

Assessment Task – 3

Clone, Debug & Extend a CrewAI Stock Analysis Agent

Objective

Clone and run the [CrewAI Stock Analysis example](#). Ensure the system executes successfully and demonstrate your understanding of CrewAI's agent-task-crew architecture by debugging and optionally extending the example.

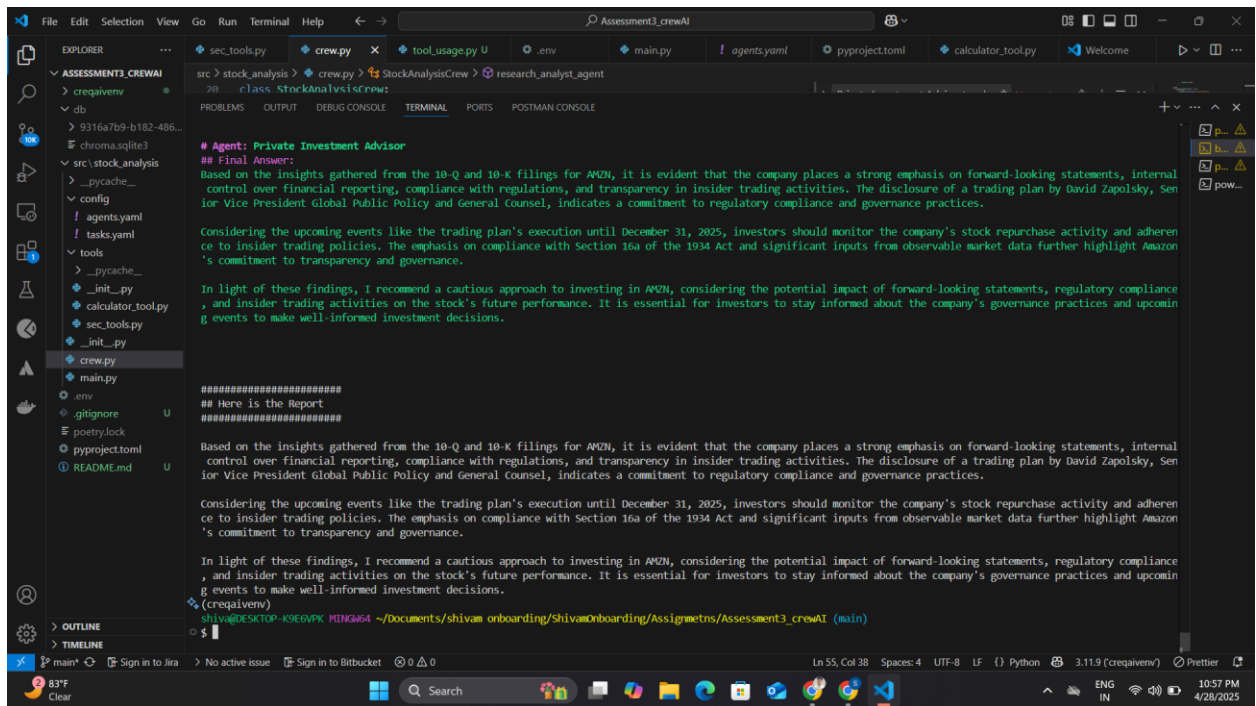
Task Requirements

1. Setup & Execution (Basic)

- Clone the `crewAI-examples` GitHub repo and navigate to the `stock_analysis` folder.
- Install required dependencies and ensure environment variables (like `OPENAI_API_KEY`) are properly configured.
- Run the `main.py` script and ensure the Crew executes successfully.

Deliverables:

- Screenshot or console log showing successful execution



```
src > stock_analysis > crew.py > StockAnalysisCrew > research_analyst_agent
20 ... class StockAnalysisCrew:
# Agent: Private Investment Advisor
## Final Answer:
Based on the insights gathered from the 10-Q and 10-K filings for AMZN, it is evident that the company places a strong emphasis on forward-looking statements, internal control over financial reporting, compliance with regulations, and transparency in insider trading activities. The disclosure of a trading plan by David Zapolsky, Senior Vice President Global Public Policy and General Counsel, indicates a commitment to regulatory compliance and governance practices.

Considering the upcoming events like the trading plan's execution until December 31, 2025, investors should monitor the company's stock repurchase activity and adherence to insider trading policies. The emphasis on compliance with Section 16a of the 1934 Act and significant inputs from observable market data further highlight Amazon's commitment to transparency and governance.

In light of these findings, I recommend a cautious approach to investing in AMZN, considering the potential impact of forward-looking statements, regulatory compliance, and insider trading activities on the stock's future performance. It is essential for investors to stay informed about the company's governance practices and upcoming events to make well-informed investment decisions.

#####
## Here is the Report
#####

Based on the insights gathered from the 10-Q and 10-K filings for AMZN, it is evident that the company places a strong emphasis on forward-looking statements, internal control over financial reporting, compliance with regulations, and transparency in insider trading activities. The disclosure of a trading plan by David Zapolsky, Senior Vice President Global Public Policy and General Counsel, indicates a commitment to regulatory compliance and governance practices.

Considering the upcoming events like the trading plan's execution until December 31, 2025, investors should monitor the company's stock repurchase activity and adherence to insider trading policies. The emphasis on compliance with Section 16a of the 1934 Act and significant inputs from observable market data further highlight Amazon's commitment to transparency and governance.

In light of these findings, I recommend a cautious approach to investing in AMZN, considering the potential impact of forward-looking statements, regulatory compliance, and insider trading activities on the stock's future performance. It is essential for investors to stay informed about the company's governance practices and upcoming events to make well-informed investment decisions.
(creqalvenv)
shivam@DESKTOP-K3E6VVK MINGW64 ~/Documents/shivam_onboarding/ShivamOnboarding/Assignmetns/Assessment3_crewAI (main)
```

