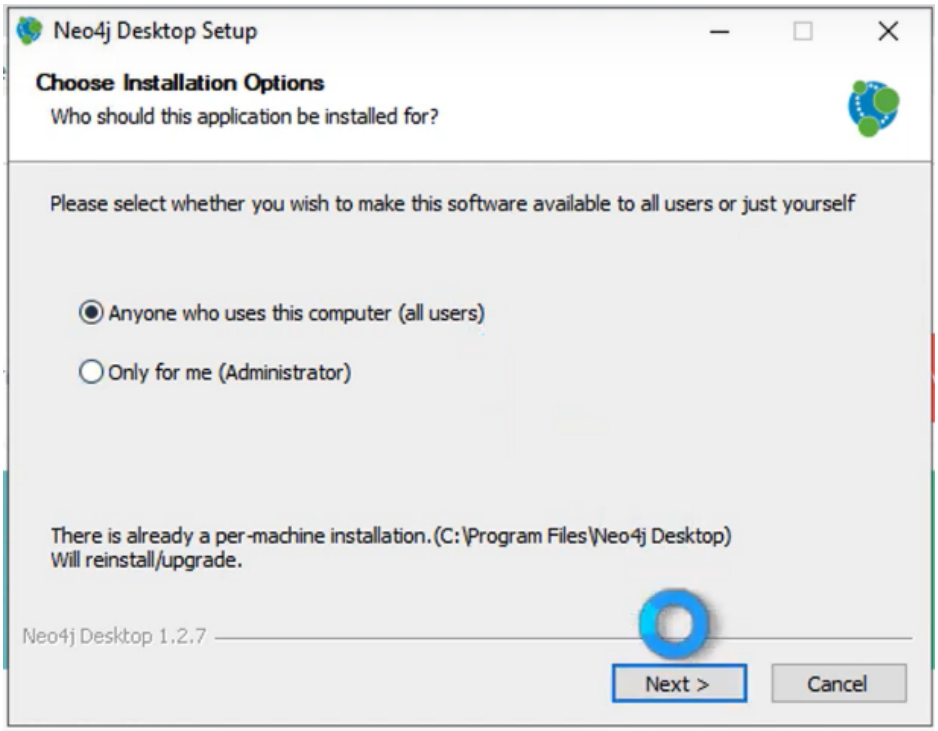
Aim: To demonstrate graph DB

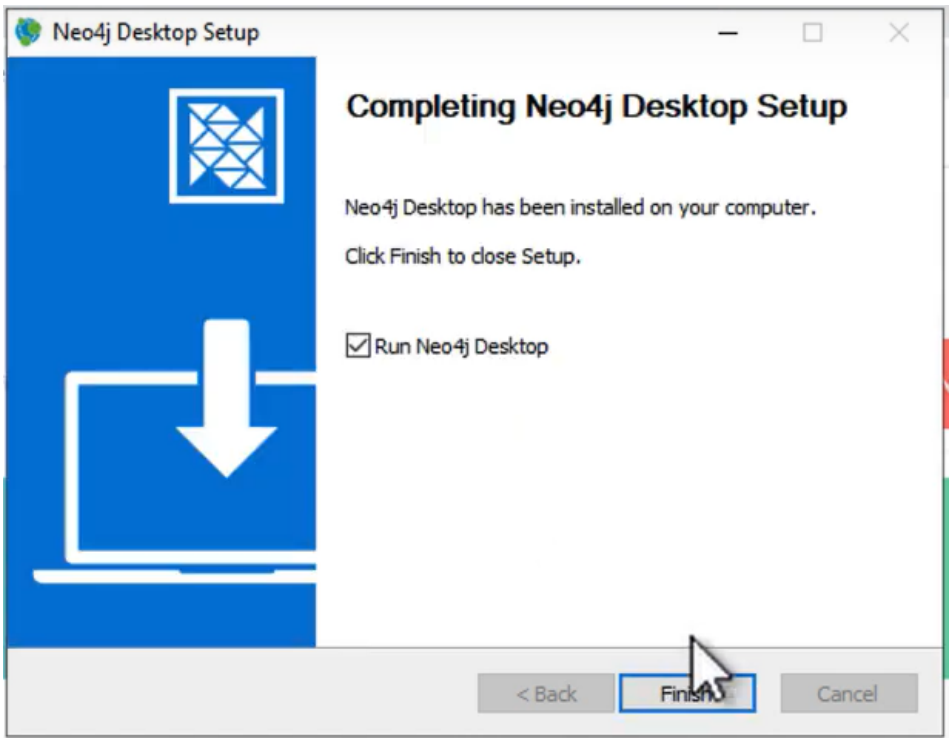
Procedure:

1. Download Neo4j from here.
2. Being a first time user, you have to register yourself by providing appropriate details.
3. Copy and store the Activation code somewhere safely.

