

Assignment on Practice: Build a complete AI agent app with Streamlit (chat + tools + memory)

Task: Simple Multi-Agent RAG System

Objective:

Build a small LangChain multi-agent system where two agents use the *same vector store (RAG)* but specialize in different topics.

Stages

1. Prepare Data

- Create a short text file (or two). Example:
 - `salary.txt`: explains how salaries are structured (monthly, annual, deductions).
 - `insurance.txt`: explains insurance benefits (coverage, premium, claim process).
- Load both into a vector store of your choice

2. Agents

- **Salary Agent**: answers only salary-related questions using RAG.
- **Insurance Agent**: answers only insurance-related questions using RAG.
- **Coordinator Agent**: receives a query and decides which agent to call.

3. Workflow

- User asks: *"What is included in my insurance policy?"*
- Coordinator forwards to Insurance Agent.
- Insurance Agent retrieves context from vector store and responds.
- Coordinator sends final answer back to the user.

4. Deliverables

- One Python script.
- At least **two user queries**:
 - Salary question → handled by Salary Agent.
 - Insurance question → handled by Insurance Agent.

Example Query & Output

- Input: *"How do I calculate annual salary?"*
- Output: *"Your annual salary is monthly salary × 12, minus deductions."*

OUTPUT SCREENHOTS:

Multi-Agent HR Assistant

localhost:8501


Deploy

Multi-Agent HR Assistant

Ask me about **salary** or **insurance** policies.

Clear Chat

how do I calculate my annual salary?

 **Salary Agent:** To calculate your annual salary, you can use the following formula:

Annual Salary = Monthly Salary x 12

For example, if your monthly salary is \$50,000, your annual salary would be:

Annual Salary = 50,000 x 12 = 600,000

Alternatively, you can also calculate your annual salary by multiplying your gross monthly salary by 12 and then subtracting any deductions or taxes. This will give you your annual net salary.

For example, if your gross monthly salary is 60,000 and you have deductions of 7,000, your annual net salary would be:

Type your question...

Type here to search

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For example, if your gross monthly salary is 60,000 and you have deductions of 7,000, your annual net salary would be:

Annual Net Salary = (60,000 x 12) - 7,000 x 12 = \$636,000


I hope this helps! Let me know if you have any other questions.

What are common deductions from salary?

 **Salary Agent:** Common deductions from salary include:

a. Income Tax (which depends on the tax slab) b. Provident Fund (PF) - usually 12% of the basic pay c. Professional Tax - a fixed small amount depending on the state

Give me an example payslip calculation

 **Salary Agent:** According to the context, an example payslip may show the following calculation:

Payslip shows:

Type your question...

Type here to search

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Give me an example payslip calculation

Salary Agent:

According to the context, an example payslip may show the following calculation:
Payslip shows:

- Gross = 60,000
- Deductions = 7,000
- Net = 53,000

This means that the employee's gross salary is 60,000, and after deducting 7,000, their net salary is 53,000.

what is payslip then ?

Salary Agent:

According to the context, a payslip is an official document that summarizes an employee's earnings and deductions for a given month. It typically includes the gross salary, deductions, and net salary.

Type your question...

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What is included in my insurance policy coverage

Insurance Agent:

According to the provided Insurance Policy Guidelines, your insurance policy coverage includes:

- Hospitalization
- Surgeries
- Major illnesses

Additionally, some policies may extend coverage to:

- Spouse
- Children (if they are dependents)

It's always a good idea to review your specific policy details to confirm the exact coverage and any limitations or exclusions that may apply.

How do I claim insurance?

Type your question...

