**Lab 2a: Build an Agent with wx.ai Agent Lab**

In this lab, you will build a **Supplier Researcher Agent** using **Watsonx.ai Agent Lab**. This agent will allow you to research the suppliers for procuring Xtralife based on past supplier performance, procurement rules and customer reviews.

Files used in lab can be downloaded from box folder “Lab 2a”.

**Steps to Create the Agent**

**Step 1: Create a Project**

* If this is your first time using this account, you must create a project before using Agent Lab.

A screenshot of a computer

AI-generated content may be incorrect.

**Step 2: Associate the Watsonx.ai Service**

* After creating the project, navigate to **Manage** → **Services & Integrations** → **Associate Service**.
* Select **Watsonx.ai** and associate it with your project.

A screenshot of a computer

AI-generated content may be incorrect.

**Step 3: Add a New Asset**

* Go to the **Assets** tab and click **New Asset**.

A screenshot of a computer

AI-generated content may be incorrect.

**Step 4: Create an In-Memory Vector Store**

* Search for **"Ground Gen AI with Vectorized Documents"** and click to create an **In-Memory Vector Store**.

A screenshot of a computer

AI-generated content may be incorrect.

**Step 5: Choose the Vector Index Type**

* Click on **Ground Gen AI with Vectorized Documents**.
* You will see three options to create a vector index:
  + **In-Memory**
  + **Watsonx.data (Milvus)**
  + **Elasticsearch (ES)**
* For this lab, select **In-Memory**.

A screenshot of a computer

AI-generated content may be incorrect.

**Step 6: Upload Documents and Configure Indexing**

* Upload input documents for vector index creation using the **Browse** option.
  + Procurement Requisition Rules.docx
  + Supplier Sales Report for Procurement.docx
* Assign a name to your vector index.
* Click on **Advanced Settings** to configure the following:
  + **Embeddings Model**: Choose “all-MiniLM-L6-v2” embedding model. There may be some variations in the embedding model names. (By default: granite-embaddings-107m-multilingual)
  + **Indexing Parameters** such as **Text Chunk Size** and **Text Chunk Overlap,** select the default values at this moment.
* Click **Create** to generate the vector index.

A screenshot of a computer

AI-generated content may be incorrect.

**Step 7: View Vector Index Details**

* Once the index is created, a summary screen will display all configured details.

**A screenshot of a computer

AI-generated content may be incorrect.**

Now, go back to your “Project/Assets” to proceed further to the next step.

**Step 8: Create an AI Agent**

* Click on **New Asset at the left** and search for **"Build an AI Agent to Automate Tasks"**. Click on the “Build an AI agent to automate tasks”.

A screenshot of a computer

AI-generated content may be incorrect.

**Step 9: Name Your AI Agent**

* Click **Build an AI Agent to Automate Tasks** and assign a name to your agent.

A screenshot of a computer

AI-generated content may be incorrect.

You can see the information about the LLM, Framework, Architecture etc for your own understanding.

**Step 10: Add Tools to the Agent**

* Click on **Add Tool** to open a selection panel.

A screenshot of a computer

AI-generated content may be incorrect.

**Step 11: Link the Vector Index**

* Toggle **Document Search** to enable it.
* In the dropdown menu, select the **vector index** you created earlier.
* Click **Select** to confirm.

A screenshot of a computer

AI-generated content may be incorrect.

**Step 12: Add Additional Tools**

* Enable the **Google Search Tool** as an additional tool for your agent.
* The tool panel will now display both **Document Search** and **Google Search Tool**.
* Close the window to proceed further.

A screenshot of a computer

AI-generated content may be incorrect.

**Step 13: Configure the Agent Model and Parameters**

* Adjust the foundational model, prompt and other configuration parameters as needed.
* Prompt: You are a helpful supplier researcher that uses tools to answer questions precisely after doing a thorough research on google and document search. The google search tool can provide customer sentiment on the suppliers. The document search tool has the procurement requisition rules and past year supplier review.

A screenshot of a computer

AI-generated content may be incorrect.

**Step 14: Test Your AI Agent**

* Start querying your agent with example questions, such as:
  + *"* *Which supplier out of Excelentia Supplies and Global Office Supplies is viable to buy product Xtralife from. Give a list of pros and cons of each supplier"*
  + *“Which supplier should i choose? i want an urgent delivery.”*

A screenshot of a computer

AI-generated content may be incorrect.

**Step 15: View the Agent's Response**

* The AI agent will generate a response based on the indexed data.

A screenshot of a computer

AI-generated content may be incorrect.

**Step 16: Save Your Agent**

* Click **Save As** to store your agent configuration.

A screenshot of a computer

AI-generated content may be incorrect.

**Step 17: Export the Agent**

* Save your agent as a **notebook** or an **editable** file for future modifications.

A screenshot of a computer

AI-generated content may be incorrect.

🚀 **Congratulations! You have successfully created an AI-powered Supplier Research Agent. Happy Coding!** 🎯