

AIDD 30-Days Challenges. Task-day4

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1. What Are MCP Servers?

MCP (Model Context Protocol) servers act like a bridge between your AI model or your CLI and the tools you want it to use.

They give your model controlled access to things like:

- Files
- APIs
- Local functions
- External systems like Github, Firebase etc In simple term.

“An MCP server provides Gemini CLI with ‘tools’ so it can perform actions, not just respond with text.”

2. Why MCP Servers Are Valuable ?

They let you quickly give an AI model new capabilities.

They use a consistent structure, making it easy to connect them with different platforms.

They simplify things — no need to manually link every tool.

They make your system more organized and easier to maintain.

Beginners or students don’t need advanced backend knowledge; they just hook up to the server.

3. The Challenge

Gemini CLI can’t build complete agents on its own.

Its support for creating agents is limited.

Trying to make full agents directly in Gemini CLI can be frustrating and restrictive.

4. The Solution — Context7 ✨

There is a platform called **Context7**.

🔗 Link: <https://context7.com>

5. What Context7 Provides ?

Context7 is one complete MCP server.

It is not a collection of MCP servers — it is one MCP server that exposes powerful tools and documentation.

It includes:

- Documentation for Python
- Documentation for OpenAgents SDK
- Documentation for Supabase
- Documentation for FastAPI
- Documentation for all modern frameworks

Auto-updating documentation

(So if OpenAgents SDK updates → Context7 updates too.)

6. Why This Is Perfect ?

Because when you ask Gemini CLI to build an agent using the OpenAgents SDK:

- It will not produce errors
- It will follow the correct documentation
- It will understand the updated workflow
- Students don't have to keep checking new docs
- The whole system stays fresh and compatible

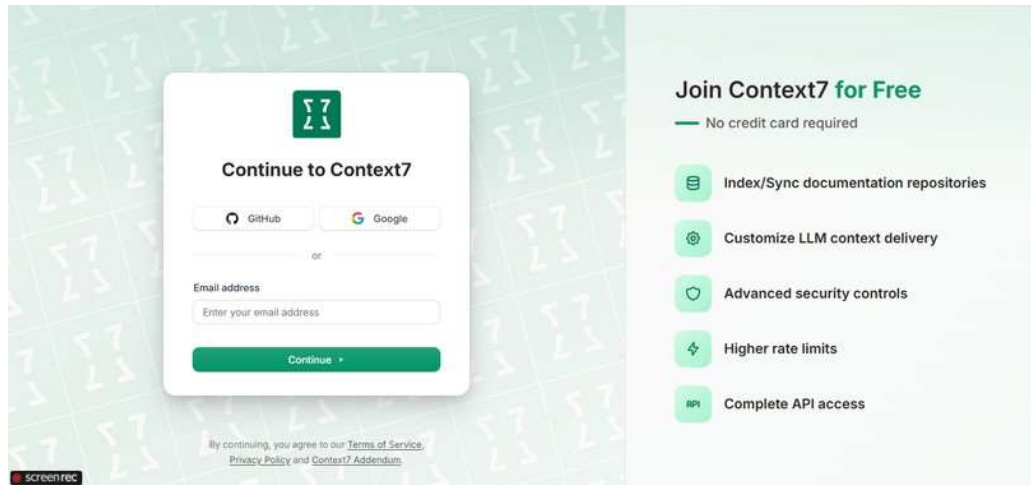
“This eliminates the hassle of Gemini CLI being unsure about how to construct agents.”