- README.md snippet or notes showing steps you followed to get it working

https://github.com/shivamgiri007/ShivamOnboarding/blob/main/Assignmetns/Assessment3_crewAI/README.md

2. Debugging (Core)

Fix any issues that arise during:

- Agent instantiation or task execution
 - LLM or tool invocation
 - Pydantic validation errors or version incompatibilities
- Changed Deprecated pydantic versions
 - Enabled WebsiteSearchTool() in research_analyst_agent in crew.py
 - created Llm model for openai insted of huggingface Llm model
 - .schema() deprecated method changed to .model_json_schema()
 - changed wrong , incomplete imports

- changed with `open(file_path)` as `f` to with `open(file_path, encoding="utf-8")` as `f`: (Added encoding to read file in utils for `UnicodeDecodeError`)

✓ Deliverables:

- List of bugs/errors encountered and how you resolved them (max 300 words)
- Updated and working version of the project (`main.py`, `agents.py`, etc.)

<https://github.com/shivamgiri007/ShivamOnboarding/blob/main/Assignmetns/Assessmen t2/main.py>

<https://github.com/shivamgiri007/ShivamOnboarding/blob/main/Assignmetns/Assessmen t2/agent.py>

3. Understanding Agent Structure (Analysis)

Answer the following:

- **What roles do the agents in this example play?**

Ans : Financial Analyst , Research Analyst , Private Investment Advisor

- **What is each task meant to accomplish?**

Ans : `financial_analysis`: Analyze the financial health and market performance of `company_stock` using key metrics and industry comparisons.

`research`: Summarize recent news, market sentiment, and upcoming events related to `company_stock` and its industry.

`filings_analysis`: Extract critical insights from the latest 10-Q and 10-K filings of `company_stock` focusing on risks, performance, and insider activity.

`recommend`: Deliver a comprehensive investment recommendation for `company_stock` by synthesizing financial, news, and regulatory insights.

- **What tools are invoked (e.g., `yfinance`, LLM calls)?**

Ans : `ScrapeWebsiteTool()`

`WebsiteSearchTool()`

Inheriting `RagTool` and overriding custom functionality

Custom Tool : `CalculatorTool`

- **How are outputs from agents passed across tasks?**

Ans : - Outputs passing definition is declared in agents and tasks yaml file.

- No context Parameter used externally how output is parsed to next agent.

✓ **Deliverables:**

- A markdown file ([architecture.md](#)) explaining how the crew, agents, and tasks interact.

[https://github.com/shivamgiri007/ShivamOnboarding/blob/main/Assignmetns/Assessmen
t3_crewAI/architecture.md](https://github.com/shivamgiri007/ShivamOnboarding/blob/main/Assignmetns/Assessmen
t3_crewAI/architecture.md)

- A basic flowchart showing agent-task-tool relationships

Task (Financial Anakysis) -----→ Agent (Financial Agent)

|

|

Task (research) -----→ Agent (research_analyst_agent)

|

|

Task (financial_analysis) -----→ Agent (financial_analysis_agent)

|

|

Task (filings_analysis) -----→ Agent (financial_analysis_agent)

|

|

Task (Recommend) -----→ Agent (investment_advisor_agent)



Short Reflection (200–300 words)

Write a brief reflection covering:

- How did you approach the debugging process?
 - readme.md file contains Flow of execution how to execute.
 - installed crewai in venv and other dependancies
 - Created free tier API_KEY endpoint for browserless.
 - Created SEC_API_KEY for online datasets.
 - Created SERPER_API_KEY
 - After fullfilling all requirements , changed Deprecated methods to latest methods
 - (pydantic v2 to pydantic , schema to model_json_schema)
 - enabled commented tool WebsiteSearchTool for rag retrieval.
- What did you learn about CrewAI's agent/task model?
 - Crew ai is similar to langgraph , only difference is more automated than langgraph , decisions are solely depend upon llm , need to be accurate description prompts for perfect execution of tasks.
 - unlike langgraph we can bind multiple crews with similar functionality for more complex tasks than langgraph.