

Github repo link:

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

Server Link: <https://github.com/yanxinc/a3-grpc-yanxinc/blob/main/src/server/server.py>

Client Link: <https://github.com/yanxinc/a3-grpc-yanxinc/blob/main/src/client/client.py>

Function & Test Link: <https://github.com/yanxinc/a3-grpc-yanxinc/blob/main/src/test.py>

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	<pre> Unset message VotePostRequest{ </pre>	<pre> Unset message VotePostResponse { </pre>

	<pre>int32 post_id = 1; VoteType vote_type = 2; }</pre>	<pre>int32 score = 1; }</pre>
Retrieve Post content - <code>GetPost</code>	<pre>Unset message GetPostRequest{ int32 post_id = 1; }</pre>	<pre>Unset message GetPostResponse{ Post post = 1; }</pre>
Create a Comment - <code>CreateComment</code>	<pre>Unset message CreateCommentRequest{ oneof parent { int32 comment_id = 1; int32 post_id = 2; } User author = 3; string text = 4; }</pre>	<pre>Unset message CreateCommentResponse{ int32 comment_id = 1; Comment comment = 2; }</pre>
Upvote or downvote a Comment - <code>VoteComment</code>	<pre>Unset message VoteCommentRequest{ int32 comment_id = 1; VoteType vote_type = 2; }</pre>	<pre>Unset message VoteCommentResponse{ int32 score = 1; }</pre>
Retrieving a list of <i>N</i> most upvoted comments under a		

post, where N is a parameter to the call. - <code>GetTopComments</code>	Unset <pre> message GetTopCommentsRequest{ int32 N = 1; int32 post_id = 2; } </pre>	Unset <pre> message GetTopCommentsResponse{ repeated Comment comments = 1; } </pre>
Expand a comment branch. - <code>ExpandCommentBranch</code>	Unset <pre> message ExpandCommentBranchRequest { int32 N = 1; int32 comment_id = 2; } </pre>	Unset <pre> message CommentWithReplies { Comment comment = 1; repeated Comment top_replies = 2; } message ExpandCommentBranchResponse { repeated CommentWithReplies comments = 1; } </pre>

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

localhost:40000

RedditService / CreatePost

Invoke

Message Authorization Metadata Service definition Scripts Settings

```
1 {
2   "author": {
3     "userID": "laboris sit"
4   },
5   "image_url": "cupidatat ut",
6   "text": "eu fugiat sint proident voluptate",
7   "title": "pariatur in irure mollit adipisicing",
8   "video_url": "mollit aute Ut nisi ullamco"
9 }
```

Use Example Message

Response Metadata (1) Trailers Test results

Status code: 0 OK Time: 43 ms Save as Example

```
1 {
2   "post_id": 3,
3   "post": {
4     "title": "pariatur in irure mollit adipisicing",
5     "text": "eu fugiat sint proident voluptate",
6     "score": 0,
7     "state": "NORMAL",
8     "publication_date": "2023-12-11 14:19:01",
9     "image_url": "cupidatat ut",
10    "author": {
11      "userID": "laboris sit"
12    }
13  }
14 }
```

2. Upvote a post

localhost:40000

RedditService / VotePost

Invoke

Message Authorization Metadata Service definition Scripts Settings

```
1 {
2   "post_id": 0,
3   "vote_type": 0
4 }
```


Use Example Message

Response Metadata (1) Trailers Test results

Status code: 0 OK Time: 45 ms Save as Example

```
1 {
2   "score": 11
3 }
```

3. Retrieve Post content

 17625 A3 / Get Post Save

localhost:40000 ↑↓ RedditService / GetPost Invoke

Message

Authorization

Metadata

Service definition

Scripts



Settings

1

2

3

```
"post_id": 0
```

  Use Example Message

Status code: 0 OK Time: 62 ms Save as Example

Response

Metadata (1)

Trailers

Test results

1

2

3

4

5

6

7

8

9

10


11

12

13

```
{
  "post": {
    "title": "post1",
    "text": "a post",
    "score": 10,
    "state": "NORMAL",
    "publication_date": "2023-12-08 13:23:09",
    "video_url": "video.mp4",
    "author": {
      "userID": "cindy"
    }
  }
}
```

4. Create a comment

 17625 A3 / Create Comment Save

localhost:40000 ↑↓ RedditService / CreateComment Invoke

Message

Authorization


Metadata

Service definition

Scripts

Settings

```
1 {
2   "author": {
3     "userID": "anim laboris"
4   },
5   "comment_id": 3,
6   "text": "adipisicing voluptate sunt ad"
7 }
```

 Use Example Message

Response

Metadata (1)

Trailers

Test results

Status code: 0 OK Time: 40 ms Save as Example

```
1 {
2   "comment_id": 4,
3   "comment": {
4     "id": 4,
5     "author": {
6       "userID": "anim laboris"
7     },
8     "text": "adipisicing voluptate sunt ad",
9     "score": 0,
10    "state": "NORMAL",
11    "publication_date": "2023-12-11 14:24:52",
12    "has_replies": false,
13    "comment_id": 3
14  }
15 }
```

Postbot Runner Start Proxy Cookies Trash

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

17625 A3 / Retrieving a list of N most upvoted comments under a post Save

localhost:40000 RedditService / GetTopComments Invoke

Message Authorization Metadata Service definition Scripts Settings

```
1 {
2   "N": 2,
3   "post_id": 0
4 }
```


Use Example Message

Response Metadata (1) Trailers Test results Status code: 0 OK Time: 38 ms Save as Example

```
1 {
2   "comments": [
3     {
4       "id": 0,
5       "author": {
6         "userID": "john"
7       },
8       "text": "hello",
9       "score": 4,
10      "state": "NORMAL",
11      "publication_date": "2023-12-10 12:33:33",
12      "has_replies": true,
13      "post_id": 0
14    },
15    {
16      "id": 1,
17      "author": {
18        "userID": "bob"
19      },
20      "text": "hello also",
21      "score": 2,
22      "state": "NORMAL",
23      "publication_date": "2023-12-13 21:53:14",
24      "has_replies": false,
25      "post_id": 0
26    }
27  ]
28 }
```

Postbot Runner Start Proxy Cookies Trash

6. Expand a comment branch

 17625 A3 / Expand a comment branch Save

localhost:40000 ↑↓ RedditService / ExpandCommentBranch Invoke

Message

Authorization


Metadata

Service definition

Scripts

Settings

```
1  {
2    "comment_id": 0,
3    "N": 2
4  }
```

 Use Example Message

Response

Metadata (1)

Trailers

Test results

Status code: 0 OK Time: 39 ms Save as Example

```
1  {
2    "comments": [
3      {
4        "top_replies": [],
5        "comment": {
6          "id": 3,
7          "author": {
8            "userID": "alice"
9          },
10         "text": "good morning john -from alice",
11         "score": 33,
12         "state": "NORMAL",
13         "publication_date": "2023-12-15 21:53:14",
14         "has_replies": false,
15         "comment_id": 0
16       },
17     ],
18     {
19       "top_replies": [],
20       "comment": {
21         "id": 2,
22         "author": {
23           "userID": "bob"
24         },
25         "text": "good morning john",
```