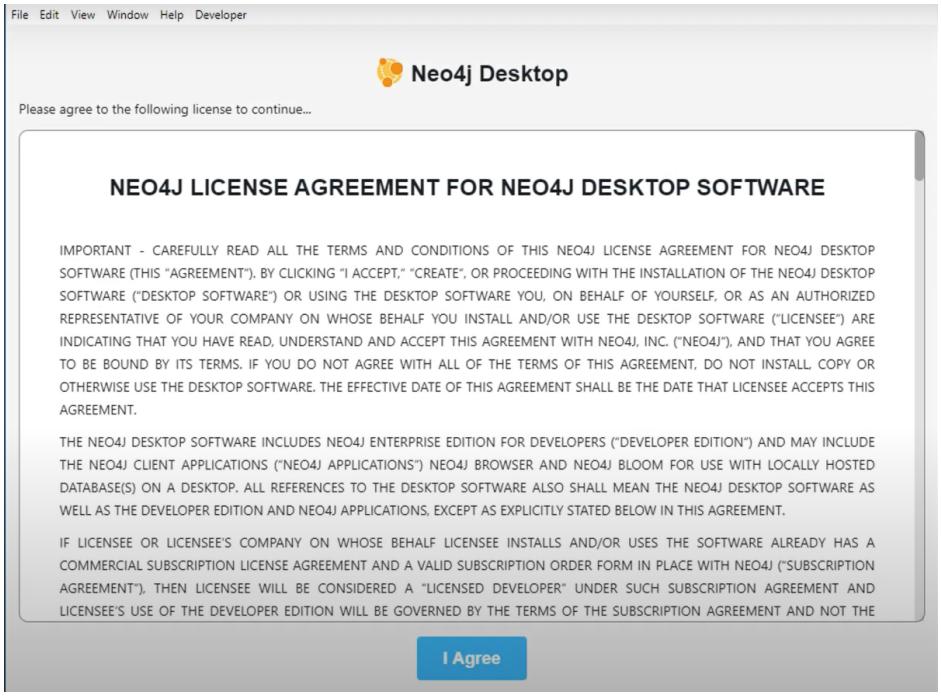


4. Now, run the downloaded setup as administrator, and select the option, “Anyone who uses this computer (all users)” and click next. Go on clicking ‘Next’ until you see the ‘Install’ button. Now click the ‘Install’ button and click finish on completion.