7. Task 4 — Connecting Context7 MCP Server to Gemini CLI#

For today's task, you will connect the Context7 MCP server to your Gemini CLI

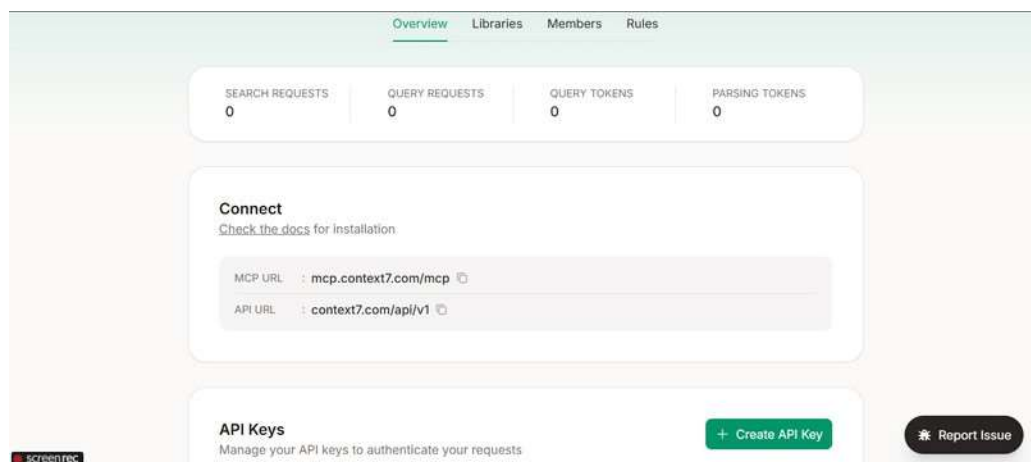
Step-by-Step Instructions

1. Create Account (Context7 MCP Server)



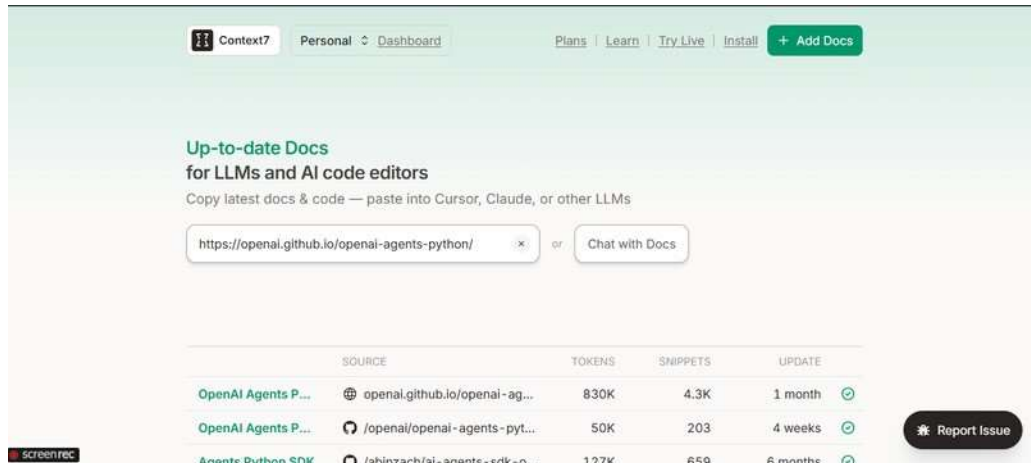
The image shows the Context7 account creation interface. On the left, a white card titled "Continue to Context7" features the Context7 logo (a green square with a white '7' and a bracket) and two login buttons: "GitHub" and "Google". Below these is a text input field for "Email address" with the placeholder "Enter your email address" and a green "Continue" button. At the bottom of the card, a small disclaimer states: "By continuing, you agree to our [Terms of Service](#), [Privacy Policy](#) and [Context7 Addendum](#)." On the right, a green section titled "Join Context7 for Free" lists benefits: "No credit card required", "Index/Sync documentation repositories", "Customize LLM context delivery", "Advanced security controls", "Higher rate limits", and "Complete API access". A "screenrec" watermark is visible in the bottom left corner.

2. Get API KEY



The image shows the Context7 dashboard. At the top, there are tabs: "Overview" (selected), "Libraries", "Members", and "Rules". Below the tabs is a row of four statistics: "SEARCH REQUESTS 0", "QUERY REQUESTS 0", "QUERY TOKENS 0", and "PARSING TOKENS 0". The main section is titled "Connect" and includes a link "Check the docs for installation". Below this, there are two input fields: "MCP URL" with the value "mcp.context7.com/mcp" and "API URL" with the value "context7.com/api/v1". At the bottom, there is a section titled "API Keys" with the text "Manage your API keys to authenticate your requests". To the right of this text is a green button labeled "+ Create API Key" and a dark grey button labeled "Report Issue". A "screenrec" watermark is visible in the bottom left corner.

