# 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;
}
```

```
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;
}
```

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; }</pre>	<pre>Unset message CreatePostResponse{   int32 post_id = 1;   Post post = 2; }</pre>
Upvote or downvote a Post - VotePost	Unset message VotePostRequest{	Unset message VotePostResponse {

```
int32 post_id = 1;
                                                             int32 score = 1;
                       VoteType vote_type = 2;
                                                           }
Retrieve Post
content - GetPost
                     Unset
                                                          Unset
                     message GetPostReguest{
                                                          message GetPostResponse{
                       int32 post_id = 1;
                                                             Post post = 1;
                     }
                                                           }
Create a Comment
- CreateComment
                     Unset
                                                          Unset
                     message
                                                          message
                     CreateCommentRequest{
                                                           CreateCommentResponse{
                       oneof parent {
                                                             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
Comment -
                     message
                                                          message VoteCommentResponse{
VoteComment
                     VoteCommentRequest{
                                                             int32 score = 1;
                       int32 comment_id = 1;
                       VoteType vote_type = 2;
Retrieving a list of
N most upvoted
comments under a
```

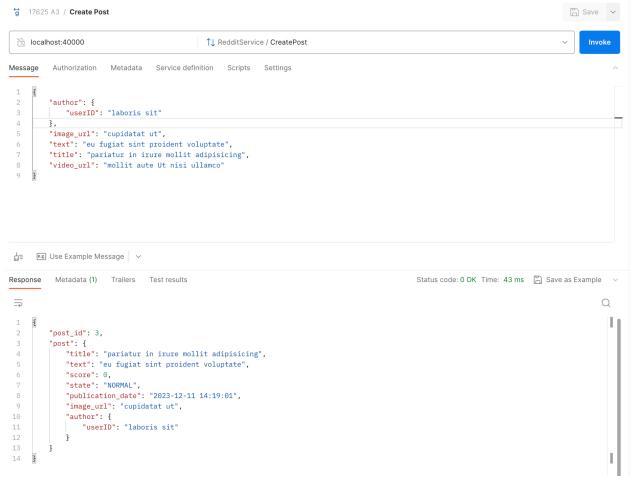
```
post, where N is a
                     Unset
                                                          Unset
parameter to the
call. -
                    message
                                                          message
GetTopComments
                     GetTopCommentsRequest{
                                                          GetTopCommentsResponse{
                       int32 N = 1;
                                                            repeated Comment comments =
                       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

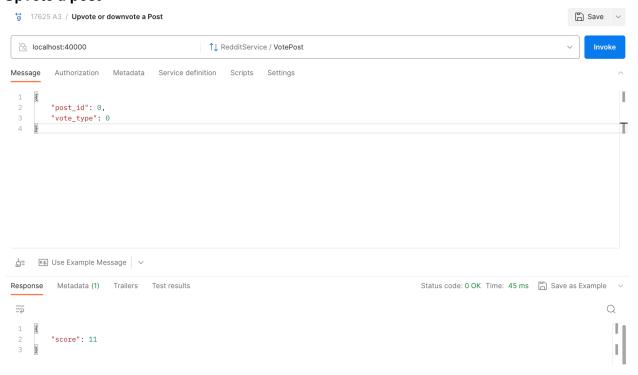
The storage is implemented as in-memory structure of posts and comments dictionaries. Some dummy data are also pre-populated from another file (db.py) to make more sense in testing. The dictionary keys are just the post/comment ids. There are also integer id trackers for what the next inserted object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

## Extra Credit - Postman API Call Screenshots

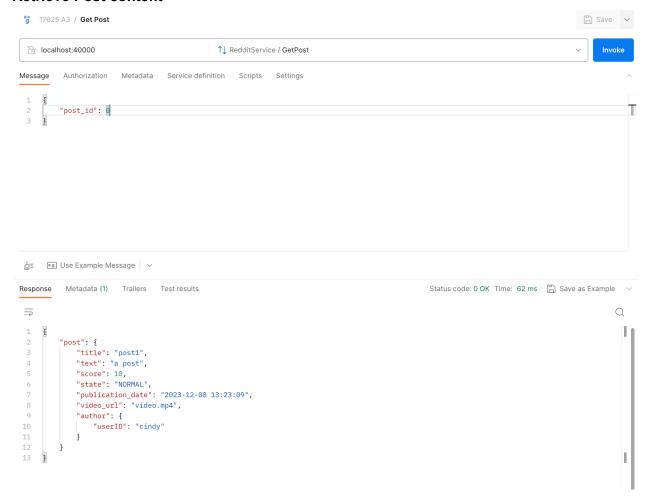
1. Create Post



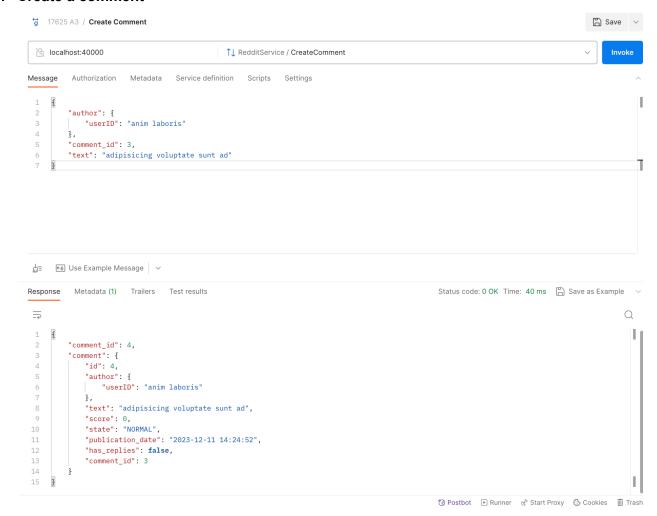
#### 2. Upvote a post



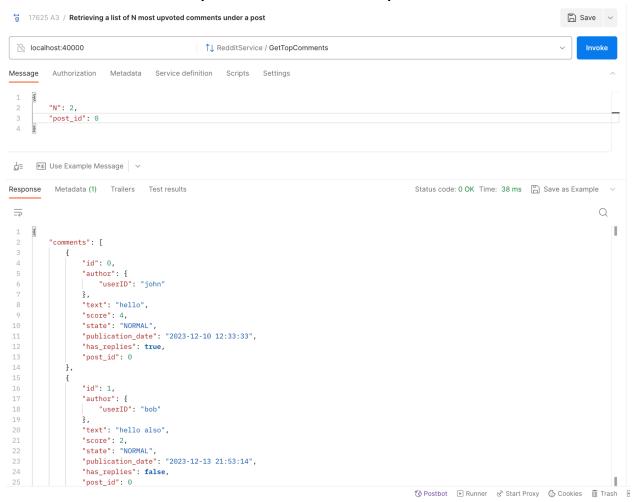
#### 3. Retrieve Post content



#### 4. Create a comment



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



#### 6. Expand a comment branch

