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التصدير إلى GitHub README أو PDF:

📁 whoosh_search_guide.md

> # 📘 Full Guide: Full-Text Search System using Whoosh (Python Library)
>
> ## Step 1: Define the Schema
> The schema defines the structure of the documents in the index.
> You specify what fields each document has, and how each field is treated.
>
> ### ◆ Code:
> ```python
> from whoosh.fields import Schema, TEXT
> schema = Schema(title=TEXT(stored=True), content=TEXT(stored=True))
> ```

🔷 Explanation:

- `TEXT` : Full-text searchable field.

- `stored=True` : The original content will be saved (to be shown in search results).

Step 2: Create the Index

The index is the database where documents are stored and made searchable.

🔷 Code:

```
import os
from whoosh.index import create_in

if not os.path.exists("indexdir"):
    os.mkdir("indexdir")
```

```
ix = create_in("indexdir", schema)
```

◆ Explanation:

- `"indexdir"` : Folder that stores the index files.

- `create_in(...)` : Creates a new index in the specified directory.

- You can reopen the index later using `open_dir("indexdir")` .

Step 3: Add Documents to the Index

Add documents with the fields defined in the schema.

◆ Code:

```
writer = ix.writer()
writer.add_document(title="First Doc", content="This is the first test documen
t.")
writer.add_document(title="Python Tips", content="This article explains Pytho
n and Whoosh usage.")
writer.commit()
```

◆ Explanation:

- `ix.writer()` : Creates a writer to add documents.

- `add_document(...)` : Adds a new document.

- `commit()` : Saves all added documents.

Step 4: Search the Index

Run search queries and get the results.

◆ Code:

```
from whoosh.qparser import QueryParser

with ix.searcher() as searcher:
    query = QueryParser("content", ix.schema).parse("Python")
    results = searcher.search(query)
    for result in results:
        print(result['title'])
```

🔷 Explanation:

- `QueryParser` : Parses a search string into a Whoosh query.

- `search(query)` : Executes the search.

- `result['title']` : Displays the matched document title.

✅ Summary

1. 📌 Define Schema → What fields exist.

2. 📁 Create Index → Create a searchable database.

3. 📝 Add Documents → Insert data.

4. 🔍 Search → Run queries and return results.

📦 Whoosh Use Cases

- Lightweight full-text search in Python apps

- Educational/academic tools

- Local document search without external DB

📌 ملاحظات:
- Obsi أو VS Code مثل Markdown تقدر تنسخ هذا الملف وتلصقه في أي محرر يدعم dian.
- لحفظه كـ PDF، افتحه في أي أداة Markdown ثم Print → Save as PDF.

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