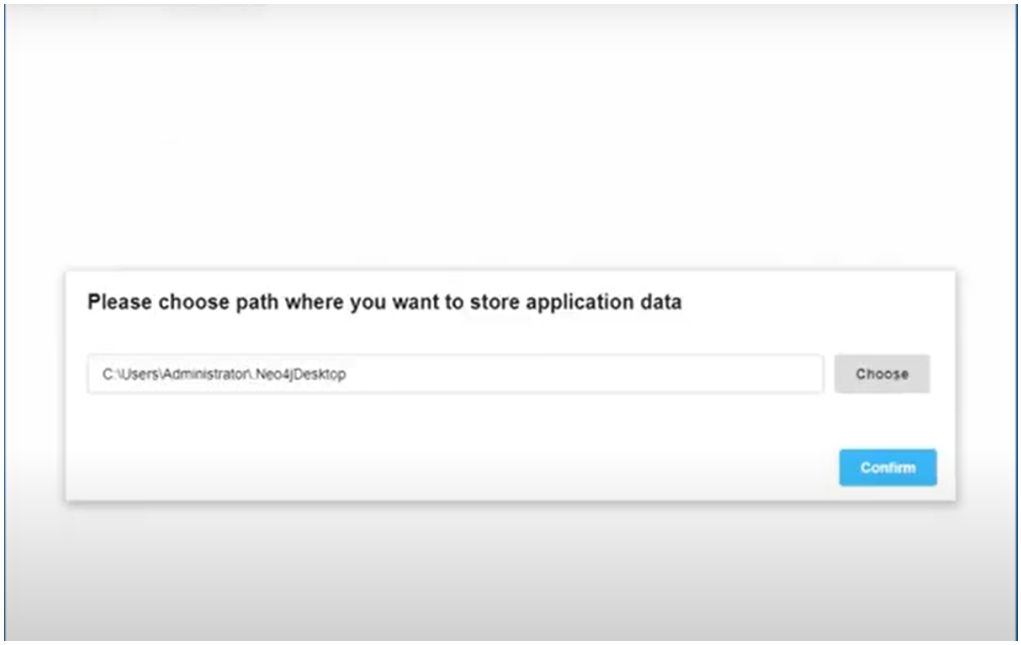




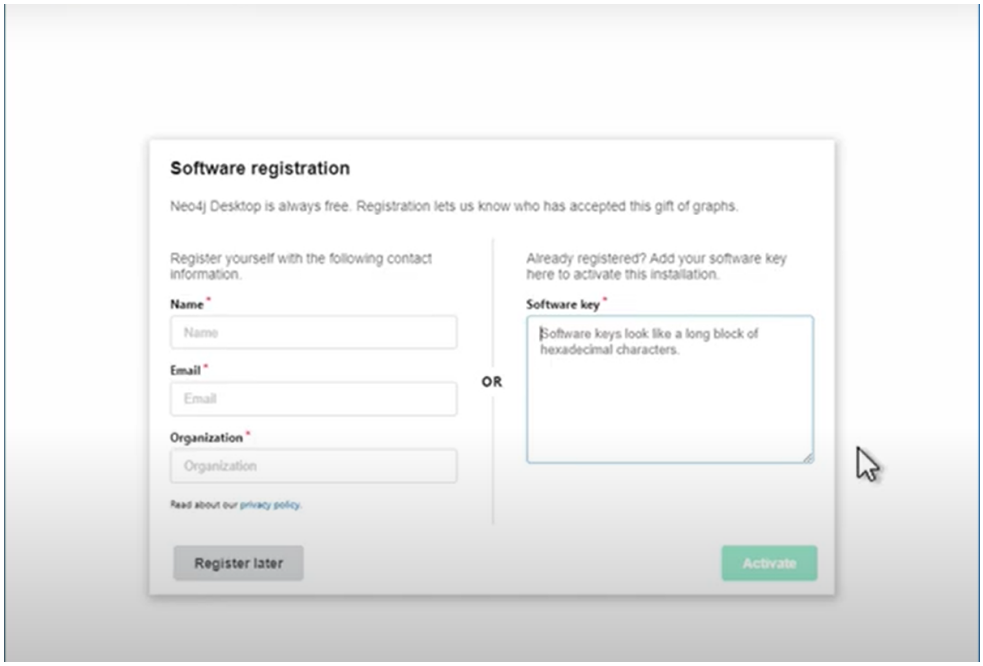
5. Accept the agreement



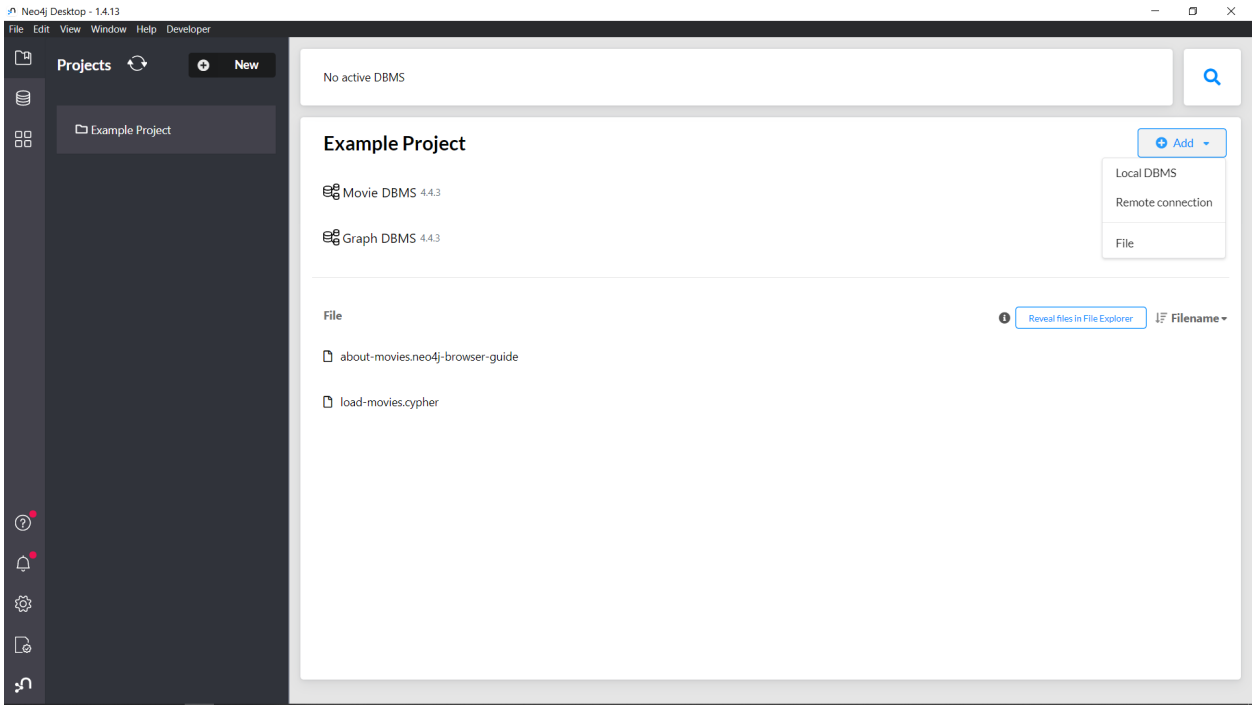
6. Click ‘Confirm’