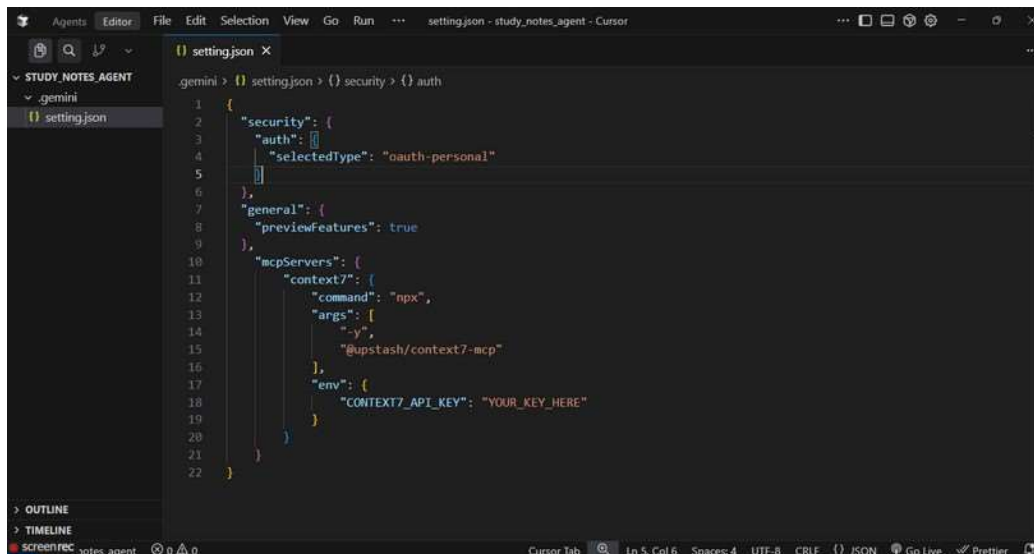
3. Library Add (OpenAI Agents SDK)



The screenshot shows the Context7 dashboard with a navigation bar at the top containing links for Plans, Learn, Try Live, Install, and Add Docs. The main content area features a section titled "Up-to-date Docs for LLMs and AI code editors" with a subtext "Copy latest docs & code — paste into Cursor, Claude, or other LLMs". Below this is a search bar containing the URL "https://openai.github.io/openai-agents-python/" and a "Chat with Docs" button. A table lists the sources of the documentation, including OpenAI Agents P... and Agents Python SDK, with columns for SOURCE, TOKENS, SNIPPETS, and UPDATE. A "Report Issue" button is located at the bottom right.

SOURCE	TOKENS	SNIPPETS	UPDATE
OpenAI Agents P...	830K	4.3K	1 month
OpenAI Agents P...	50K	203	4 weeks
Agents Python SDK	127K	659	6 months

✳ Setting.json File



The screenshot shows the Cursor IDE interface with the setting.json file open. The file contains a JSON configuration for the Gemini model, including security settings, general features, and MCP servers. The configuration is as follows:

```
1 {
2   "security": {
3     "auth": {
4       "selectedType": "oauth-personal"
5     }
6   },
7   "general": {
8     "previewFeatures": true
9   },
10  "mcpServers": {
11    "context7": {
12      "command": "npx",
13      "args": [
14        "-y",
15        "@upstash/context7-mcp"
16      ],
17      "env": {
18        "CONTEXT7_API_KEY": "YOUR_KEY_HERE"
19      }
20    }
21  }
22 }
```

✓ Successfully MCP Configuration



```
C:\WINDOWS\system32\cmd
> GEMINI

Tips for getting started:
1. Ask questions, edit files, or run commands.
2. Be specific for the best results.
3. Create GEMINI.md files to customize your interactions with Gemini.
4. /help for more information.

> /mcp refresh

Restarting MCP servers...
Configured MCP servers:
● context7 - Ready (2 tools)
Tools:
- get-library-docs
- resolve-library-id

Using: 1 MCP server
> Type your message or @path/to/file
~\Desktop\study_notes_agent no sandbox (see /docs) auto
```

8. Practical Task — Build the Study Notes Summarizer & Quiz Generator Agent....

After Context7 is connected, you will create an agent using:

- OpenAgents SDK
- Streamlit (recommended for UI, but HTML/CSS is allowed your choice)
- PyPDF (for PDF text extraction)
- Gemini CLI
- Context7 MCP (tool provider)

9. What the Agent Will Do

A. PDF Summarizer → PDF Summary Tool

The user uploads a PDF file.

The agent extracts text using PyPDF.

It produces a clear and concise summary.

The summary can be displayed in any UI style the user prefers (card, block, container, etc.).

B.Quiz Generator

After the summary is ready, the user can click Create Quiz.

The agent reviews the full original PDF (not just the summary).

It generates:

Multiple-choice questions (MCQs)

Or quizzes with mixed question types.

“BEST OF LUCK FOR ME”