Model Context Protocol (MCP)

Idea Behind Protocols [Website]
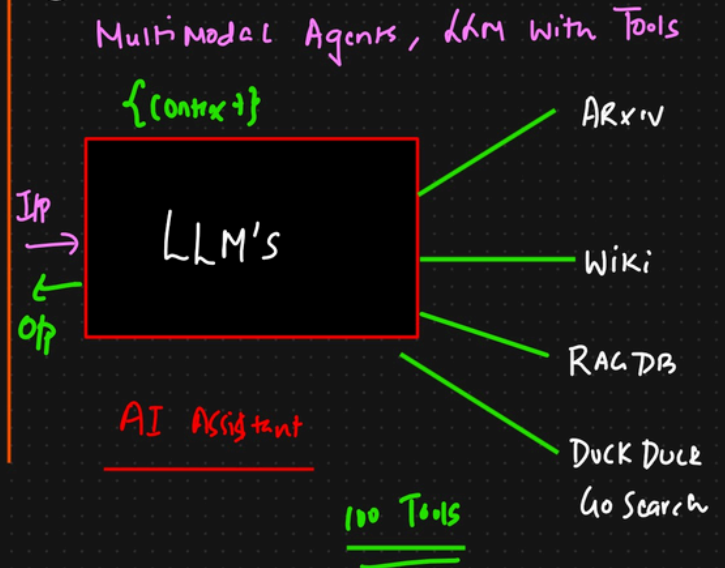
/Get /Put
/Post

Client → Server
https → medium
←

/Login
/liveclasses
/courses

Common ⇐ {Rest API}   JSON

POSTMAN   {   JSON   }
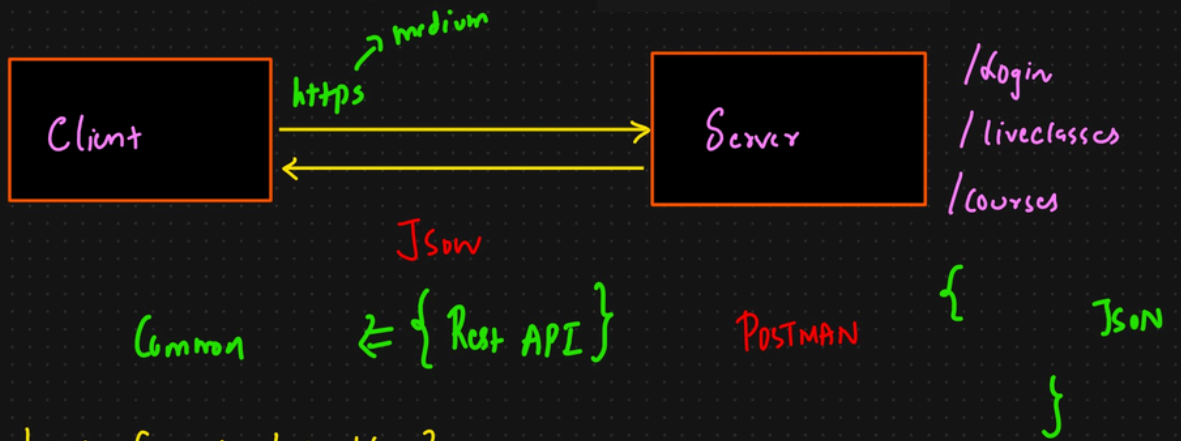
What we have learnt till Now?

① **Generative AI**

I/P → | LLM's | → O/P

Llama
OpenAI
Google Gemini

{Solve All the Tasks}

② Multi Modal Agents, LLM with Tools

{context}

I/P → | LLM's | → ARXIV
O/P ←   → Wiki
                   → RAG DB
AI Assistant   → Duck Duck Go Search

100 Tools

③ **LLMs + MCP**

| LLM | — USB → | MCP | → Tool 1
                        → Tool 2
              Protocol → Tool 3

Important Components

MCP host ✔

→ IDE {vs, Cursor}

→ Claude Desktop

MCP Client ✔ → Application

① MCP host
② MCP Client
③ MCP SERVER
   ↓ ↓ ↓
Tool Providers.

