

Installation of the dExtender-CGM

By following these step-by-step instructions, you should be able to replace the Dexcom follow app with the dExtender.

NOTES

- ANDROID ONLY
- YOU MUST ALREADY BE A FOLLOWER AND INVITED USING THE DEXCOM FOLLOW APP ON THE DEVICE YOU WANT TO USE THE DEXTENDER.
- DO NOT REMOVE THE FOLLOW APP FROM DEXCOM INC.

DISCLAIMER – In Human Readable Form

- The dExtender-cgm is for informational purposes only. This DOES NOT replace the receiver from Dexcom Inc. You assume full responsibilities.
- Dexcom Inc. is in no way/no shape/no how affiliated, responsible with the dExtender-CGM.
- Authentication data on the dextender web site is stored in a one-way encrypted format. I cannot (nor would I if I could) tell you what your password is.

Feedback

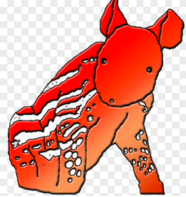
Any suggestions on improving this documentation is very much welcome !!!

Register at <http://www.dextender.com> (optional)


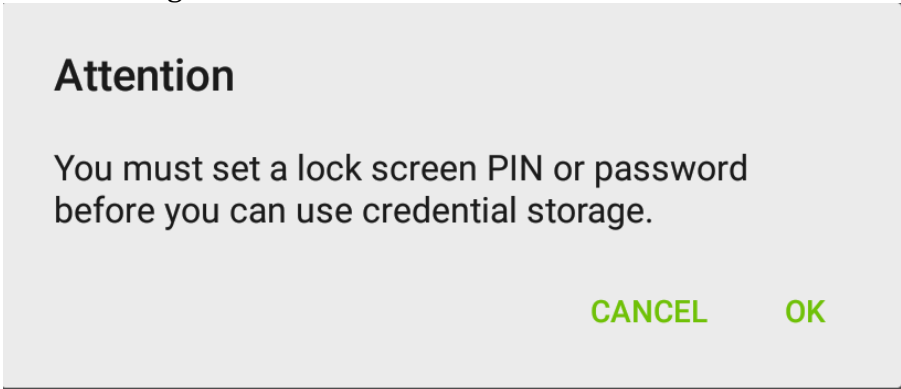
Step	Action	Notes
1	Open your browser and go to: http://www.dextender.com	
2	You will have a choice between the dExtender CGM and h2o. Choose CGM	
3	Follow links to register your account which you can use later in the app.	


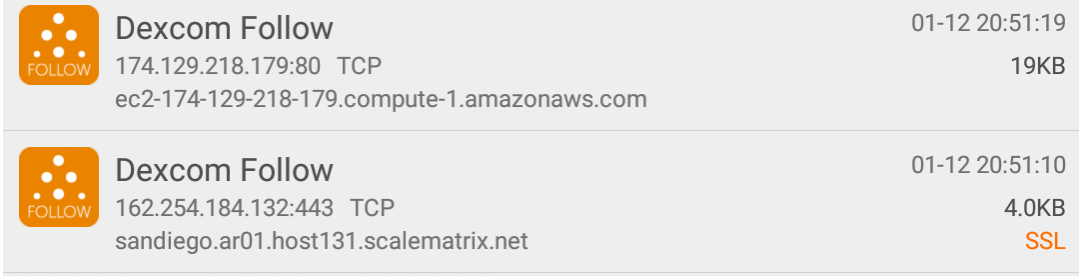



NOTE: There are planned features that will leverage the use of a website. For example, the option to record a history of blood glucose levels as well as data that will be used to predict blood glucose values based on past history. As always, this information will never be shared and the above steps are totally optional.

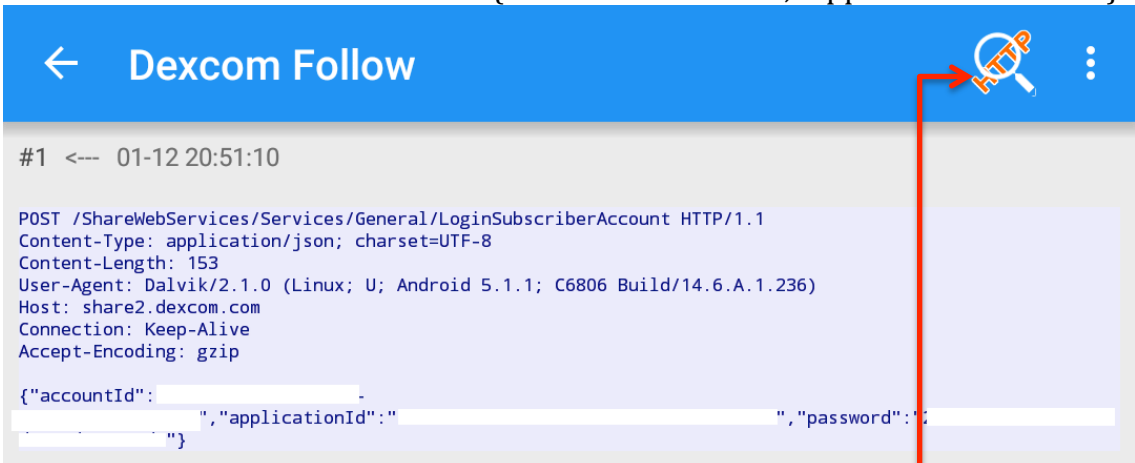
Install the dExtender from the Google Play store

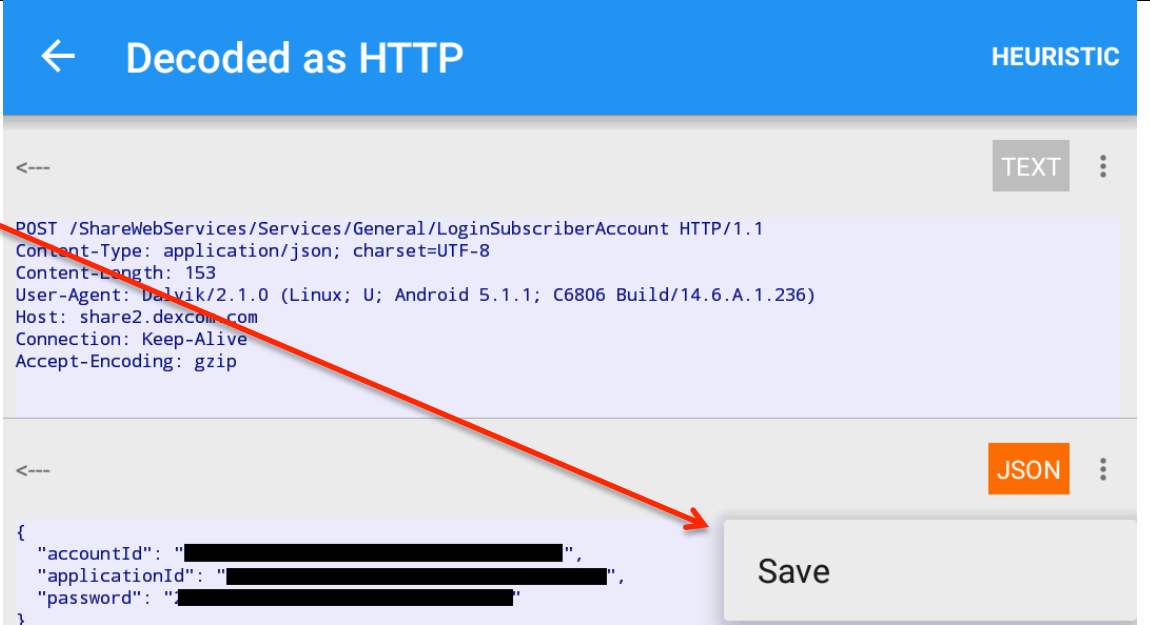
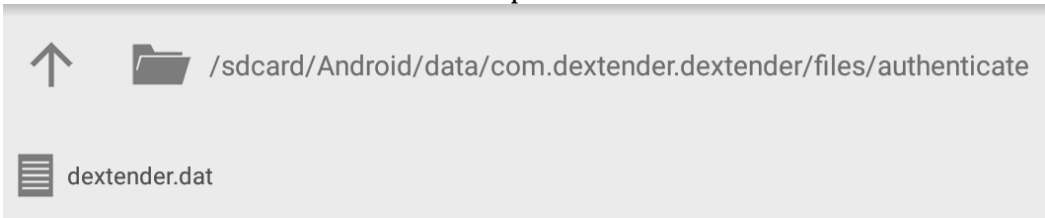
Step	Action	Notes
1	Reboot your phone	Start with a clean slate
2	Click the "Play Store" app on your device	We are looking for the dExtender app
3	Search for "the dExtender"	Look for the red Tapir with the author being "Michael LiVolsi" 
4	Install the app	
5	Open the dExtender	This will create directories that we will need for later
6	Exit out of the dExtender	

Capturing Dexcom “Follow” authentication data

Step	Action	Notes
1	On your device, look for the “Play Store”	We are searching for the “packet capture” app
2	Search for “Packet Capture”	Look for gold key on a blue background icon with the authors being “Grey Shirts” 
3	Install the app	
4	Open the app	Follow the prompts
5	Allow the app to install trusted credentials	NOTE: If you DO NOT have a PIN or advanced security you will be prompted with the following:  Press “OK”

