F-21 - GitHub Copilot Chat Extensions

SUMMARY

In this session, we explored the **GitHub Copilot Chat Extensions** feature, a powerful addition that enhances the capabilities of GitHub Copilot by allowing it to integrate extensions and tools. By enabling these extensions, Copilot can perform a wider range of tasks, such as web searches, integrating with apps like MongoDB, Slack, and more.

We began by ensuring the extensions feature was enabled. To check if extensions are activated, we navigated to **Manage Copilot** and verified under **Copilot Extensions**. If not enabled, administrative access might be required to turn it on.

Next, we demonstrated using extensions in a fresh project:

1. Open a new project folder and name it "Extension Test."
2. Use **Copilot Chat** and enable **Ask Mode**.
3. Use the @ symbol to call and use extensions such as Web Search, allowing Copilot to pull up-to-date information and apply it in coding tasks.
4. With Copilot extended, we switched from the outdated Chat Completions API to the newer Responses API by using web search.

Finally, we showcased the use of the MongoDB extension to interact with a database directly from within the chat. This involved:

- Selecting the desired database.
- Executing a predefined query to list movie titles and display related data such as cast members.

WHAT WE LEARNED

- How to enable and use GitHub Copilot chat extensions.
- Conducting web searches through Copilot to get recent information.
- Integrating and using application-specific extensions such as MongoDB.
- Performing database operations directly within the chat interface.

HOW WE CAN APPLY IT

- **Web Development**: Use extensions to fetch the most recent API details and integrate them into your codebase seamlessly.
- **Database Management**: Directly execute database queries with extensions like MongoDB, Salesforce, etc.
- **DevOps**: Automate setup tasks by integrating extensions that can interact with cloud services such as Azure.
- **Communication**: Utilize chat platform integrations to streamline development communications in tools like Slack and Telegram.

TIPS AND TRICKS

- Always make sure the extensions are enabled under **Manage Copilot**.
- Use web search to get the latest information, especially when version updates or API deprecations occur.
- Regularly check and update extensions to ensure they are compatible with the latest software and APIs.
- Be cautious of third-party extensions; always verify their authenticity and follow any warnings provided.

EXAMPLES

Here's an example of switching from Chat Completions to Responses API:

```python
import openai

openai.api_key = 'YOUR_API_KEY'

response = openai.Responses.create(
    model="gpt-4.0",
    messages=[
        {"role": "system", "content": "You are a helpful assistant."},
        {"role": "user", "content": "Tell me a joke."}
    ]
)

print(response['choices'][0]['message']['content'])
```

Example using MongoDB extension to retrieve movie titles:

```javascript
db.getCollection('movies').find(
    {},
```

```
      {title: 1, _id: 0}
  ).toArray()
```

This report should serve as a comprehensive guide to understanding and applying GitHub Copilot Chat Extensions in various development scenarios.