MCP Protocol

MCP Server ✔   Server 2   Server 3

Code
Rep.   DB   API's

}→ Managed By Service Providers

SERVICES

Communication Between These Components

I/P
↓

IDE

MCP HOST   MCP CLIENT

①
Tools

②
Questions + Tools →

Context

②
LLM → O/p.

Which Tools to Use
(DB)

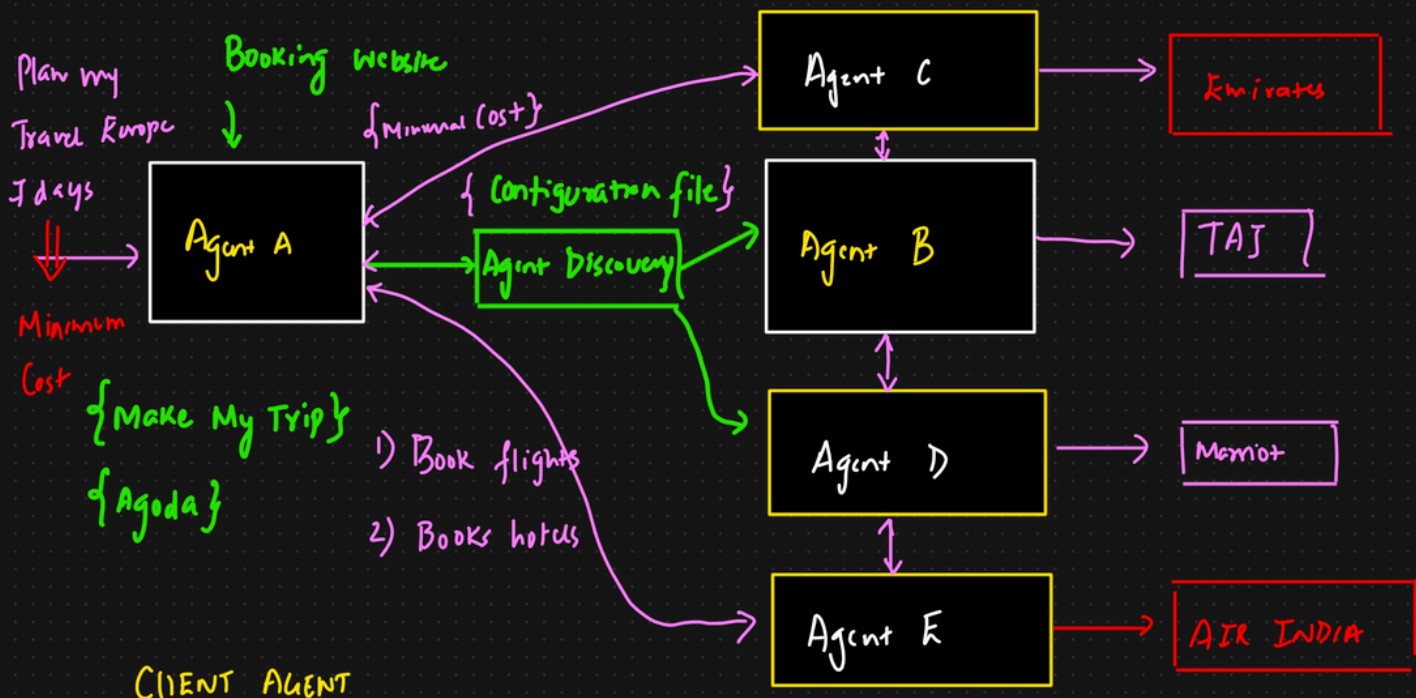③ Call that Specific Tool

MCP Servers

↓   ↓
DB   API
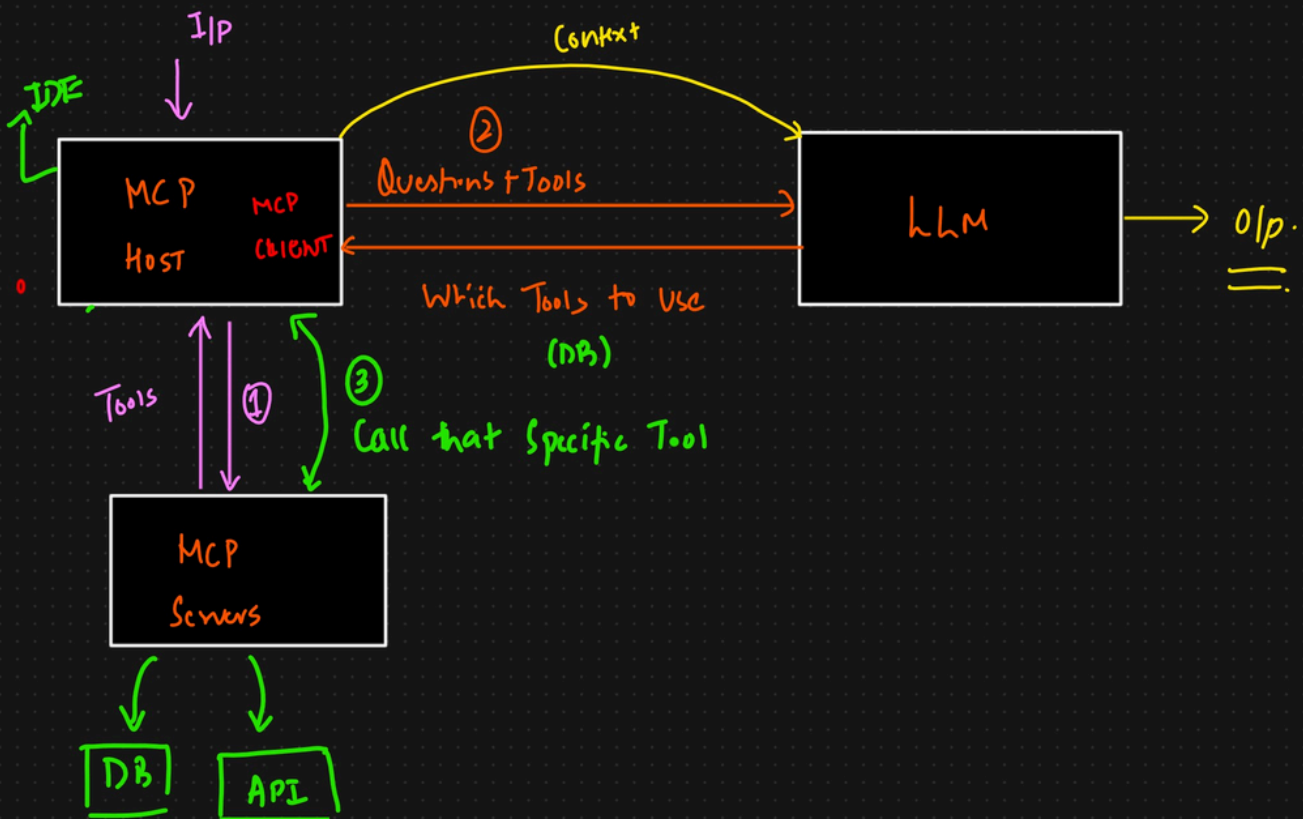
Agenda

1) What is A2A protocol?

2) How does A2A protocol work?

3) Difference between A2A vs MCP?

