Redditech – Documentation

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1. <u>OAuth2 and Authentification Setup</u>

The first thing to do before starting such a project is to understand the authentication process. For this project, we used the OAuth process of reddit, which allows us in our application to connect to our reddit account and retrieve all the information about it (identity, timeline, subreddits, settings, ...)

To use reddit's OAuth process, you need to register an application on https://www.reddit.com/prefs/apps. Once the application is created, you will need to redirect your users to the following link https://www.reddit.com/api/v1/authorize with the following query parameters:

- client_id = `The App Id you created on the reddit site`
- response_type = code
- state = A random string
- redirect_uri = http://localhost
- duration = permanent
- scope = *

You will get a link of the following type:

https://www.reddit.com/api/v1/authorize?client_id=W752HSGWq0KX0H-1IzBGqw&response_type=code&state=RANDOM_STRING&redirect_uri=http://localhost&duration=permanent&scope=*

Once the link is obtained, you will need to extract the code returned by the OAuth after the user logs in. You will then need to use the following link to retrieve your authentication token:

https://www.reddit.com/api/v1/access_token

With the following query parameters:

- grant_type = authorization_code
- code = The code you extracted from the OAuth
- redirect_uri = http://localhost

And the following header field:

- Authorization = Basic ($AppId:$OauthCode)->Base64 Encoded

Once done, you will get a token that you will have to transmit as a bearer in all your API requests.

You can check these 2 links if you have trouble with these explanations, they are very helpful:

https://www.reddit.com/r/redditdev/comments/dx0hbo/ill_admit_it_im_stupid_how_do_i_do_the_oauth2/
https://github.com/reddit-archive/reddit/wiki/OAuth2

2. **<u>Reddit API</u>**

Once you have the token, you will need to make your requests on the reddit API to get all the informations you need. All the API documentation is available at this link: https://www.reddit.com/dev/api/oauth

For example, if you want to make a request to retrieve your identity details, you will need to make a request to the following link https://oauth.reddit.com/api/v1/me with the following header field:

- Authorization = Bearer $AuthToken

You will also have to add this query parameter to every requests if you want to have a correct json output:

- raw_json = 1

3. **<u>Retrofit</u>**

Retrofit is a library to implement API request in your kotlin app. You will need to create these different entities to use retrofit:

- 2 Interfaces (One for the acces token request at https://www.reddit.com, the other for all the requests at https://oauth.reddit.com)
- 2 instances (object), one for the https://www.reddit.com, the other for https://oauth.reddit.com
- One data class per API Request
- One MainViewModel where you put all your request's functions
- One MainViewModelFactory

All this is explained in this video: https://www.youtube.com/watch?v=sBCE_hOFnQU
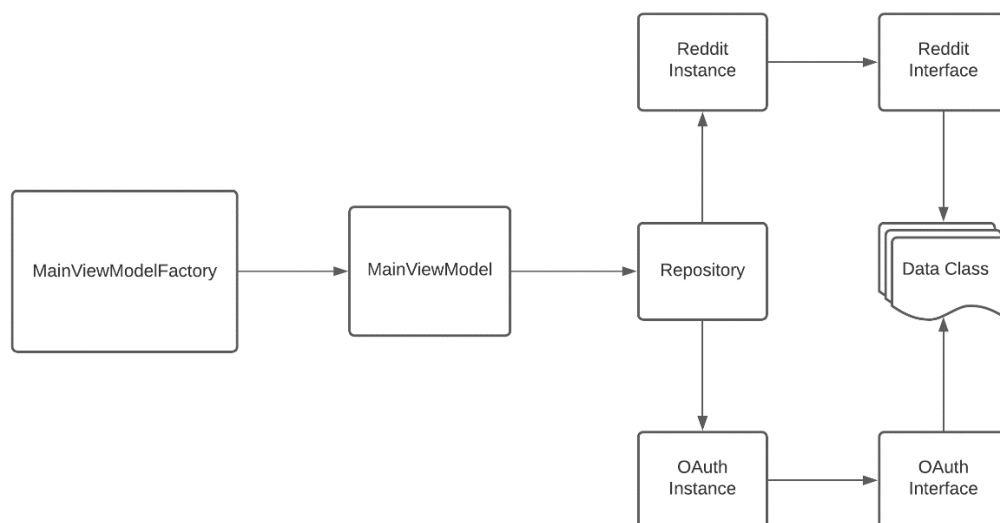
4. Components

For the components, we used a fragment-based architecture. This means that in our application, we have only one activity that will be divided into several fragments, displayed according to what the user wants.

Our architecture is as follows: