

MEP 4 -- Support Search by ID

Current state: Under Discussion

ISSUE: [#5215 Support using the ID search that already exists in the collection](#)

PRs:

Keywords: Query / Search / ID

Released:

Summary

When the vector is stored in Milvus, the corresponding ID will be generated. If the vector to be queried already exists, it will be more efficient to query directly by ID. However, the current version does not support querying by ID. We can only use the ID to retrieve the vector and then use the vector for query, which reduces the efficiency.

This proposal is about

- The API of the new function
- The details on how to support search by ID

Motivation

1. **Reduce complicated Operation:** Without the new function, users need to call the `get_entity_by_id()` and `search()` to perform vector querying by id
2. **Low querying efficiency:** Calling functions `get_entity_by_id()` and `search()` both need to load data into memory, which consume time.

Design Details

A. What is the API of the new function?

Plan (Recommended): The API of the new function is the same as the `search()` function, except for one parameter: `query_record` is replaced by `query_id`

Pros: The PyMilvus repository is more valuable.

Cons: Not see any.

B. How to search by ID?

Plan B1 Directly use the existing functions `search()` and `get_entity_by_id()` to construct new function

Pros:

Reduce operations in querying by id. Only need to call the function once.

Cons:

The efficiency of the querying behavior is still low and has not changed.

Plan B2 (Recommended): The new function will :

- 1 Find the vector corresponding to specific id from the data that already in the memory
- 2 Use the vector to do vector querying with the data that has been read in the memory

Pros:

- 1 Reduce operations in querying by id. Only need to call the function once.
- 2 Improving the efficiency of the querying behavior by avoiding duplicated data loading.

Cons:

Not see any

Compatibility, Deprecation, and Migration Plan

Need to merge the new function into 2 python SDKs for Milvus, PyMilvus and PyMilvus-ORM

Test Plan

- need to pass the unittest
- need to pass the basic python test case

Rejected Alternatives

References