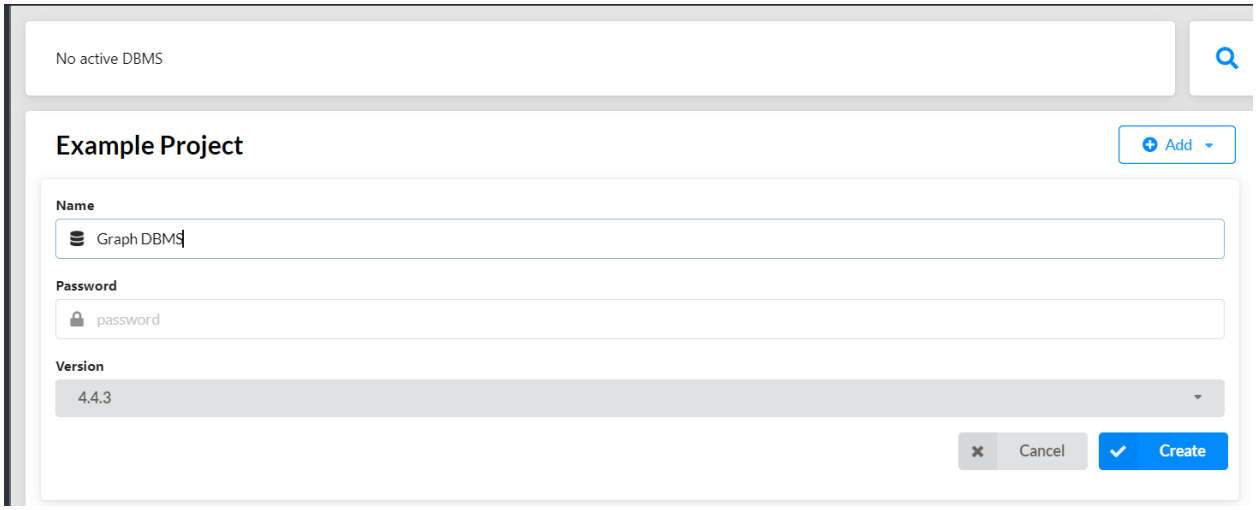
7. Enter the already copied software key here and press ‘activate’



