What is the best way to measure and set a step goal for individuals and teams?
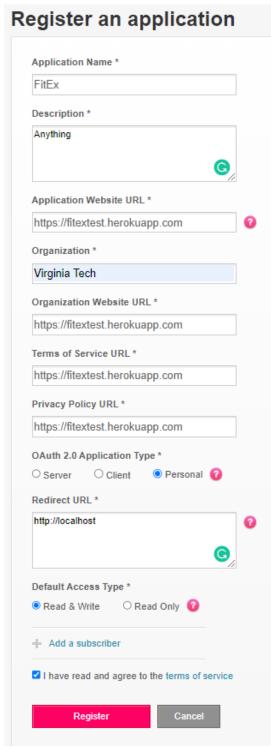
What is Fitbit Access Token?

Access tokens are used in token-based authentication to allow the FitEx system to access Fitbit API. The Fitbit API will enable developers to interact with Fitbit data in their applications, products, and services. We use Fitbit API to retrieve Fitbit user data collected by the Fitbit trackers & smartwatches, Aria & Aria 2 scales, and manually entered log data.

How to get my Fitbit Access Token?

1. Register or log into your Fitbit account on https://dev.fitbit.com/apps and click "Manage My Apps"
2. Click "**Register a new app**" next to the page title.

3. Enter the information that is **exactly the same** as shown in the below image:
    - OAuth 2.0 Application Type: **Personal**
    - URL: https://fitextest.herokuapp.com
    - Redirect URL: http://localhost
    - Default Access Type: **Read & Write**

Register an application

Application Name *

FitEx

Description *

Anything

Application Website URL *

https://fitextest.herokuapp.com

Organization *

Virginia Tech

Organization Website URL *

https://fitextest.herokuapp.com

Terms of Service URL *

https://fitextest.herokuapp.com

Privacy Policy URL *

https://fitextest.herokuapp.com

OAuth 2.0 Application Type *

○ Server ○ Client ● Personal

Redirect URL *

http://localhost

Default Access Type *

● Read & Write ○ Read Only

╋ Add a subscriber

☑ I have read and agree to the terms of service

[Register] [Cancel]

4. Click "**OAuth 2.0 tutorial page**"
5. Choose "**Implicit Grant Flow**" as the Flow Type. Clicked on all scopes and enter **604800** as the expiration time. Your settings should be like this:

OAuth 2.0 tutorial page

For a detailed explanation of OAuth 2.0, see the Fitbit API documentation.

1: Authorize

- First, choose the type of flow your application will use. Implicit grant flow is for use in client-side applications that cannot keep a secret because they distribute their source code to the client (web apps, mobile apps). The authorization code flow is for server-side applications that can keep a secret. If possible, use the authorization code flow, because while both flows are secure, it provides additional security.

Flow type: ● Implicit Grant Flow ○ Authorization Code Flow

- Enter all of your application's relevant data below. You can find this data at dev.fitbit.com.

Fitbit URL:	www.fitbit.com
Fitbit API URL:	api.fitbit.com
OAuth 2.0 Client ID:	238K3X
Client Secret:	b69277e3c7296838913c9df76dcfa
Redirect URI:	http://localhost

- Choose below what user data you'd like to have access to.

Select Scopes

☑ activity	☑ heartrate	☑ location	☑ nutrition
☑ profile	☑ settings	☑ sleep	☑ social
☑ weight	☑ spo2	☑ breathingrate	☑ temperature

- The default expiration times are 1 hour for the authorization code flow, and 1 day for the implicit grant flow. The expiration time for the implicit grant flow can be set to certain values; see the docs for details.

Expires In(ms): 604800

- We've generated the authorization URL for you, all you need to do is just click on link below:

https://www.fitbit.com/oauth2/authorize?
response_type=token&client_id=238K3X&redirect_uri=http%3A%2F%2Flocalhost&scope=activity
%20heartrate%20location%20nutrition%20profile%20settings%20sleep%20social%20weight%20
oxygen_saturation%20respiratory_rate%20temperature&expires_in=604800

6. Click the generated authorization URL

OAuth 2.0 tutorial page

For a detailed explanation of OAuth 2.0, see the Fitbit API documentation.

1: Authorize

- First, choose the type of flow your application will use. Implicit grant flow is for use in client-side applications that cannot keep a secret because they distribute their source code to the client (web apps, mobile apps). The authorization code flow is for server-side applications that can keep a secret. If possible, use the authorization code flow, because while both flows are secure, it provides additional security.

Flow type: ◉ Implicit Grant Flow ○ Authorization Code Flow

- Enter all of your application's relevant data below. You can find this data at dev.fitbit.com.

Fitbit URL: `www.fitbit.com`

Fitbit API URL: `api.fitbit.com`

OAuth 2.0 Client ID: `238K3X`

Client Secret: `b69277e3c7296838913c9df76dcfa`

Redirect URI: `http://localhost`

- Choose below what user data you'd like to have access to.

Select Scopes

☑ activity   ☑ heartrate   ☑ location   ☑ nutrition

☑ profile   ☑ settings   ☑ sleep   ☑ social

☑ weight   ☑ spo2   ☑ breathingrate ☑ temperature

- The default expiration times are 1 hour for the authorization code flow, and 1 day for the implicit grant flow. The expiration time for the implicit grant flow can be set to certain values; see the docs for details.

Expires In(ms): `604800`

- We've generated the authorization URL for you, all you need to do is just click on link below:

https://www.fitbit.com/oauth2/authorize?
response_type=token&client_id=238K3X&redirect_uri=http%3A%2F%2Flocalhost&scope=activity
%20heartrate%20location%20nutrition%20profile%20settings%20sleep%20social%20weight%20
oxygen_saturation%20respiratory_rate%20temperature&expires_in=604800

7. On the permission page, please choose 1 year for a lasting time and allow all data to be retrieved.

fitbit.

FitEx by Virginia Tech would like the ability to access and write the following data in your Fitbit account. for 1 year

Warning! This app is not using HTTPS to securely obtain your permission.

✓ Allow All

Please Choose 1year for here

✓ sleep
✓ oxygen saturation (SpO2)
✓ location and GPS
✓ temperature
✓ activity and exercise
✓ food and water logs ⓘ
✓ profile ⓘ
✓ weight ⓘ
✓ friends ⓘ
✓ heart rate
✓ breathing rate
✓ Fitbit devices and settings

If you allow only some of this data, FitEx may not function as intended. Learn more about these permissions here.

Deny   Allow

The data you share with FitEx will be governed by Virginia Tech's Privacy Policy and Terms of Service. You can revoke this consent at any time in your Fitbit account settings.

