**User Manual**

1. Download the system folder in zipfile
2. Create a virtual environment

* python -m venv myenv

1. Install the required Python packages list in the folder

* pip install -r requirement.txt

1. Activate the virtual environment

* myenv\Scripts\activate

1. Download and install Neo4j Dekstop

* <https://neo4j.com/deployment-center/?desktop-gdb>

1. Open Neo4j dekstop and click “New” -> “Create project” to create a project workspace

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1. Inside project, click “Add” -> “Local DBMS” to add new DBMS

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1. Enter password under password input field and click “Create” button

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1. Click “Start” button

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1. Click “Open” to open Neo4j browser

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1. Open **kg\_all\_ethnic\_cypher** file in notepad then copy and paste details by each “kaum” per enter times at the first input field. For example, kaum cina need include all information such as “makanan”, “pakaian”, “permainan”, “alatmuzik”, “perayaan”, “tarian”, “kepercayaan”, “bahasa”, and “sukukaum” in one enter.

MERGE (kaumCina:Kaum {nama: "Cina"})

MERGE (mkn1:Makanan {nama: "Kuih Bakul"})

MERGE (kaumCina)-[:MENIKMATI]->(mkn1)

MERGE (mkn2:Makanan {nama: "Kuih Bulan"})

MERGE (kaumCina)-[:MENIKMATI]->(mkn2)

MERGE (mkn3:Makanan {nama: "Pulut Nasi"})

MERGE (kaumCina)-[:MENIKMATI]->(mkn3)

MERGE (mkn4:Makanan {nama: "Dimsum"})

MERGE (kaumCina)-[:MENIKMATI]->(mkn4)

MERGE (pk1:Pakaian {nama: "Cheongsam"})

MERGE (kaumCina)-[:MEMAKAI]->(pk1)

MERGE (pk2:Pakaian {nama: "Samfoo"})

MERGE (kaumCina)-[:MEMAKAI]->(pk2)

MERGE (pk3:Pakaian {nama: "Hanfu"})

MERGE (kaumCina)-[:MEMAKAI]->(pk3)

MERGE (pm1:Permainan {nama: "Xiangqi"})

MERGE (kaumCina)-[:BERMAIN]->(pm1)

MERGE (pm2:Permainan {nama: "Mahjong"})

MERGE (kaumCina)-[:BERMAIN]->(pm2)

MERGE (am1:AlatMuzik {nama: "Erhu"})

MERGE (kaumCina)-[:MEMAINKAN]->(am1)

MERGE (am2:AlatMuzik {nama: "Liuqin"})

MERGE (kaumCina)-[:MEMAINKAN]->(am2)

MERGE (am3:AlatMuzik {nama: "Pipa"})

MERGE (kaumCina)-[:MEMAINKAN]->(am3)

MERGE (py1:Perayaan {nama: "Tahun Baru Cina"})

MERGE (kaumCina)-[:MENYAMBUT]->(py1)

MERGE (py2:Perayaan {nama: "Chap Goh Mei"})

MERGE (kaumCina)-[:MENYAMBUT]->(py2)

MERGE (py3:Perayaan {nama: "Perayaan Kuih Bulan dan Pesta Tanglung"})

MERGE (kaumCina)-[:MENYAMBUT]->(py3)

MERGE (py4:Perayaan {nama: "Perayaan Duan Wu"})

MERGE (kaumCina)-[:MENYAMBUT]->(py4)

MERGE (py5:Perayaan {nama: "Titik Balik Matahari Musim Dingin"})

MERGE (kaumCina)-[:MENYAMBUT]->(py5)

MERGE (tr1:Tarian {nama: "Tarian Kipas"})

MERGE (kaumCina)-[:MENARI]->(tr1)

MERGE (tr2:Tarian {nama: "Tarian Singa"})

MERGE (kaumCina)-[:MENARI]->(tr2)

MERGE (tr3:Tarian {nama: "Tarian Naga"})