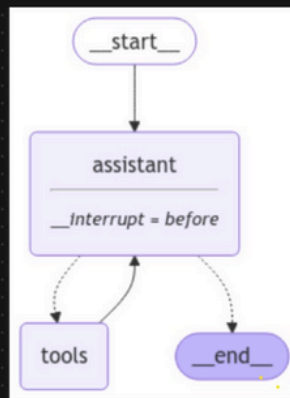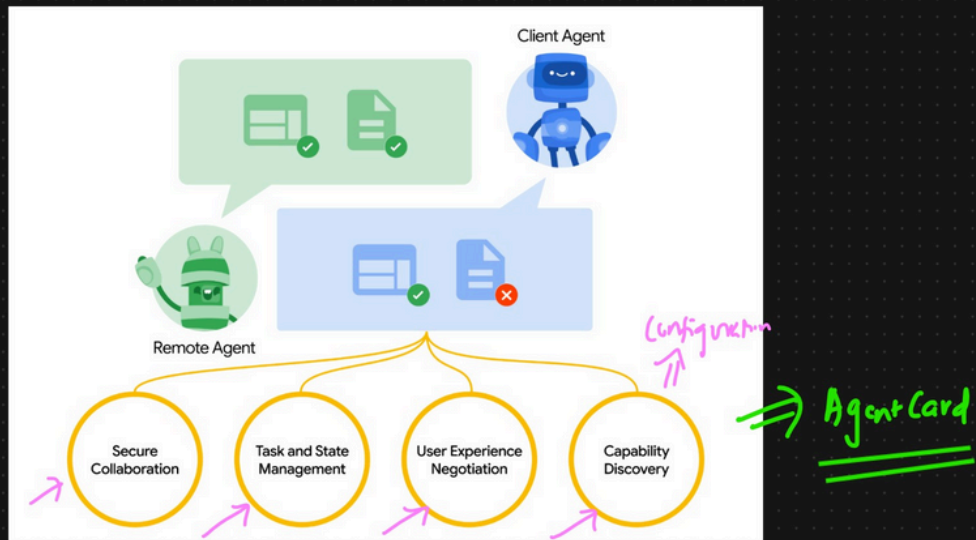4) Dem with coding?

5) Future Thoughts

① **What is A2A protocol**

A2A is an open protocol that complements Anthropic's Model Context Protocol (MCP), which provides helpful tools and context to agents. Drawing on Google's internal expertise in scaling agentic systems, we designed the A2A protocol to address the challenges we identified in deploying large-scale, multi-agent systems for our customers

Plan my
Travel Europe
7 days

Booking Website

{Minimal cost}

{Configuration file}

Agent A

Agent Discovery

Agent C → Emirates

Agent B → TAJ

Minimum Cost

{Make My Trip}
{Agoda}

1) Book flights
2) Books hotels

Agent D → Marriot

Agent E → AIR INDIA

CLIENT AGENT

REMOTE AGENT.

How A2A works?

