# Github repo link:

https://github.com/yanxinc/a3-grpc-yanxinc

Server Link: <a href="https://github.com/yanxinc/a3-grpc-yanxinc/blob/main/src/server/server.py">https://github.com/yanxinc/a3-grpc-yanxinc/blob/main/src/server/server.py</a>
Client Link: <a href="https://github.com/yanxinc/a3-grpc-yanxinc/blob/main/src/test.py">https://github.com/yanxinc/a3-grpc-yanxinc/blob/main/src/test.py</a>
Function & Test Link: <a href="https://github.com/yanxinc/a3-grpc-yanxinc/blob/main/src/test.py">https://github.com/yanxinc/a3-grpc-yanxinc/blob/main/src/test.py</a>

## **Protocol Buffer Definitions**

```
Unset
message User{
   string userID = 1;
}
```

```
Unset
message Post{
    enum State {
        NORMAL = 0;
        LOCKED = 1;
        HIDDEN = 2;
    }
    string title = 1;
    string text = 2;
    oneof media {
        string video_url = 3;
        string image_url = 4;
    }
    User author = 5;
    int32 score = 6;
    State state = 7;
    string publication_date = 8;
    int32 subreddit_id = 9;
    repeated string tags = 10;
}
```

```
Unset
message Comment{
  enum CommentState {
    NORMAL = 0;
    HIDDEN = 1;
  }
  int32 id = 1;
  oneof parent {
    int32 comment_id = 2;
    int32 post_id = 3;
  User author = 4;
  string text = 5;
  int32 score = 6;
  CommentState state = 7;
  string publication_date = 8;
  bool has_replies = 9;
}
```

```
Unset
enum VoteType {
   UPVOTE = 0;
   DOWNVOTE = 1;
}
```

#### - Extra Credit:

```
Unset
message Subreddit{
  enum SubredditState {
    PUBLIC = 0;
```

```
PRIVATE = 1;
HIDDEN = 2;
}
int32 id = 1;
string name = 2;
SubredditState state = 3;
repeated string tags = 4;
}
```

Note: more below

## Service Definitions

```
Unset
service RedditService {
   rpc CreatePost (CreatePostRequest) returns (CreatePostResponse);
   rpc VotePost (VotePostRequest) returns (VotePostResponse);
   rpc GetPost (GetPostRequest) returns (GetPostResponse);
   rpc CreateComment (CreateCommentRequest) returns
(CreateCommentResponse);
   rpc VoteComment (VoteCommentRequest) returns
(VoteCommentResponse);
   rpc GetTopComments (GetTopCommentsRequest) returns
(GetTopCommentsResponse);
   rpc ExpandCommentBranch (ExpandCommentBranchRequest) returns
(ExpandCommentBranchResponse);
}
```

Service	Input Protocol Buffer	Output Protocol Buffer
Create a Post - CreatePost	<pre>Unset  message CreatePostRequest{     string title = 1;     string text = 2;     oneof media {         string video_url = 3;         string image_url = 4;     }     optional User author = 5;     optional int32     subreddit_id = 6; }</pre>	<pre>Unset  message CreatePostResponse{   int32 post_id = 1;   Post post = 2; }</pre>
Upvote or downvote a Post - VotePost	<pre>Unset  message VotePostRequest{   int32 post_id = 1;   VoteType vote_type = 2; }</pre>	<pre>Unset message VotePostResponse {   int32 score = 1; }</pre>
Retrieve Post content - GetPost	<pre>Unset message GetPostRequest{   int32 post_id = 1; }</pre>	Unset  message GetPostResponse{     Post post = 1; }
Create a Comment - CreateComment	Unset message CreateCommentRequest{   oneof parent {	Unset  message CreateCommentResponse{   int32 comment_id = 1;

```
int32 comment_id = 1;
                                                             Comment comment = 2;
                         int32 post_id = 2;
                                                           }
                       User author = 3;
                       string text = 4;
Upvote or
downvote a
                     Unset
                                                           Unset
Comment -
                                                           message VoteCommentResponse{
                     message
VoteComment
                     VoteCommentRequest{
                                                             int32 score = 1;
                       int32 comment_id = 1;
                       VoteType vote_type = 2;
                     }
Retrieving a list of
N most upvoted
                     Unset
                                                           Unset
comments under a
post, where N is a
                     message
                                                           message
parameter to the
                     GetTopCommentsRequest{
                                                           GetTopCommentsResponse{
call. -
                       int32 N = 1;
                                                             repeated Comment comments =
GetTopComments
                       int32 post_id = 2;
                                                           1;
                     }
                                                           }
Expand a comment
branch. -
                     Unset
                                                           Unset
ExpandCommentB
                                                           message CommentWithReplies {
                     message
ranch
                     ExpandCommentBranchRequest
                                                             Comment comment = 1;
                                                             repeated Comment
                       int32 N = 1;
                                                           top_replies = 2;
                       int32 comment_id = 2;
                                                           }
                                                           message
                                                           ExpandCommentBranchResponse {
```