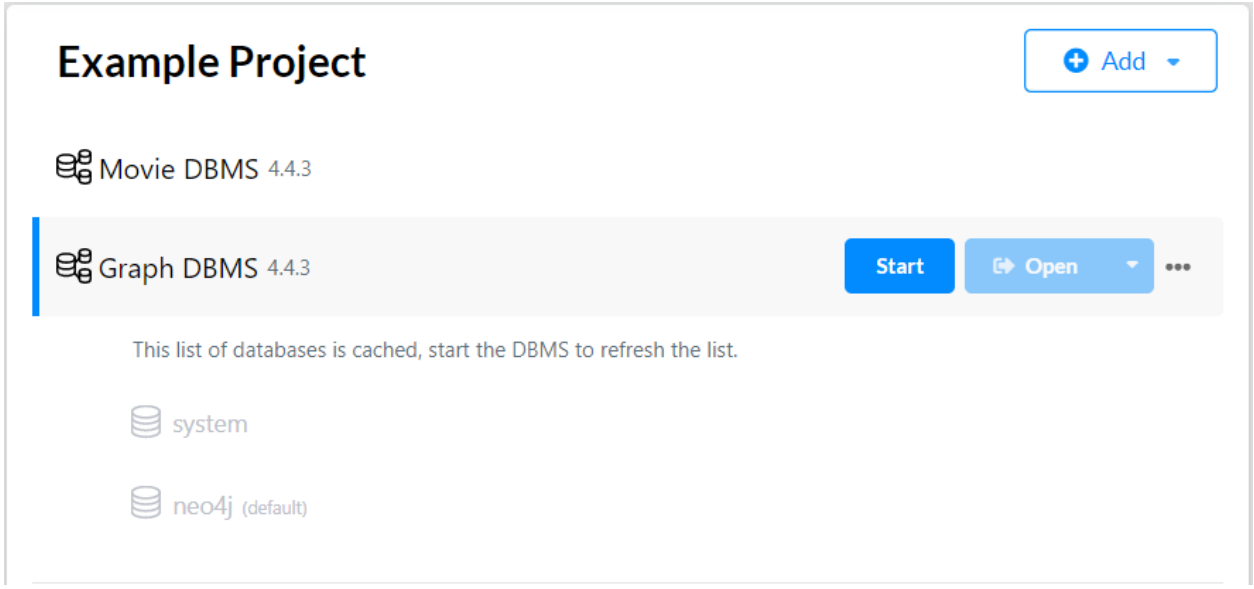
8. Click ‘Add’ button and select ‘Local DBMS’



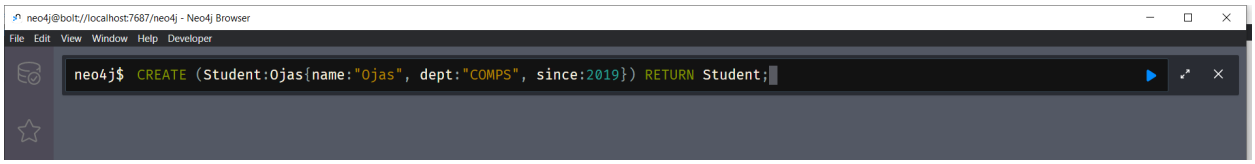
9. Provide a suitable name and a strong password. Then click Create.



10. Now click ‘Start’ on the newly created DBMS. Then, click Open



11. Write your command on the shell line given at the top of the window that just has appeared.



Commands:

a) Create Node:

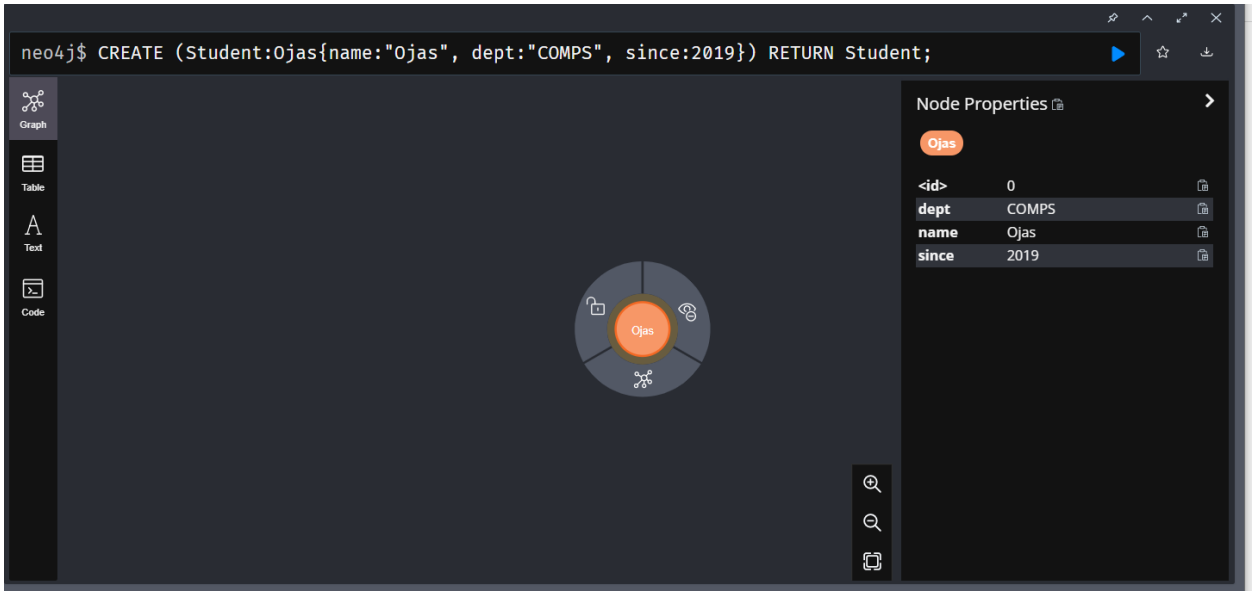
```
neo4j$ CREATE (Student:Ojas{name:"Ojas", dept:"COMPS", since:2019}) RETURN Student;
```