Configuration
⇒ **Agent Card**

Internet
Search   MCP

Db

API's

Agent A

MCP   vs   A2A

MCP
Agent A

AI Assistant   Protocol

Agent B   Service Provider

Configuration   mcpserver
{
, ←
} ←

LLM ← Context   AIRBNB

Host   ← Service providers
MCP
MCP
Server

Client

Cursor IDE   Duck Duck Go Search
MCP
Claude Desktop   MCP   ← Service provide
Protocol   Server
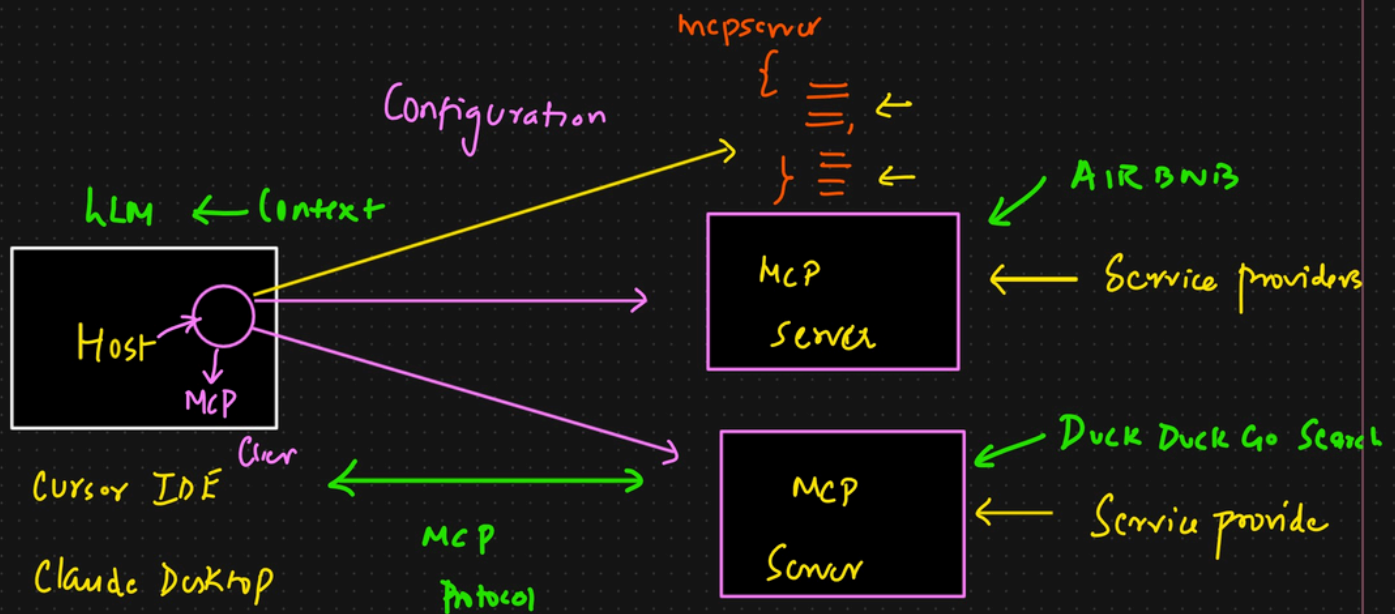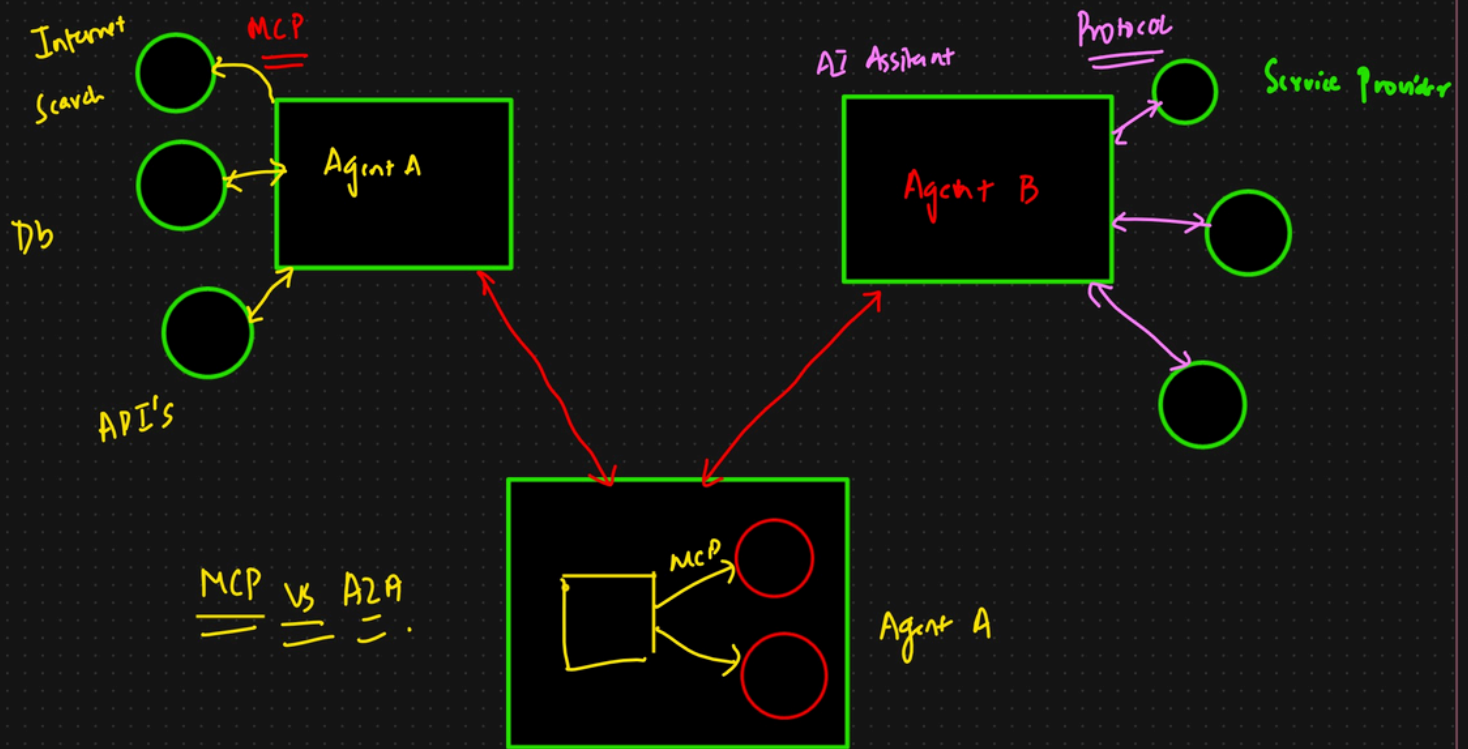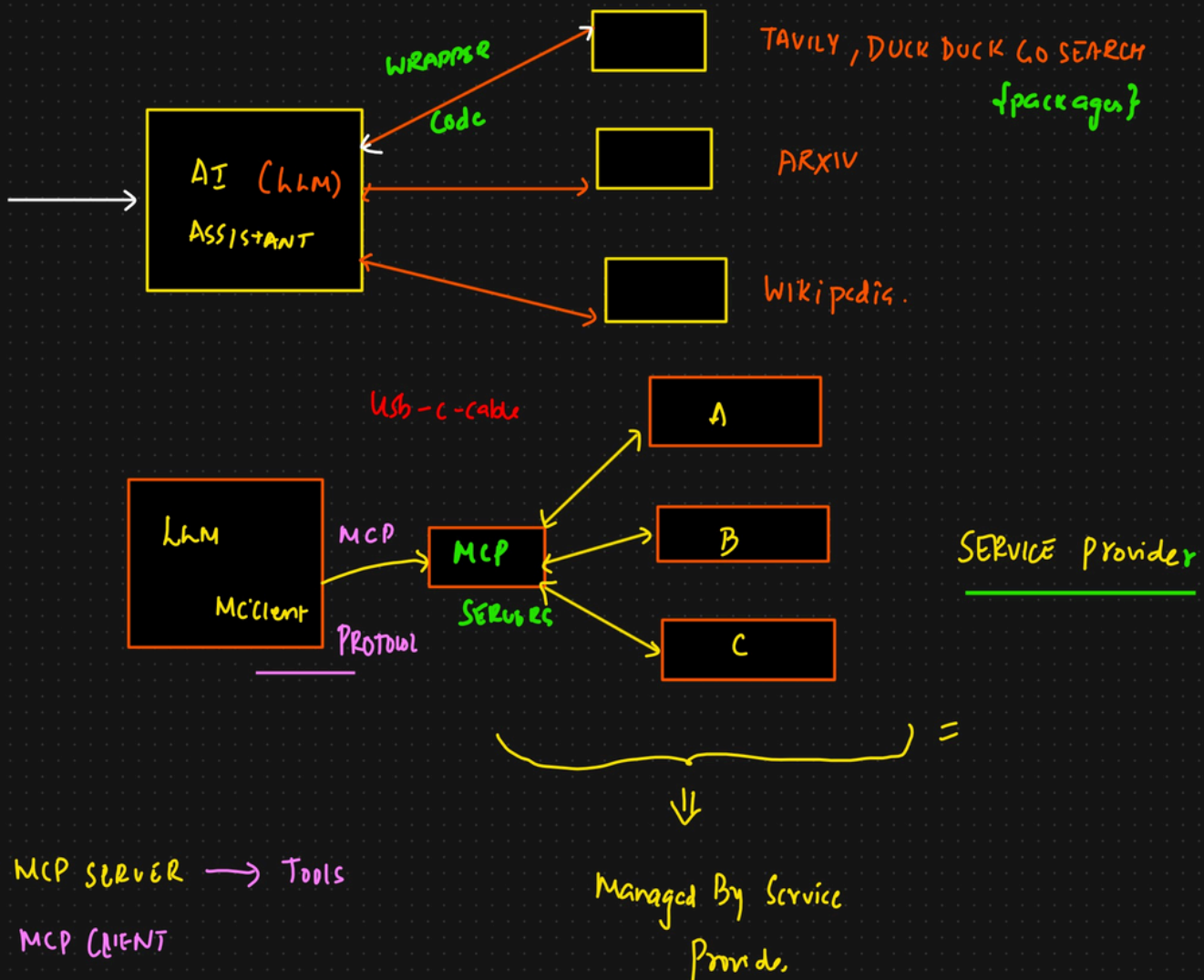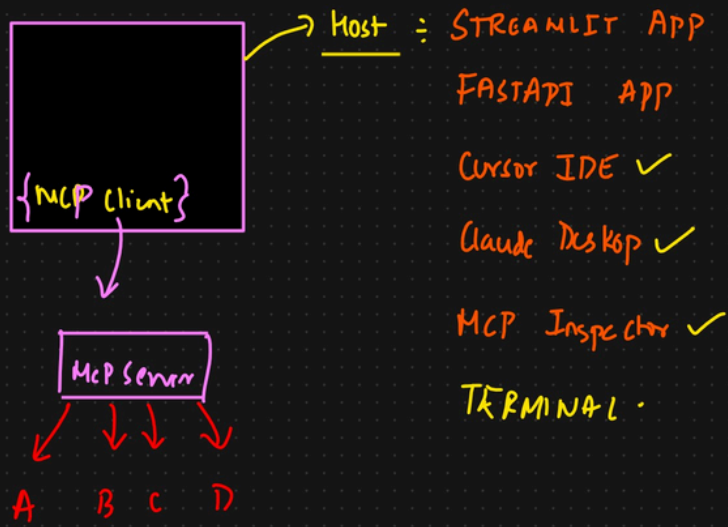
MCP CRASH COURSE

Agenda

1) What is MCP? [Revise]

2) Building MCP Server FROM SCRATCH [MCP Inspector, Claude, Cursor]

3) Integrating MCP SERVER WITH CLIENT

4) Integrating With LLM's

5) Dockers Setup [Deployment].

AI (LLM) ASSISTANT

WRAPPER
Code

TAVILY, DUCK DUCK GO SEARCH
{packages}

ARXIV

Wikipedia.

LLM

MCP
MC'Client
PROTOCOL

Usb-c-cable

MCP
SERVES

A

B

C

SERVICE Provider

=

⇓

Managed By Service Provider

1) MCP SERVER ⟶ Tools

2) MCP CLIENT

Host : STREAMLIT APP
FASTAPI APP
Cursor IDE ✓
Claude Desktop ✓
MCP Inspector ✓
TERMINAL .

{MCP client}

MCP Server

A   B   C   D

@mcp.tools.
getallcars