8. After you click Allow, you will be redirected to an empty page, which means you have successfully authorized. Please copy and paste the URL on that blank webpage. Intercept the access token in that URL (should be between "#access_token=" and "&user_id="). Sample below:

```
URL:
http://localhost/#access_token=eyJhbGciOiJIUzI1NiJ9.eyJhdWQiOiIyMzhLM1giLCJzdWIiOiJCNFRaSFciLCJpc
3MiOiJGaXRiaXQiLCJ0eXAiOiJhY2Nlc3NfdG9rZW4iLCJzY29wZXMiOiJ3aHIgd251dCB3cHJvIHdzbGUgd3NvYnB3YWN0IH
dveHkgd3RlbSB3d2VpIHdzZXQgd3JlcyB3bG9jIiwiZXhwIjoxNjYzMDA4MzI4LCJpYXQiOjE2NjI0MDM1Mjh9.myxbeu5v3n
JK7PXuCpCRwf94ilhVMRG4cLVyxCaxkYE&user_id=B4TZHW&scope=oxygen_saturation+respiratory_rate+activit
y+social+weight+settings+location+sleep+nutrition+heartrate+profile+temperature&token_type=Bearer
&expires_in=604800

Access Token:
eyJhbGciOiJIUzI1NiJ9.eyJhdWQiOiIyMzhLM1giLCJzdWIiOiJCNFRaSFciLCJpc3MiOiJGaXRiaXQiLCJ0eXAiOiJhY2Nl
c3NfdG9rZW4iLCJzY29wZXMiOiJ3aHIgd251dCB3cHJvIHdzbGUgd3NvYnB3YWN0IHdveHkgd3RlbSB3d2VpIHdzZXQgd3Jlc
yB3bG9jIiwiZXhwIjoxNjYzMDA4MzI4LCJpYXQiOjE2NjI0MDM1Mjh9.myxbe
u5v3nJK7PXuCpCRwf94ilhVMRG4cLVyxCaxkYE
```
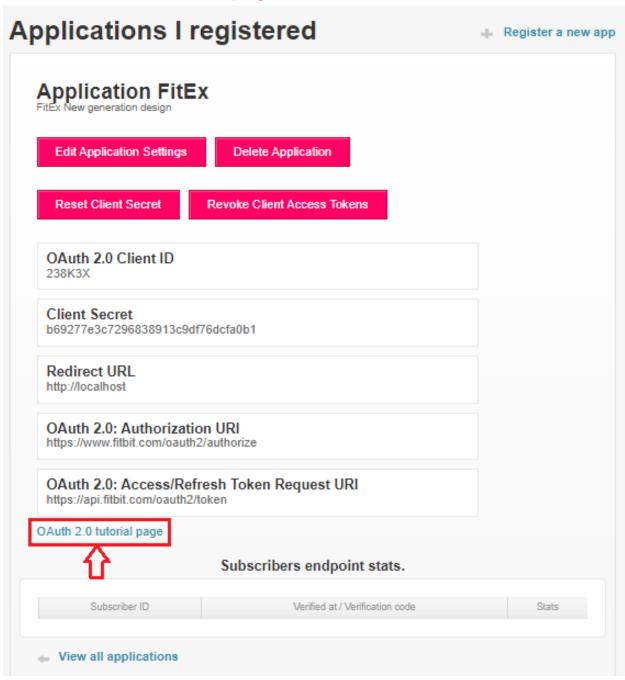
<u>My Fitbit Sync Page shows 401 Error, what should I do?</u>

The most reason for this case is that your Fitbit Access Token has expired. To update your Fitbit Access Token, you have to follow the instruction below:

1. Login to https://dev.fitbit.com/apps and click "Manage My Apps"
2. Open your registered applications
3. Click "**OAuth 2.0 tutorial page**"

Applications I registered

+ Register a new app

Application FitEx
FitEx New generation design

| Edit Application Settings | Delete Application |

| Reset Client Secret | Revoke Client Access Tokens |

OAuth 2.0 Client ID
238K3X

Client Secret
b69277e3c7296838913c9df76dcfa0b1

Redirect URL
http://localhost

OAuth 2.0: Authorization URI
https://www.fitbit.com/oauth2/authorize

OAuth 2.0: Access/Refresh Token Request URI
https://api.fitbit.com/oauth2/token

OAuth 2.0 tutorial page

Subscribers endpoint stats.

Subscriber ID	Verified at / Verification code	Stats

← View all applications

4. Click the generated authorization URL

OAuth 2.0 tutorial page

For a detailed explanation of OAuth 2.0, see the Fitbit API documentation.

1: Authorize

- First, choose the type of flow your application will use. Implicit grant flow is for use in client-side applications that cannot keep a secret because they distribute their source code to the client (web apps, mobile apps). The authorization code flow is for server-side applications that can keep a secret. If possible, use the authorization code flow, because while both flows are secure, it provides additional security.

Flow type: ● Implicit Grant Flow ○ Authorization Code Flow

- Enter all of your application's relevant data below. You can find this data at dev.fitbit.com.

