Telstra IoT Platform for Connected Device Management and Application Development

IoT Platform Technical User Guide
April 2018

Introduction

Purpose of the Technical User Guide

This guide contains instructions for configuring and using Telstra IoT Platform.

About this guide

This guide outlines the technical capabilities of Telstra IoT Platform. It contains descriptions of the key technology services and capabilities.

The information in this guide is subject to change without notice as we evolve this service. We've made every effort to ensure the information is accurate, but Telstra doesn't assume responsibility for errors or consequences arising from any errors in the guide.

Who is this guide for?

This technical guide is for Telstra-authorised associates, including sales representatives, pre-sales architects, project managers, technology partners and customers.

How to use this guide

This guide has been split into a number of sections relating to different IoT Platform capability. Each section describes key functionality that the customer sees.

Help and support

For general technical support call 1800 620 345.

IoT Platform concepts

Overview

The platform utilises a highly modular, scalable and cost-efficient framework. It will help you meet specific and dynamic demands in a very short timespan. With minimal complexity, you'll gain an advanced forward-looking capability, including:

IoT Functions	Description
Device Connection	Communicates with the devices in the field. It can easily support new device types (agnostic to wireless or fixed networks) by adding 'connectivity profiles'.
Information Processing	Processes data from the Device Connection layer. Enables configuration of business rules to translate data received from devices into business events that can be recognised by IoT applications for further actions.
Information Warehousing	Data from the Device Connection layer or business events from the Information Processing component can be stored by the IoT Platform for later retrieval and processing. You may use this information to create general or customised visualisations. Configurable reports can be generated based on the stored information.
Application Integration	The communication and common services backbone of the IoT platform. Applications can subscribe to information or services. It is responsible for providing the right application with the right platform capabilities.
Services	The IoT Platform provides a standard interface to the external world, using web services for integration. Applications can configure different elements (eg devices or environments or integrating with enterprise back office systems or common platform capabilities like geo-fencing, etc.) in the IoT Platform.
Portal	Allows users to configure the platform (user groups, permissions, business rules, visualisations) for specific needs. Using individual building blocks – components can be configured to view data in the information warehouse and manage the IoT Platform based on your requirements.
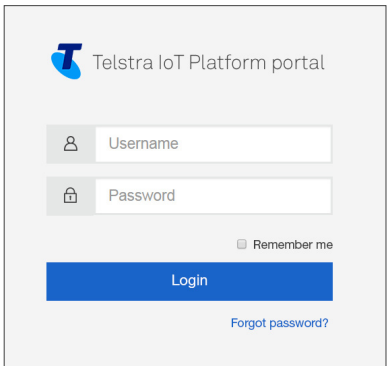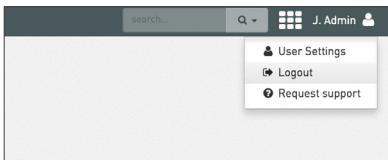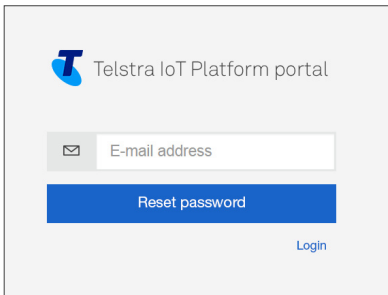
Getting started

Where to find the IoT Platform features

Functions	Menu	Screens	Explanation
Logging In (On the logon page, enter your username and password to start the platform.)*			To use Telstra IoT Platform, you need the following desktop web browsers: • Internet Explorer (Version 10 and 11) • Firefox (latest) • Chrome (latest). You can also use recent smartphone and tablet mobile web browsers: • Chrome on Android (latest) on Galaxy smartphones and tablets • Safari on iOS (latest) on Apple iPhone and iPad. The following information is required to log in/sign in: • URL • Username • Password. We emailed you this information during the activation of your IoT Platform service. **Note**: For security reasons, Telstra IoT Platform does not use Cookie technology.
			If you forgot your password, click the "Forgot password?" link on the login screen. You can now type your email address and click "Reset password". Check your email for the password reset link. Click the link to enter a new password. The password reset link is valid for one day.

