

[Intelligent Sri Lanka IRD Tax Intelligence & Compliance Assistant](#)

API Documentation

1. Overview

The **IRD Tax Intelligence API** provides a secure, document-grounded interface for querying Sri Lanka Inland Revenue Department (IRD) tax information.

This API is part of the Intelligent Sri Lanka IRD Tax Intelligence & Compliance Assistant project.

⚠ Important Guarantee All answers are generated **strictly from IRD-published PDF documents**. The system **does not guess, does not hallucinate, and does not use external knowledge**.

If information is unavailable or ambiguous, the API clearly informs the user.

2. Base URL

```
http://127.0.0.1:8000
```

3. Authentication

No authentication is required (local academic prototype).

4. API Endpoints

◊ 4.1 Upload IRD Documents

Endpoint

```
POST /upload
```

Purpose

Upload one or more **official IRD PDF documents** and automatically rebuild:

- Text extraction
- Chunking
- Vector embeddings
- FAISS index

Request

Content-Type: multipart/form-data

Field	Type	Description
files	File[]	One or more IRD PDF files

Example (Swagger / Postman)

Upload:

```
PN_IT_2025-01.pdf  
SET_25_26_Detail_Guide_E.pdf
```

Response (200 OK)

```
{  
  "message": "Uploaded and rebuilt index successfully",  
  "files": [  
    "PN_IT_2025-01.pdf",  
    "SET_25_26_Detail_Guide_E.pdf"  
  ]  
}
```

Possible Errors

Status	Meaning
400	File is not a PDF
500	Index rebuild failed

◊ 4.2 Query Tax Information

Endpoint

```
POST /query
```

Purpose

Ask tax-related questions using IRD documents only.

The API automatically:

1. Retrieves relevant document sections
 2. Applies guardrails
 3. Generates a safe answer
 4. Adds citations
 5. Appends a mandatory disclaimer
-

Request Body

```
{  
  "question": "What is the personal relief for 2025/2026?",  
  "top_k": 5,  
  "use_llm": true  
}
```

Field	Type	Description
question	string	User tax question
top_k	number	Number of chunks to retrieve
use_llm	boolean	Enable LLM answering (optional)

Response Structure

```
{  
  "answer": "...",  
  "sources": [],  
  "status": "ok",  
  "used_llm": true  
}
```

Field	Description
answer	Final response text
sources	List of cited documents
status	ok / missing / ambiguous
used_llm	Whether LLM was used

5. Example Scenarios

- Example 1: Valid Question

Request

```
{  
  "question": "What is the personal relief for 2025/2026?"  
}
```

Response

```
{  
  "answer": "Personal Relief for the year of assessment 2025/2026 is Rs.  
1,800,000.",  
  "sources": [  
    {  
      "document": "PN_IT_2025-01_26032025_E.pdf",  
      "page_range": [1],  
      "section": "PN/IT/2025-01"  
    }  
  ],  
  "status": "ok",  
  "used_llm": true  
}
```

✖ Example 2: Missing Information

Request

```
{  
  "question": "What is the VAT rate for 2025?"  
}
```

Response

```
{  
  "answer": "This information is not available in the provided IRD  
documents.\n\nThis response is based solely on IRD-published documents and is not  
professional tax advice.",  
  "sources": [],  
  "status": "missing",  
  "used_llm": false  
}
```

⚠ Example 3: Ambiguous Question

Request

```
{  
  "question": "What is the tax rate?"  
}
```

Response

```
{  
  "answer": "Your question may be ambiguous. Do you mean Personal Income Tax  
  (PIT), Corporate Income Tax (CIT), or SET instructions? Please specify the tax  
  type and year of assessment.",  
  "sources": [],  
  "status": "ambiguous",  
  "used_llm": false  
}
```

6. Guardrails & Safety

The API enforces **three critical guardrails**:

Condition	Behavior
Missing info	Returns "Not available"
Ambiguous query	Requests clarification
Low confidence	Refuses to answer

This guarantees **zero hallucination**.

7. Disclaimers

Every response automatically ends with:

"This response is based solely on IRD-published documents and is not professional tax advice."

This is enforced at code level.

8. Testing the API

Swagger UI

```
http://127.0.0.1:8000/docs
```

CLI Testing

```
python -m llm.answer_with_llm
```

9. Limitations

- Only IRD PDFs are used
 - No external tax knowledge
 - LLM runs locally (Ollama)
 - Not a replacement for a tax professional
-

10. Version

API Version: 1.0.0 **Project Type:** Academic / Research Prototype