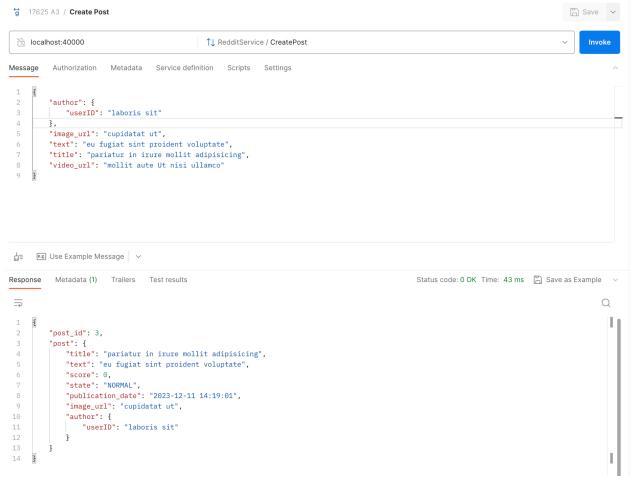
```
repeated CommentWithReplies
comments = 1;
}
```

# Storage Backend

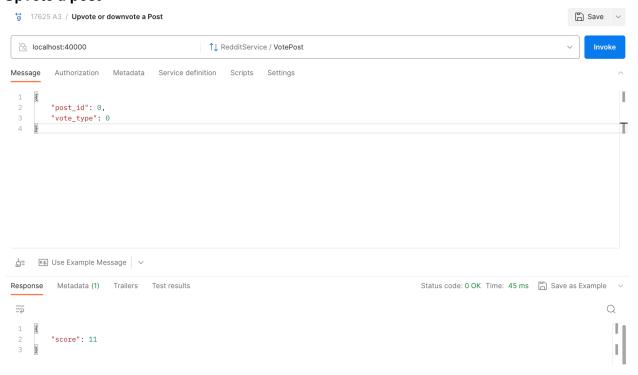
The storage is implemented as in-memory structure of posts and comments dictionaries. Some dummy data are also pre-populated from another file (db.py) to make more sense in testing. The dictionary keys are just the post/comment ids. There are also integer id trackers for what the next inserted object id should be.

## Extra Credit - Postman API Call Screenshots

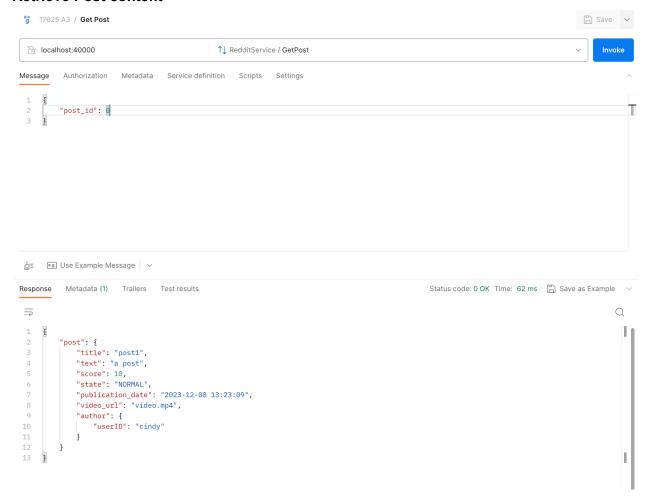
1. Create Post



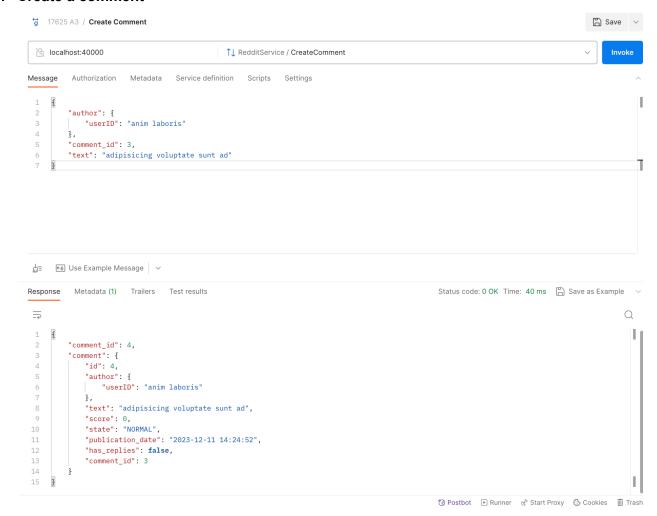
### 2. Upvote a post



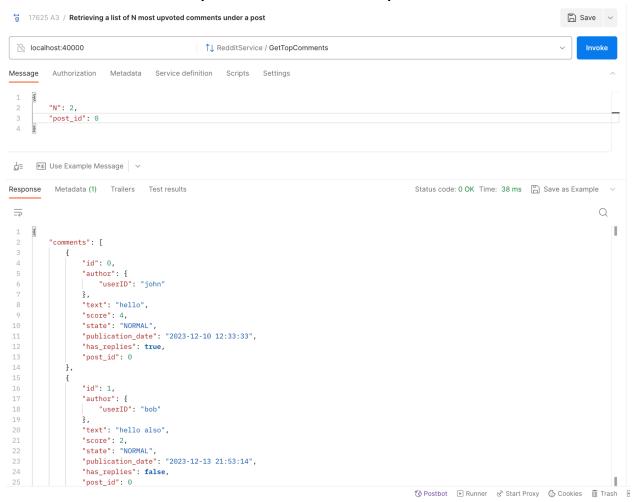
### 3. Retrieve Post content



#### 4. Create a comment



## 5. Retrieve a list of N=2 most upvoted comments under a post



### 6. Expand a comment branch

