

Secure Facebook API – Project 4, Part 1

Project : Facebook API
Implementations : Page, Post, Friend List, Profile, Picture, Album
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Statistics Reference : <https://zephoria.com/top-15-valuable-facebook-statistics/>

What is working?

All the above mentioned API's are working. Please refer to Api specifications below at the end of the doc.

Largest user set tried on?

Created 10,000 users and performed various api operations.

Simulator Statistics?

From the above source, it is understood that there are 1.5 billion total monthly users and 1 billion active users in a day. It is also mentioned that 600 million posts and 300 million photos are uploaded per day and 5 new profiles are created every minute using this information we have narrowed down on the following assumptions and implemented our schedulers accordingly.

We have scaled down all the statistics to one hour time period. Establishing a relation between all of them it can be said that,

- 1) Active users = $2/3 * \text{total users}$
- 2) Num of posts in an hour = $3/5 * \text{active users}$
- 3) Num of photo in an hour = $1/2 * \text{num of posts}$
- 4) Num of new users per min = 1 or num of users * 0.000005 whichever is higher
- 5) We made the following assumptions based on other observations,
 - => Atmost 25% of active users are active in posting
 - => 40% of active users are involved in posting photos and posts
 - => One new Friend connection is made every minute.
 - => All the other users are just viewing the info.
 - => 1 new profile is created per min.
- 6) Scheduler time for posts = $1 / (\text{num of posts in an hour} / (60*60))$
- 7) Scheduler time for photos = $2 * \text{stime for posts}$
- 8) Scheduler time for new profile = $60\text{sec}/(\text{num of new users per min})$
- 9) Scheduler time for new friend request = 60secs
- 10) Scheduler time for viewing profiles, home page, albums = 0.01 sec

Ideal case,

- 1) Total Users = 10,000
- 2) Active Users = 6666
- 3) Num of posts = 4000 /hr or 70 /min
- 4) Num of photos = 2000 /hr or 35 /min
- 5) Scheduler time for posts = 0.86 sec
- 6) Scheduler time for images = 1.6 sec

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API Specifications:

Profile API

Request:

PUT /user

```
{
  "userId": "$userId",
  "firstName": "$firstName",
  "lastName": "$lastName",
  "age": $age ,
  "gender": "$gender",
  "relation": "$relation"
}
```

Response:

```
{
  "reason": "success/failure reason",
}
```

Request:

GET /user?userId=\$userId

Response:

```
{
  "userId": "$userId",
  "firstName": "$firstName",
  "lastName": "$lastName",
  "age": $age ,
  "gender": "$gender",
  "relation": "$relation"
}
```

Request:

PUT /user

```
{
  "userId": "$userId",
  "firstName": "$firstName",
  "lastName": "$lastName",
  "age": $age ,
  "gender": "$gender",
  "relation": "$relation"
}
```

Response:

```
{
  "reason": "success/failure reason",
}
```

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Post API

Request:

PUT /user/userId/feed

```
{
  "postby":"$postBy",
  "message":"$message",
  "link":"$link",
  "place":"$place",
  "privacy":"$privacy",
  "object_attachment":"$object_attachment"
}
```

Response:

```
{
  "reason":"success/failure reason"
}
```

Page API

Request:

GET /user/userId/home

Response:

```
{
  "posts":"Array[UserPost]",
}
```

FriendList API

Request:

GET user/userId/friendslist/<userId/frndId>

Response:

```
{
  "userIds":"Array[String]",
}
```

Request:

PUT user/userId/addFriend/ frndId

Response:

```
{
  "reason":"success/failure reason"
}
```

Album API

Request:

GET user/userId/albums/albumId

Response:

```
{
  "albums":"Array[Album]",
}
```

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Request:

PUT user/userId/albums

```
{
  "userId": "$userId",
  "albumId": "$albumId",
  "coverPhoto": "$coverPhoto",
  "createdTime": "$createdTime",
  "description": "$description",
  "place": "$place",
  "updateTime": "$updateTime"
}
```

Response:

```
{
  "reason": "success/failure reason"
}
```

Request:

POST user/userId/albums

```
{
  "userId": "$userId",
  "albumId": "$albumId",
  "coverPhoto": "$coverPhoto",
  "createdTime": "$createdTime",
  "description": "$description",
  "place": "$place",
  "updateTime": "$updateTime"
}
```

Response:

```
{
  "reason": "success/failure reason"
}
```

Photo API

Request:

GET user/userId/albums/?photoId=\$photoId

Response:

```
{
  "userId": "$userId",
  "albumId": "$albumId",
  "place": "$place",
  "photoId": "$photoId",
  "src": "$src",
  "message": "$message",
  "noStory": "$noStory"
}
```

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Request:

PUT user/userId/albums/photo

```
{  
  "userId": "$userId",  
  "albumId": "$albumId",  
  "place": "$place",  
  "photoId": "$photoId",  
  "src": "$src",  
  "message": "$message",  
  "noStory": "$noStory"  
}
```

Response:

```
{  
  "reason": "success/failure reason"  
}
```