Syntax:

CREATE (Node:Label{*properties of the node in the key-value format*}) RETURN Node;

Example:

CREATE (Student:Ojas{name:”Ojas”, dept:”COMPS”, since:2019}) RETURN Student;



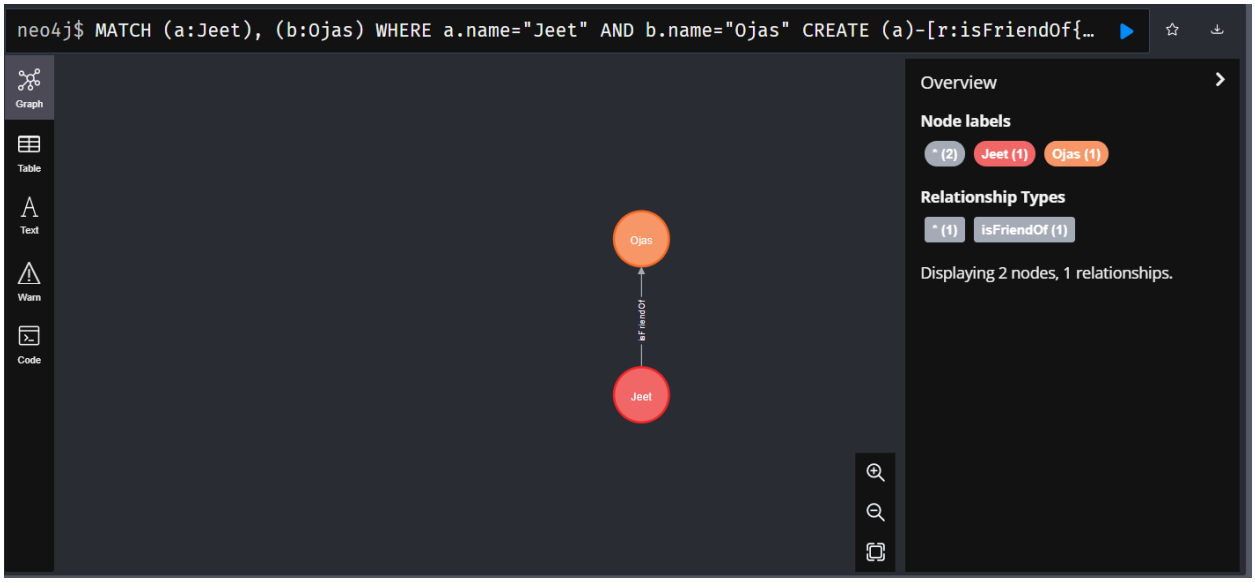
b) Create Relationship:

Syntax:

MATCH (a:label), (b:label) WHERE *conditions_if_any* CREATE (a) - [r: isFriendOf{*properties of the relation in the key-value format*}] -> (b) RETURN a,b;

Example:

MATCH (a:Jeet), (b:Ojas) WHERE a.name="Jeet" AND a.name="Ojas" CREATE (a)-[r:isFriendOf{knowsBcoz:"ADBMS"}]->(b) RETURN a,b;



