

MCP + Vector DB + A2A Cheat Sheet

Generated: 2025-09-11 07:03 UTC

MCP + Vector DB + A2A Cheat Sheet

****Generated:**** 2025-09-11 07:00 UTC

MCP Basics

```
@mcp.resource
def get_profile(id): return {"id": id}
@mcp.tool
def add(a,b): return a+b
@mcp.prompt("greet")
def greet(name): return f"Hi {name}"
```

- Resources = read-only data
- Tools = actions
- Prompts = reusable templates
- Client enforces auth/logs; Server hosts logic.

Vector Databases

```
@mcp.resource
def search_knowledge(q): return vector_index.search(embed(q))
```

- Store embeddings + enable ANN search (semantic similarity).
- Common: FAISS, Pinecone, Milvus, Chroma.
- Example resource:
- Challenges: embedding drift, cost, latency, PII redaction.

Google A2A (Agent-to-Agent)

```
class AgentRegistry: ...
```