



# IBM Brings Bluemix to Developers!

**This document has been prepared for the TMForum Hackathon in Nice, France.**

The first section of this document shares Bluemix related notes, and it is followed by notes appropriate for viewing content from exposed APIs (provided by TMForum and FIware) then you see the node flows that are available for you.

IBM® Bluemix™ is an open-standard, cloud-based platform for building, managing, and running apps of all types, such as web, mobile, big data, and smart devices. Capabilities include Java, mobile back-end development, and application monitoring, as well as features from ecosystem partners and open source—all provided as-a-service in the cloud.

Get started with Bluemix: [ibm.biz/LearnBluemix](http://ibm.biz/LearnBluemix)

Sign up for Bluemix: <https://ibm.biz/sitefrbluemix>

Getting started with run times: <http://bluemix.net/docs/#>

View the catalog and select the mobile cloud boilerplate: <http://bluemix.net/#/store/cloudOEPanelId=store>

Tap into the Internet of Things: [http://bluemix.net/#/solutions/solution=internet\\_of\\_things](http://bluemix.net/#/solutions/solution=internet_of_things)

Bluemix tutorial in Open Classroom: <http://openclassrooms.com/courses/deployez-des-applications-dans-le-cloud-avec-ibm-bluemix>

This table below can be used for general enablement. It is been useful to developers are previous hackathons.

Technical Asset Name	URL/Mobile App	Technical Asset Description	Source Code : Quick Start Guide
Connected Home Automation App	<a href="http://ibm.biz/ATTconnhome2">ibm.biz/ATTconnhome2</a>	Uses Node.js runtime, Internet of Things boilerplate, Node-RED editor and MQTT protocol	<a href="http://ibm.biz/ATTconnhome2qs">ibm.biz/ATTconnhome2qs</a>
Connected Car App Android Controller App	<a href="http://ibm.biz/ATTconncar">ibm.biz/ATTconncar</a>	Uses Node.js runtime, GeoSpatial Analytics, Internet of Things boilerplate, Node-RED editor & MQTT protocol	<a href="http://ibm.biz/ATTconncars1">ibm.biz/ATTconncars1</a> <a href="http://ibm.biz/ATTconncars2">ibm.biz/ATTconncars2</a>
Home Automation App using Digital Life APIs	<a href="http://ibm.biz/ATTconnhome1">ibm.biz/ATTconnhome1</a>	Uses Node.js runtime and Digital Life APIs	<a href="http://ibm.biz/ATTconnhome1qs">ibm.biz/ATTconnhome1qs</a>
Android App using AppScan Mobile Analyzer to scan for security vulnerabilities and fix them	<a href="http://ibm.biz/ATTandroidscan">ibm.biz/ATTandroidscan</a>	Uses AppScan Mobile Analyzer service to scan any Android App	<a href="http://ibm.biz/ATTandroidscans">ibm.biz/ATTandroidscans</a>
Build a Fitbit Step Contest App	<a href="http://ibm.biz/ATTfitbit">ibm.biz/ATTfitbit</a>	Uses PHP, MySQL, Twitter and Twilio services with Fitbit	<a href="http://ibm.biz/ATTandroidscans">ibm.biz/ATTandroidscans</a>

Built on the **Cloud Foundry** open source technology, Bluemix offers more control to application developers by using its Platform as a Service (PaaS) offering, and also provides pre-built Mobile Backend as a Service (MBaaS) capabilities. The goal is to simplify the delivery of an application by providing services that are ready for immediate use and hosting capabilities to enable internal scale development.



Bluemix provides the following features:

- A range of services and APIs that enable you to build and extend apps fast.
- Access to **Watson** Services for Bluemix
- Processing power for you to deliver app changes continuously.
- Fit-for-purpose programming models and services such as Mobile Cloud, Python, Ruby on Rails, Arduino, Cloudant, MongoDB, PHP, BigInsights, IBM Analytics for Hadoop and more.
- Manageability of services and applications.
- Optimized and elastic workloads.
- Continuous availability.