Functions	Menu	Screens	Explanation
Home (The Home page provides an overview of the platform. The tabs and module buttons take you to different functional areas within the platform. Your role determines which functions are available to you.)			The general structure of a the Telstra IoT Platform application is shown in the screenshot. • The name of the currently visible application is shown in the top left. • Using the navigator, you can go to the different pages of an application. Click on an entry in the navigator to open the respective page. You can collapse or expand sections in the navigator by clicking the section headers (ie, the rows with the little triangle in front of the text). • On some pages, additional "tabs" are available depending on how much information is required to be shown. • The top area of the application is used as message bar whenever a status (green) or an error (red) needs to be shown. • The "search" field provides a full-text search where available. • Using the application switcher, you can change from one application to another. You might have to re-enter your credentials if you have not selected "Remember me" on your original login to Telstra IoT Platform. • The user menu shows your user name. By clicking on the user name, a popup menu appear. The popup menu allows you to log out of the application (even if you clicked "Remember me") and provides access to user settings and help. • In some areas, a cog wheel on the top right provides access to further functionality through a drop-down menu.
Device Management (The Device Management page provides you with an overview of your connected devices and lets you manage their health.)	View all devices and their status		Device Management provides you with an overview of your connected devices and lets you manage their health. In Device Management, you can: • connect new devices to your account and disconnect them • list, search and group the connected devices • view the details of the devices and check their status • monitor the connection and the service of devices • locate devices • work with alarms from devices • remote control devices • troubleshoot devices • manage the software and the firmware on devices • manage the credentials of devices.

Functions	Menu	Screens	Explanation
	View device details		
	Device connection monitoring		
	Configure device settings		

Functions	Menu	Screens	Explanation
Measurements (This page provides visualisation of data provided by the device in the form of charts.)	View measurements		The measurements interface consists of three parts: • the measurement API resource returns URIs and URI templates to collections of measurements, so that measurements can be queried according to various filter criteria • the measurement collection resource retrieves measurements and enables creating new measurements • the measurement resource represents individual measurements that can be queried and deleted.
	Tracking		
Remote Configuration (This page enables you to interactively work with remote devices.)	Execute commands with device shell		
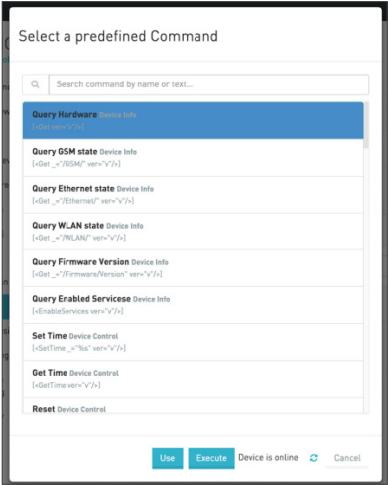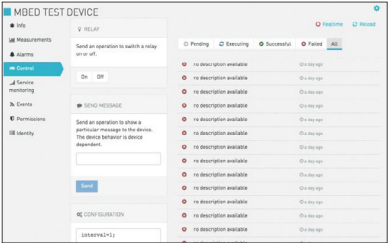
Functions	Menu	Screens	Explanation
	Remote device control, with Mass Operations		
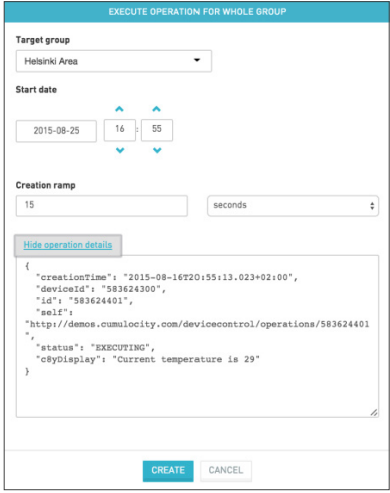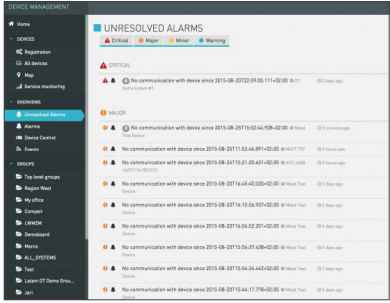
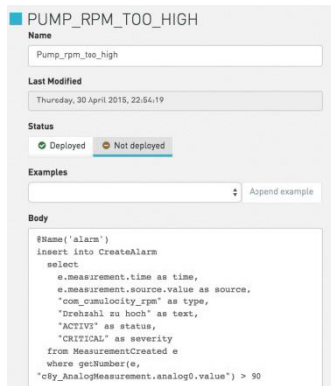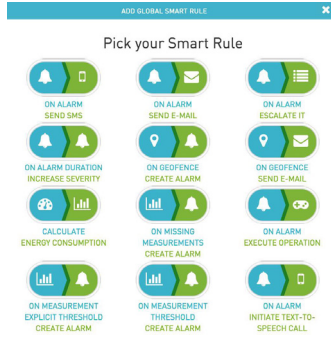| Functions	Menu	Screens	Explanation
Alarm Management (This page provides automatic monitoring of connections in real-time, alerting in the event of misuse or malfunction.)	View all alarms		The alarms interface consists of three parts: • the alarm API resource returns URLs and URL templates to collections of alarms, so that all alarms or alarms of a specified source device and/or status can be retrieved • the alarm collection resource retrieves alarms and enables creating new alarms • the alarm resource represents individual alarms that can be queried, modified and progressed through an alarm workflow.
	View alarm details		

