

MultiConnect® Conduit™ Starter Kit For LoRa® Technology Getting Started Guide



MultiConnect Conduit Starter Kit for LoRa Technology

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MultiConnect® Conduit™ Starter Kit for LoRa Technology

The MultiConnect Conduit Starter Kit for LoRa Technology provides everything needed to rapidly get your LoRa proof of concept up, running and connected to the cloud – all in one box. The Starter Kit is designed to enable you to obtain sensor information and display it in the cloud within minutes of opening the box.

Starter Kit Products



Item	Device	Quantity
1	Conduit	1
2	LoRa Accessory mCard	1
3	mDot	2

Item	Device	Quantity
4	mDot Universal Developer Kit	1
5	mDot Micro Developer Kit	1
6	mDot Box	1

Notes:

- The LoRa Accessory mCard is pre-installed in your Conduit.
- Package contents for each device are listed in that device's Quick Start.

Preparing the Conduit

The Conduit comes pre-configured with Node-RED flow to send data from the mDot Box to the IBM Bluemix site.

To get started with Conduit:

1. Attach the power blades for your country to the power supply and connect the power supply to Conduit.
2. Attach a LoRa antenna to the LoRa Accessory mCard installed in the Conduit.
3. Plug in the Conduit to power it up.
4. Use the Ethernet connector to connect the Conduit to the device with Internet access you will use to administer the Conduit.
5. Go to the AEP interface and log into the Conduit. To do this:
 - a. Open an Internet browser and enter the device's default address: <http://192.168.2.1>.
 - b. Enter the default user name: **admin**.
 - c. Enter the default password: **admin**.
 - d. Click **Login** to start the First Time Setup Wizard. Allow up to 30 seconds for the wizard to load.
6. Use the Wizard to configure the following settings:
 - Password
 - Date and time
 - PPP (Cellular models only)
 - IP Address and Network information (For non-cellular models, select WAN mode to set up Internet access.)
 - WAN mode (Select static, if using a static IP, or DHCP Client, if your network has DHCP server functionality. If using a static IP, enter the IP address, mask, and gateway.)
7. Select **Save & Reboot** and wait for the status LED to begin blinking:

For more information on configuring the Conduit, go to: <http://www.multitech.net/developer/software/aep/getting-started-aep/>

For help using DeviceHQ and Node-RED, go to <http://www.multitech.net/developer/software/devicehq/>

Preparing the mDot Box

To get started with the mDot Box:

1. Attach a LoRa antenna to the mDot Box.
2. Insert the battery and power up mDot Box by pressing the switch on the left side.
3. When Select Mode appears, select **LoRa Demo**.
4. Select **Sw2** for **Interval**.
By default the mDot Box will be sending data across the LoRa network every 10 seconds. Press SW2 for Interval to change the update.

The screen displays the sensor data as follows:

- Accelerometer x, y, and z axes
- Pressure
- Temperature
- Light

For more information on the mDot Box, refer to the enclosed MultiConnect mDot Box Quick Start or go to <http://www.multitech.net/developer/software/dot-box-and-evb-software/>

Sending Data to the Cloud with IBM Bluemix

To send data from the mDot Box to the Cloud:

