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ARCHITECTURE REFERENCE

# ODT-GDAP



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## GDAP — Global Doctrine Alignment Platform

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*Architecture Reference*

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# GDAP — GLOBAL DOCTRINE ALIGNMENT PLATFORM

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Bi-temporal coalition knowledge graph for doctrine analysis.

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## LLAMAINDEX RETRIEVAL STACK

Phase 3 retrieval primitives live under `gdap.llamaindex`:

- Dense semantic retrieval ( `VectorStoreIndex` )
- Sparse lexical retrieval ( `BM25SparseRetriever` )
- Reciprocal-rank fusion ( `QueryFusionRetriever` )
- Property-graph construction ( `PropertyGraphIndex` )

Example usage:

```
from llama_index.core import Document
from gdap.llamaindex import HashEmbedding, build_retrieval_stack, route_query

docs = [
    Document(
        id="US:ADP-TEST:ch1:001:1.0",
        text="The commander retains risk acceptance authority.",
        metadata={"unique_id": "US:ADP-TEST:ch1:001:1.0", "source_nation": "US"},
    )
]

stack = build_retrieval_stack(
    documents=docs,
    embedding_model=HashEmbedding(embed_dim=96),
    include_property_graph=True,
)

results = stack.fusion_retriever.retrieve("risk acceptance authority")
route = route_query("Show authority chain dependencies")
```

## API ENDPOINTS

| Route                            | Method | Description  |
|----------------------------------|--------|--|
| <code>/health</code>             | GET    | Health check   |
| <code>/stats</code>              | GET    | Knowledge graph table counts   |
| <code>/elements</code>           | GET    | Query doctrine elements (filters: nation, content_type, wff, search) |
| <code>/elements/{id}</code>      | GET    | Single element by unique ID  |
| <code>/divergences</code>        | GET    | Cross-national divergences   |
| <code>/align</code>              | POST   | Run alignment analysis between two nations                           |
| <code>/diffs</code>              | GET    | Version diffs  |
| <code>/drift</code>              | GET    | Concept drift records  |
| <code>/data-map</code>           | GET    | Doctrine-to-data mapping coverage                                    |
| <code>/authority/{doc_id}</code> | GET    | Authority graph for a document                                       |
| <code>/exploitability</code>     | GET    | DVEE exploitability scores   |
| <code>/seams</code>              | GET    | Coalition seams  |
| <code>/query</code>              | POST   | Raw read-only SQL  |

## RELATED DOCUMENTS

- [GDAP\\_VISION.md](#) — Full platform vision, 10 use-case domains, DVEE
- [GDAP\\_PERSISTENCE\\_STRATEGY.md](#) — DuckDB canonical truth, LlamaIndex derived artifacts
- [GDAP\\_ACCEPTANCE\\_TESTS.md](#) — P0/P1/P2 release gates
- [GDAP\\_ADR\\_0001\\_LLAMAINDEX.md](#) — DuckDB vs LlamaIndex boundary decision