6	Start capturing packets	<p>Click the green “start” button on the upper right</p> 																		
7	Start the Dexcom follow app	<p>Start the Dexcom follow app as you usually would, then exit out. As the Dexcom app fires up, the packet capture will record all network traffic.</p>																		
8	Go back to the capture app and stop capturing packets	<p>Click the red “Stop” button on the upper right</p> 																		
9	Reboot your phone	<p>This will stop the Dexcom follow app from running in the background. At this point, we should have captured all the data we need</p>																		
10	Go back to the capture app and starting from the bottom, look for the following icons and “click” each one to inspect	 <table border="1"> <tbody> <tr> <td></td> <td>Dexcom Follow</td> <td>01-12 20:51:19</td> </tr> <tr> <td></td> <td>174.129.218.179:80 TCP</td> <td>19KB</td> </tr> <tr> <td></td> <td>ec2-174-129-218-179.compute-1.amazonaws.com</td> <td></td> </tr> <tr> <td></td> <td>Dexcom Follow</td> <td>01-12 20:51:10</td> </tr> <tr> <td></td> <td>162.254.184.132:443 TCP</td> <td>4.0KB</td> </tr> <tr> <td></td> <td>sandiego.ar01.host131.scalematrix.net</td> <td>SSL</td> </tr> </tbody> </table>		Dexcom Follow	01-12 20:51:19		174.129.218.179:80 TCP	19KB		ec2-174-129-218-179.compute-1.amazonaws.com			Dexcom Follow	01-12 20:51:10		162.254.184.132:443 TCP	4.0KB		sandiego.ar01.host131.scalematrix.net	SSL
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10A	We are looking for a specific entry	Look for the record that looks like : {"accountId":".....-....", "applicationId":".....-...."} 
10B	Click the "http" with the magnifying glass in the upper right hand corner	

10C	For the target entry, click the ellipses button, next to where it says "JSON". A "Save" button will pop-up	 <p>Decoded as HTTP HEURISTIC</p> <p>POST /ShareWebServices/Services/General/LoginSubscriberAccount HTTP/1.1 Content-Type: application/json; charset=UTF-8 Content-Length: 153 User-Agent: Dalvik/2.1.0 (Linux; U; Android 5.1.1; C6806 Build/14.6.A.1.236) Host: share2.dexcom.com Connection: Keep-Alive Accept-Encoding: gzip</p> <p>JSON</p> <pre>{ "accountId": "████████████████████", "applicationId": "████████████████████", "password": "████████████████████" }</pre> <p>Save</p>
10D	A window will pop-up asking where to save the data. You will now search for the directory <i>com.dextender.dextender</i>	Most likely, the directory will be located under: <i>/sdcard/Android/data</i>
10E	If you find the directory in step 10D, look for sub-directories <i>../files/authenticate</i>	<p>These directories were created in Step5 or the dExtender installation section.</p>  <p>↑ /sdcard/Android/data/com.dextender.dextender/files/authenticate</p> <p>dextender.dat</p>
10F	You must save the file as dextender.dat	NOTE: Do not have any trailing blanks/spaces in the filename

Configuring the dExtender authorization

This will allow the dExtender-CGM to authenticate against Dexcom's servers.

Step	Action	Notes
1	Start the dExtender app	
2	Bring up the settings menu	On some phones, there's an options menu. Usually the ellipses (three dots) in the upper right
3	Go to "Account Settings"	
4	Account Editing switch to "On"	
5	Click "Retrieve your access code"	A notice with a long string should pop-up
6	Enter your handle/password from section "registering your account"	
7	Account Editing switch to "Off"	So you don't overwrite or remove your settings

Cleanup

Step	Action	Notes
1	On your phone bring up "Settings"	
2	Click "Security"	
3	Click "Trusted Credentials"	
4	Click "Packet Capture CA certificate"	A window will pop up
5	Scroll all the way to the bottom	
6	Click "Remove"	Click "ok" to confirm
7	Click the back button	
8	Click "Clear Credentials"	A menu will pop-up. Click "OK"
9	If your screen lock was "None" or "Swipe" you will be able to reset your screen security level	

[CONGRATULATIONS - YOU ARE DONE]

Customizable Ringtones

Ringtones for the dExtender-CGM can be customized for alerts, such as low blood glucose levels. By default, the choice of tones is limited to the tones that are pre-installed with your device. If you would like to have customizable tones, you should note the following:

Alarm Directory

Android will pick up alert tones, etc, under the directory “Alarms”. If you use a tool on your device like “File Commander” or “ES File Explorer” (My personal favorite), then if you search for “Alarms” you will see the directory where this sub-directory can be found.

Dexcom-ish sounds and other

Under <http://www.dextender.com/alarms> there are some files that match the Dexcom receiver’s alarms, as well as additional files that I’ve created. Using a (free) tool on your computer like “Audacity” you can create your own alarm sounds. These files should be placed on your device under the alarms directory specified above.

Transferring alarms sounds from your computer to your device

Since there are so many devices and manufacturers, please see the documentation for your device in order to transfer files over. In most cases, when using Windows, attaching a device like a phone will open a dialog box that will ask you “What would you like to do”. In those cases, specify “View or Browse” option. Then on your device through Windows’ Explorer, look for the directory “Alarms”.

Noteworthy Items

Sleep Mode

I learned this the hard-way. Any type of app that sets your device to sleep will play havoc with the dExtender services. For example, the Sony Xperia has what's called "Stamina Mode" and will only wake up the phone for certain events (Alarms, etc..) Any other app is out of luck. Fortunately, most of these battery saving tools have exception lists. If applicable, add the dExtender to any exception list.

Data and Battery Usage

NOTE: The dExtender is designed to use as little data and battery power as possible. Worst case data usage is in the order of 50MB per month. Assuming NO WiFi, that's 2% on a 2.5GB data plan.