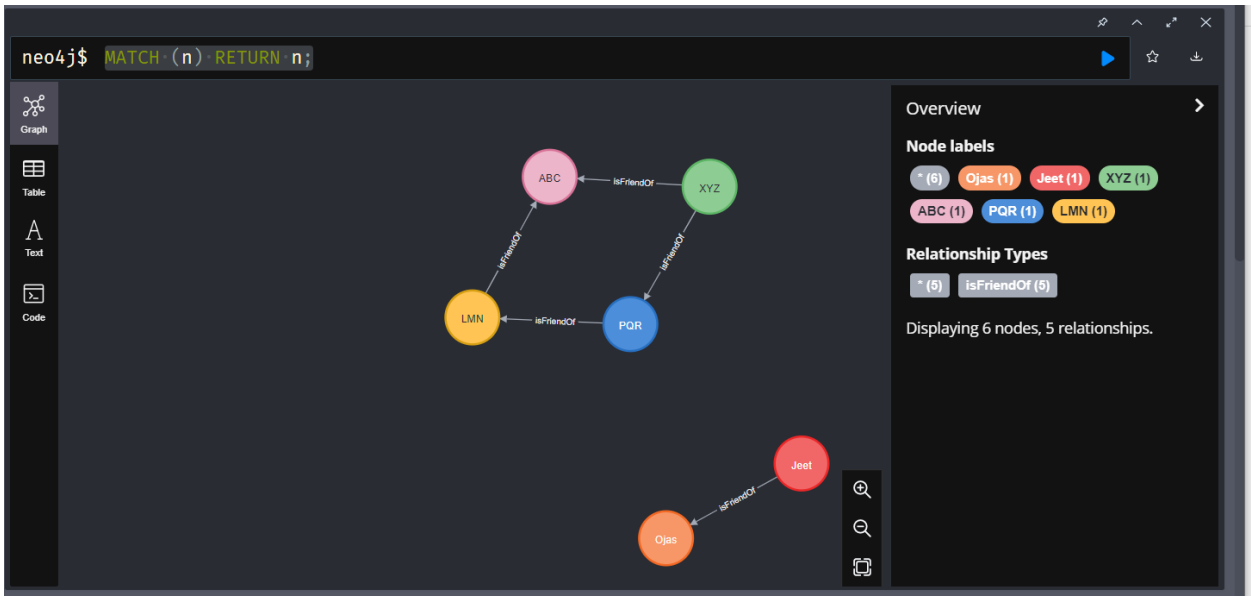
c) Select nodes/ relationships

Syntax:

MATCH (n) WHERE *conditions_if_any* RETURN n

Example:

MATCH (n) RETURN n;



d) Update node/ relationships

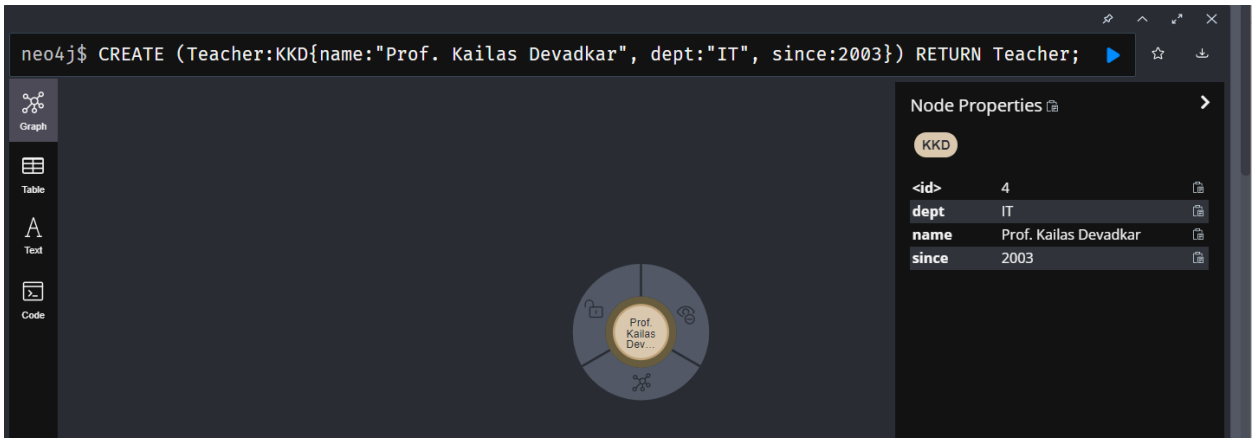
Syntax:

MATCH (Node) SET Node.key=value RETURN Node;