MERGE (kaumCina)-[:MENARI]->(tr3)

MERGE (tr4:Tarian {nama: "Tari Payung"})

MERGE (kaumCina)-[:MENARI]->(tr4)

MERGE (kp1:Kepercayaan {nama: "Agama Buddha"})

MERGE (kaumCina)-[:PERCAYA\_KPD]->(kp1)

MERGE (kp2:Kepercayaan {nama: "Taosime"})

MERGE (kaumCina)-[:PERCAYA\_KPD]->(kp2)

MERGE (kp3:Kepercayaan {nama: "Kristian"})

MERGE (kaumCina)-[:PERCAYA\_KPD]->(kp3)

MERGE (bhs1:Bahasa {nama: "Mandarin"})

MERGE (kaumCina)-[:BERTUTUR]->(bhs1)

MERGE (bhs2:Bahasa {nama: "Hokkien"})

MERGE (kaumCina)-[:BERTUTUR]->(bhs2)

MERGE (bhs3:Bahasa {nama: "Hakka"})

MERGE (kaumCina)-[:BERTUTUR]->(bhs3)

MERGE (bhs4:Bahasa {nama: "Kantonis"})

MERGE (kaumCina)-[:BERTUTUR]->(bhs4)

MERGE (bhs5:Bahasa {nama: "Teochew"})

MERGE (kaumCina)-[:BERTUTUR]->(bhs5)

MERGE (bhs6:Bahasa {nama: "Hainan"})

MERGE (kaumCina)-[:BERTUTUR]->(bhs6)

MERGE (bhs7:Bahasa {nama: "Fuzhou"})

MERGE (kaumCina)-[:BERTUTUR]->(bhs7)

MERGE (sk1:SukuKaum {nama: "Teochew"})

MERGE (kaumCina)-[:MEMPUNYAI\_SUKU]->(sk1)

MERGE (sk2:SukuKaum {nama: "Hakka"})

MERGE (kaumCina)-[:MEMPUNYAI\_SUKU]->(sk2)

MERGE (sk3:SukuKaum {nama: "Hokkien"})

MERGE (kaumCina)-[:MEMPUNYAI\_SUKU]->(sk3)

MERGE (sk4:SukuKaum {nama: "Kantonis"})

MERGE (kaumCina)-[:MEMPUNYAI\_SUKU]->(sk4)

MERGE (sk5:SukuKaum {nama: "Hainan"})

MERGE (kaumCina)-[:MEMPUNYAI\_SUKU]->(sk5)

MERGE (sk6:SukuKaum {nama: "Fuzhou"})

MERGE (kaumCina)-[:MEMPUNYAI\_SUKU]->(sk6)

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1. After include all the “kaum” information, enter **MATCH (n)-[r]->(m) RETURN n, r, m** and will display the “kaum” knowledge graph

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1. Enter python qa.py in the virtual enviroment
2. Copy the local url and paste it on the google to open syste

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1. Main Page

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This is the main page of Soal Jawab Chatbot – Kekauman Malaysia after paste the local url on google. Main page include the system message display area, input field and the qa log panel.

1. Chat Interaction

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When the user enters a query into the input field, the system immediately displays the question in the system message display area. This visual feedback confirms that the user's input has been received. Simultaneously, the system sends the question to both the Large Language Model (LLM) and the Neo4j database for processing. These two components work together to analyze the query which LLM interprets the natural language while Neo4j retrieves or reasons over graph-based data. Once processing is complete, the system displays the generated answer directly below the question in the same message area, allowing the user to view both the original query and the corresponding response in a clear and sequential manner.

1. QA Log Panel

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QA log panel contains the record of all question-answer pairs from user interactions. It stores metadata like timestamps, question, answer and status. QA log panel allows users to review chatbot responses and identifies incorrect or problematic answers. In addition, users allow to change the answer if the answer provided by system is incorrect. Users need to change the status from unchecked to checked and click the update button. Furthermore, the system will retrained the model with the latest answer.