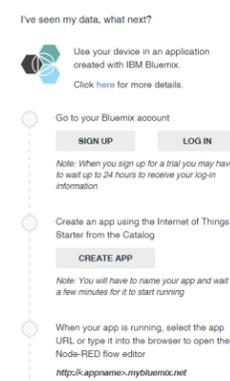
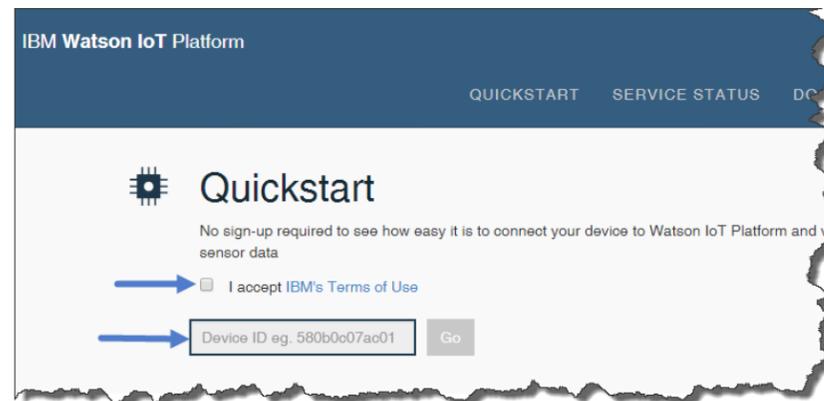
1. On your computer, use a web browser to go to <https://quickstart.internetofthings.ibmcloud.com/>
2. Check to select IBM's Terms of Use.
3. On your Conduit, find the product label with the **Node ID**, which is formatted as: 00:AB:EF:00:11:11
4. In the Device ID field, enter the **Node ID** using hyphens instead of the colons, for example 00-AB-EF-00-11-11
5. Click **Go**. Your data appears in the graphs.

Note: For secure data submission, create a Bluemix account. Data submitted to the IBM Bluemix Quickstart page is not private and can be accessed by any party possessing the machine address of your mDot Box.

Using IBM Bluemix

- Click on the datapoints fields (temperature, light, etc) below the chart to view the corresponding chart.
- Creating a Bluemix account allows you to create a personalized application with safe data storage.

MTDOT-BOX/EVB	
Select Mode	
Survey single	
Survey sweep	
=> LoRa demo	
Configuration	
Scroll	Select
o	o
Left	Right



- A Bluemix account also gives you access to a variety of data storage and analytic tools.
- After creating an account on Bluemix for data storage, access the Conduit's Node-RED application and create a new output node to send data to your Bluemix account. Learn more about using Node-RED on the Conduit: http://www.multitech.net/developer/wp-content/uploads/2015/08/DeviceHQ_Dev_User_Guide.pdf.

Related Documentation

Quick Starts included in the Starter Kit

- MultiConnect Conduit
- MultiConnect mDot Box
- MultiConnect mDot Developer Kit
- MultiConnect mDot with Micro Developer Kit
- Accessory Card

Developer Site and Manuals

Developer Guides, Dot Series AT Commands, and developer resources are available at multitech.net. For specific product information go to:

- MultiConnect Conduit: <http://www.multitech.net/developer/products/conduit/>
- LoRa Accessory mCard: <http://www.multitech.net/developer/products/accessory-cards/mtac-lora/>
- MultiConnect mDot and Developer Kits: <http://www.multitech.net/developer/products/multiconnect-mdot/>
- MultiConnect mDot Box: <http://www.multitech.net/developer/products/multiconnect-mdot-box-and-evb/>
- LoRa Resources: <http://www.multitech.com/technology/lora>
- IBM Bluemix Resources for MultiConnect Conduit AEP, LoRa, and mDots: <https://developer.ibm.com/recipes/tutorials/multitech-multiconnect-conduit-aep-lora/>

mBed

ARM® mbed is a free, open-source platform and operating system for embedded devices using the ARM Cortex-M microcontrollers. The mbed website provides free software libraries, hardware designs, and online tools for rapid prototyping of products. The platform includes a standards-based C/C++ SDK, a microcontroller HDK, and supported development boards, an online compiler and online developer collaboration tools.

- MultiConnect mDot and Developer Kits: <https://developer.mbed.org/platforms/MTS-mdot-f411/>
- MultiConnect mDot Box: <https://developer.mbed.org/platforms/mdotevb/>

Support

Developer forums are available at <http://www.multitech.net/developer/forums/>.

If you need help, create an account and submit a support case directly to our technical support team, visit: <https://support.multitech.com>.