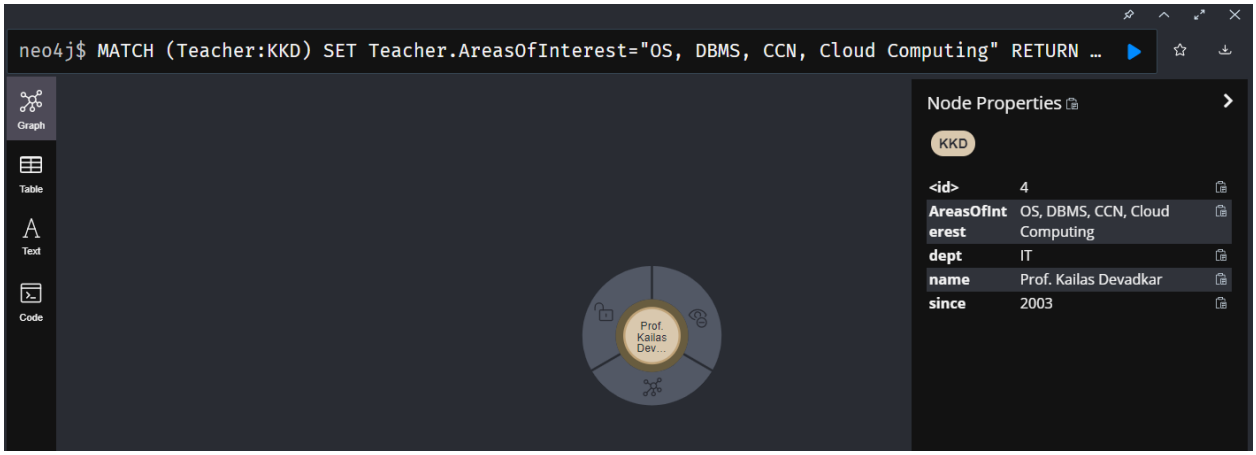
Example:

MATCH (Teacher:KKD) SET Teacher.AreasOfInterest="OS, DBMS, CCN, Cloud Computing" RETURN Teacher;

Before:



After:



This commands updates value of an existing key and creates a new key if it doesn't exist

e) Delete Node/ relationship

Syntax:

1. For detaching relationship

   MATCH (Node1)-[r:relationship]->(Node2) DELETE r

2. For deleting node:

   MATCH (Node:label) DETACH DELETE Node

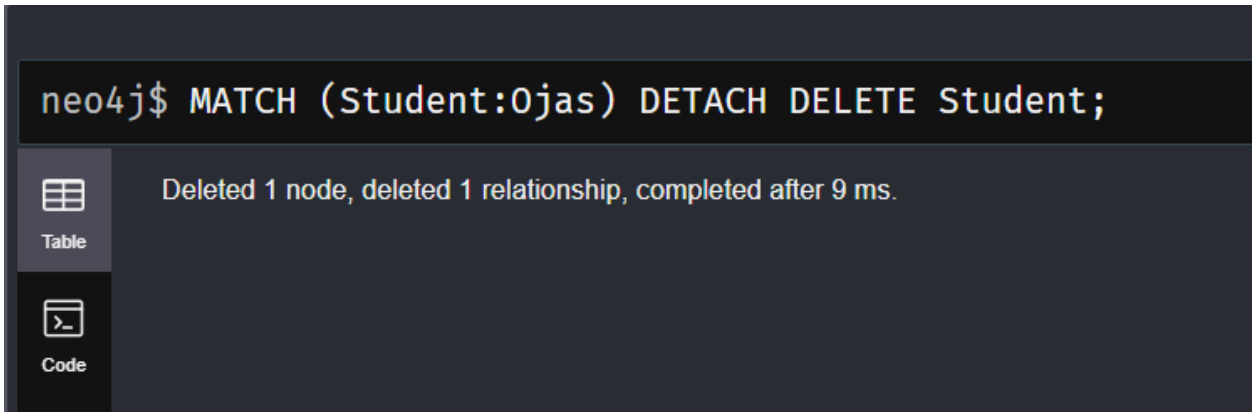
Example:

1. For detaching relationship

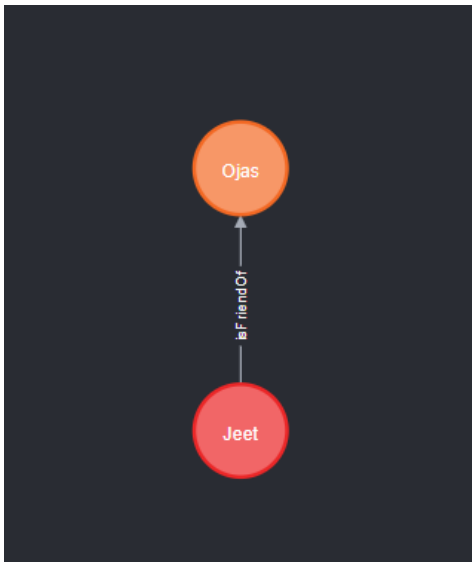
   MATCH (Raul)-[r:PLAYER_OF]->(It) DELETE r

2. For deleting node:

   MATCH (Kohli:player) DETACH DELETE Kohli



Before:



After:

Conclusion:

GraphDB is new and a fast alternative to existing RDBMS. GraphDB has given rise to new areas. It is ideal for highly associated data. Doesn't work well in case of distributed databases. Switching to GraphDB is the requirement of the time.