Fitbit URL: `www.fitbit.com`

Fitbit API URL: `api.fitbit.com`

OAuth 2.0 Client ID: `238K3X`

Client Secret: `b69277e3c7296838913c9df76dcfa`

Redirect URI: `http://localhost`

- Choose below what user data you'd like to have access to.

Select Scopes

☑ activity   ☑ heartrate   ☑ location   ☑ nutrition

☑ profile   ☑ settings   ☑ sleep   ☑ social

☑ weight   ☑ spo2   ☑ breathingrate ☑ temperature

- The default expiration times are 1 hour for the authorization code flow, and 1 day for the implicit grant flow. The expiration time for the implicit grant flow can be set to certain values; see the docs for details.

Expires In(ms): `604800`

- We've generated the authorization URL for you, all you need to do is just click on link below:

https://www.fitbit.com/oauth2/authorize?
response_type=token&client_id=238K3X&redirect_uri=http%3A%2F%2Flocalhost&scope=activity
%20heartrate%20location%20nutrition%20profile%20settings%20sleep%20social%20weight%20
oxygen_saturation%20respiratory_rate%20temperature&expires_in=604800

5. On the permission page, please choose 1 year for a lasting time and allow all data to be retrieved.

fitbit.

FitEx by **Virginia Tech** would like the ability to access and write the following data in your Fitbit account. for 1 year

Warning! This app is not using HTTPS to securely obtain your permission.

Please Choose 1year for here

☑ Allow All
  ☑ sleep
  ☑ oxygen saturation (SpO2)
  ☑ location and GPS
  ☑ temperature
  ☑ activity and exercise
  ☑ food and water logs ⓘ
  ☑ profile ⓘ
  ☑ weight ⓘ
  ☑ friends ⓘ
  ☑ heart rate
  ☑ breathing rate
  ☑ Fitbit devices and settings

If you allow only some of this data, FitEx may not function as intended. Learn more about these permissions here.

Deny   **Allow**

The data you share with FitEx will be governed by Virginia Tech's Privacy Policy and Terms of Service. You can revoke this consent at any time in your Fitbit account settings.

6. After you click Allow, you will be redirected to an empty page, which means you have successfully authorized. Please copy and paste the URL on that blank webpage. Intercept the access token in that URL and upload it to your FitEx System. Sample below:

```
URL:
http://localhost/#access_token=eyJhbGciOiJIUzI1NiJ9.eyJhdWQiOiIyMzhLM1giLCJzdWIiOiJCNFRaSFciLCJpc
3MiOiJGaXRiaXQiLCJ0eXAiOiJhY2Nlc3NfdG9rZW4iLCJzY29wZXMiOiJ3aHIgd251dCB3cHJvIHdzbGUgd3NvYyB3YWN0IH
dveHkgd3RlbSB3d2VpIHdzZXQgd3JlcyB3bG9jIiwiZXhwIjoxNjYzMDA4MzI4LCJpYXQiOjE2NjI0MDM1Mjh9.myxbeu5v3n
JK7PXuCpCRwf94ilhVMRG4cLVyxCaxkYE&user_id=B4TZHW&scope=oxygen_saturation+respiratory_rate+activit
y+social+weight+settings+location+sleep+nutrition+heartrate+profile+temperature&token_type=Bearer
&expires_in=604800

Access Token:
eyJhbGciOiJIUzI1NiJ9.eyJhdWQiOiIyMzhLM1giLCJzdWIiOiJCNFRaSFciLCJpc3MiOiJGaXRiaXQiLCJ0eXAiOiJhY2Nl
c3NfdG9rZW4iLCJzY29wZXMiOiJ3aHIgd251dCB3cHJvIHdzbGUgd3NvYyB3YWN0IHdveHkgd3RlbSB3d2VpIHdzZXQgd3Jlc
yB3bG9jIiwiZXhwIjoxNjYzMDA4MzI4LCJpYXQiOjE2NjI0MDM1Mjh9.myxbe
u5v3nJK7PXuCpCRwf94ilhVMRG4cLVyxCaxkYE
```