

STAFF BROWSER

(ai.mbot.org.my)

User Browser (Chrome / Edge)

| HTTPS  
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AUTHENTICATION LAYER

Integrated with Existing MBOT User Credentials

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AUTHORIZATION LAYER

Role-Based Access Control (RBAC)

Roles:

- System Administrator
- Finance
- IT
- Registration
- Assessment
- Strategic
- TTAS
- TPDC
- HOD

Document Access Levels:

- Public
- Internal
- Restricted
- Confidential

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AI KNOWLEDGE PORTAL

(ai.mbot.org.my)

Modules:

- Dashboard
- AI Search
- AI Chat
- Document Repository
- Document Upload
- Document Management
- Category Management
- Chat History
- Audit Trail

AI BACKEND (API)

PHP 8.x / FastAPI

Functions:

- Document Search
- Semantic Search
- Embedding Management
- Citation Retrieval
- Response Formatting
- Audit Logging
- Permission Validation

DOCUMENT PROCESSING ENGINE

Functions:

- PDF Extraction
- DOCX Extraction
- PPTX Extraction
- Metadata Extraction
- Text Chunking
- Embedding Generation

Supported Formats:

- PDF
- DOCX
- PPTX



## DATA STORAGE

(Filter by Role Permission)

Ubuntu Server 24.04 LTS

PostgreSQL + pgvector

Database Components:

- Users
- Roles
- Permissions
- Documents
- Categories
- Document Chunks
- Document Embeddings
- Chat History
- Audit Logs
- System Logs

Document Storage:

/documents

Storage Capacity:

300GB SSD (Expandable)



## OPENAI API (ENGINE)

GPT-5.5 Mini

Functions:

- Question Answering
- Knowledge Retrieval
- Context Understanding
- Document Summarisation
- Response Generation

text-embedding-3-small

Functions:

- Document Embedding
- Semantic Search
- Similarity Matching
- Context Retrieval

RESPONSE VALIDATION LAYER

Functions:

- Permission Verification
- Source Verification
- Citation Verification

AI RESPONSE / ANSWER

Displayed to staff at [ai.mbot.org.my](https://ai.mbot.org.my)

Output Includes:

- AI Generated Answer
- Document Reference
- Page Number
- Section Reference