Functions	Menu	Screens	Explanation
	Setup rules to trigger events and escalate alarms		
Manage Users and Privileges (This page manages users and user groups, including their permissions.)	Define user groups and their privileges		The Administration application lets account administrators manage their users, applications, rules and stored files, as well as configure a number of options for the account. You can: • view subscription information for your account • manage users and user groups, including their permissions • configure applications and simulators • set up real-time event processing scripts and reprioritise alarms • change settings • configure the retention policies for your data • manage stored files such as firmware images or log files.
	Create users and assign to user groups		

Functions	Menu	Screens	Explanation
Near real-time Analytics and Business Rules (This page provides a rule engine to analyse data in real-time and to perform actions based on data.)	Develop new or modify existing rules		Near real-time processing feature provides the following features: • react instantly on events from remote sensors • develop highly interactive IoT applications • run IoT use cases directly inside platform without software development and leave the hosting and management to the platform • validate, normalise and derive data according to your own business rules across different device makes • trigger automated remote control actions based on events • use powerful, stream-oriented business logic, such as time windows and joins. **Note:** If complex customised rules are required to be configured in your tenancy, please contact your Telstra representative before proceeding.
	Built-in rules for easy configuration		
	Geo-fence alerts		
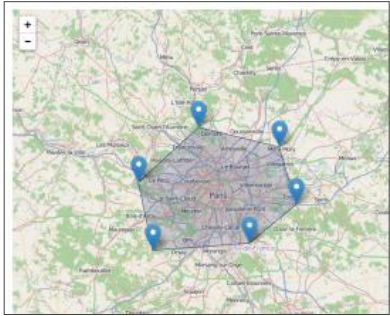
Functions	Menu	Screens	Explanation
Data Visualisation (This page visualises your sensor data centrally and graphically.)	Flexible dashboards		In the following, the Cockpit application is described. It offers the following functionality. • Data Explorer: Interactively explore, compare and visualise IoT data. • Dashboards: Create your own web pages by freely selecting and arranging widgets. Select from various widgets including maps, tables, graphs, charts, controls and more. • Smart Rule Builder: Easily create business rules to perform actions on incoming data in real-time. • Business Rule Package: Use pre-defined business rules for geofencing, thresholds or alarm escalation and notifications (SMS/Email/Speech). • Reporting: Create reports based on the dashboards layout and send distribute them by Email. • Asset Management: Organise your connected assets in hierarchies. • Alarm Management: Monitor problems of your asset using severities and workflows. • Easy use: Get on introduction and overview using the Welcome Dashboard and Home Dashboard, respectively. • Data point library: Manage default settings ("profiles") of your devices and apply them automatically using the "Data point library".
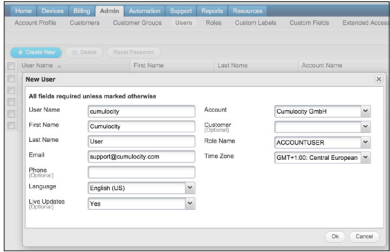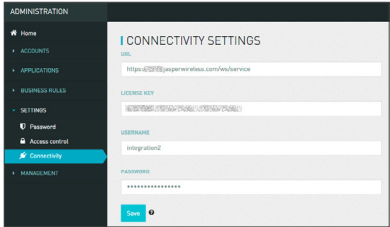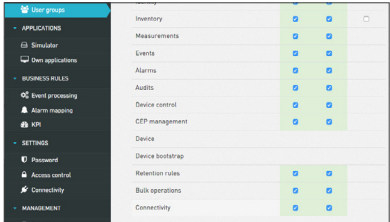
Functions	Menu	Screens	Explanation
	Data Explorer to view all measurements		
TWM2MCC (Telstra Wireless M2M Control Centre) (Telstra IoT Platform can access your TWM2MCC account using a dedicated user account that you need to create in TWM2MCC and configure in the Telstra IoT Platform)	Link your TWM2MCC (Jasper Control Center) account with the Telstra IoT Platform.		If you have a TWM2MCC account with us, you can link that account to your Telstra IoT platform tenant. This lets you: • check the status of the SIM card in the device and activate respectively deactivate it • check the online status of the device as reported by the network • view usage of data traffic, text messages and voice calls • view the history of data sessions and any changes to the SIM card or tariffs • invoke the Control Center diagnostics tools • communicate with the device through text messages, for example, to set APN parameters.
	Linking SIMs and mobile devices		

Functions	Menu	Screens	Explanation