**Table below is prepared to show exposure of TMForum, Flware and Ericsson APIs from within Bluemix (others will be added when available). CODE and FLOWS associated with the links are provided here too.**

API exposed	URL to see output from API call	Description
List of Trouble Tickets in JSON format.	<a href="http://nicetmfapis.mybluemix.net/getTroubleTicketsV2">http://nicetmfapis.mybluemix.net/getTroubleTicketsV2</a>	Uses Node.js runtime.
Charts to show TMF content from 2 APIs Product Catalog, Trouble Ticket	<a href="http://nicetmfapis.mybluemix.net/TMFchartResult">http://nicetmfapis.mybluemix.net/TMFchartResult</a>	Uses Node.js runtime, with Google charts for dashboard like presentation.
POST to Trouble Ticket.	<a href="http://nicetmfapis.mybluemix.net/addTroubleTicketV2">http://nicetmfapis.mybluemix.net/addTroubleTicketV2</a>	Uses Node.js runtime. This time we do a POST to add a record. See below for JSON example to enter.
Flware content from LIVE data, from Santander: soundacc sensor.	<a href="http://nicetmfapis.mybluemix.net/FlIab01">http://nicetmfapis.mybluemix.net/FlIab01</a>	Providing the time of the last measure (TimeInstant), sound level (sound), sensor battery charge (batteryCharge) and sensor location (Latitud and Longitud).
Flware content from LIVE data, from Santander: traffic sensor.	<a href="http://nicetmfapis.mybluemix.net/FlIab02">http://nicetmfapis.mybluemix.net/FlIab02</a>	Providing Time of measurement (TimeInstant), "traffic intensity" (in vehicles per hour), occupancy (percentage), and sensor location (Latitud and Longitud).



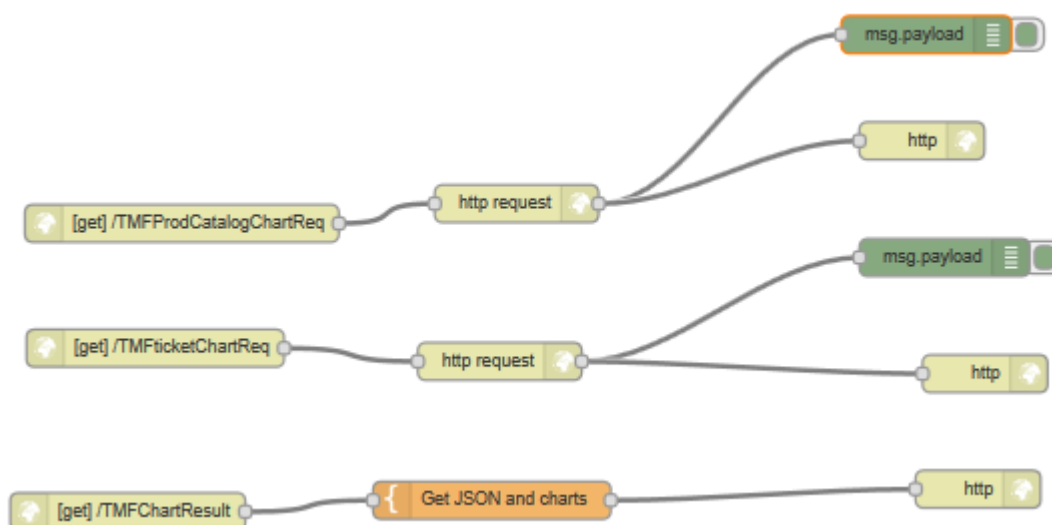
Flware content from LIVE data, from Santander: lux sensor.	<a href="http://nicetmfapis.mybluemix.net/Flab03">http://nicetmfapis.mybluemix.net/Flab03</a>	Providing information about the luminous flux and also, extra information like time instant, temperature and geolocation.
Flware content from LIVE data, from Santander: device sensor.	<a href="http://nicetmfapis.mybluemix.net/Flab04">http://nicetmfapis.mybluemix.net/Flab04</a>	Providing information about time instant, median speed, average speed, occupancy and traffic Intensity.
Flware API for data from test site	<a href="http://nicetmfapis.mybluemix.net/TMFNGSI">http://nicetmfapis.mybluemix.net/TMFNGSI</a> <a href="http://nicetmfapis.mybluemix.net/TMFNGSIdentityType">http://nicetmfapis.mybluemix.net/TMFNGSIdentityType</a>	Uses the Flware test site.
Ericsson All Car information API	<a href="http://nicetmfapis.mybluemix.net/EricssonCarAll">http://nicetmfapis.mybluemix.net/EricssonCarAll</a>	Get Car Information. Uses Node.js runtime.
Ericsson GSMA API (Get Location)	<a href="http://nicetmfapis.mybluemix.net/getEricssonLocation">http://nicetmfapis.mybluemix.net/getEricssonLocation</a>	Get Location. Uses Node.js runtime.

## Code and Flows:

1/

The content below is for anyone that may want to import the calls into their solution.

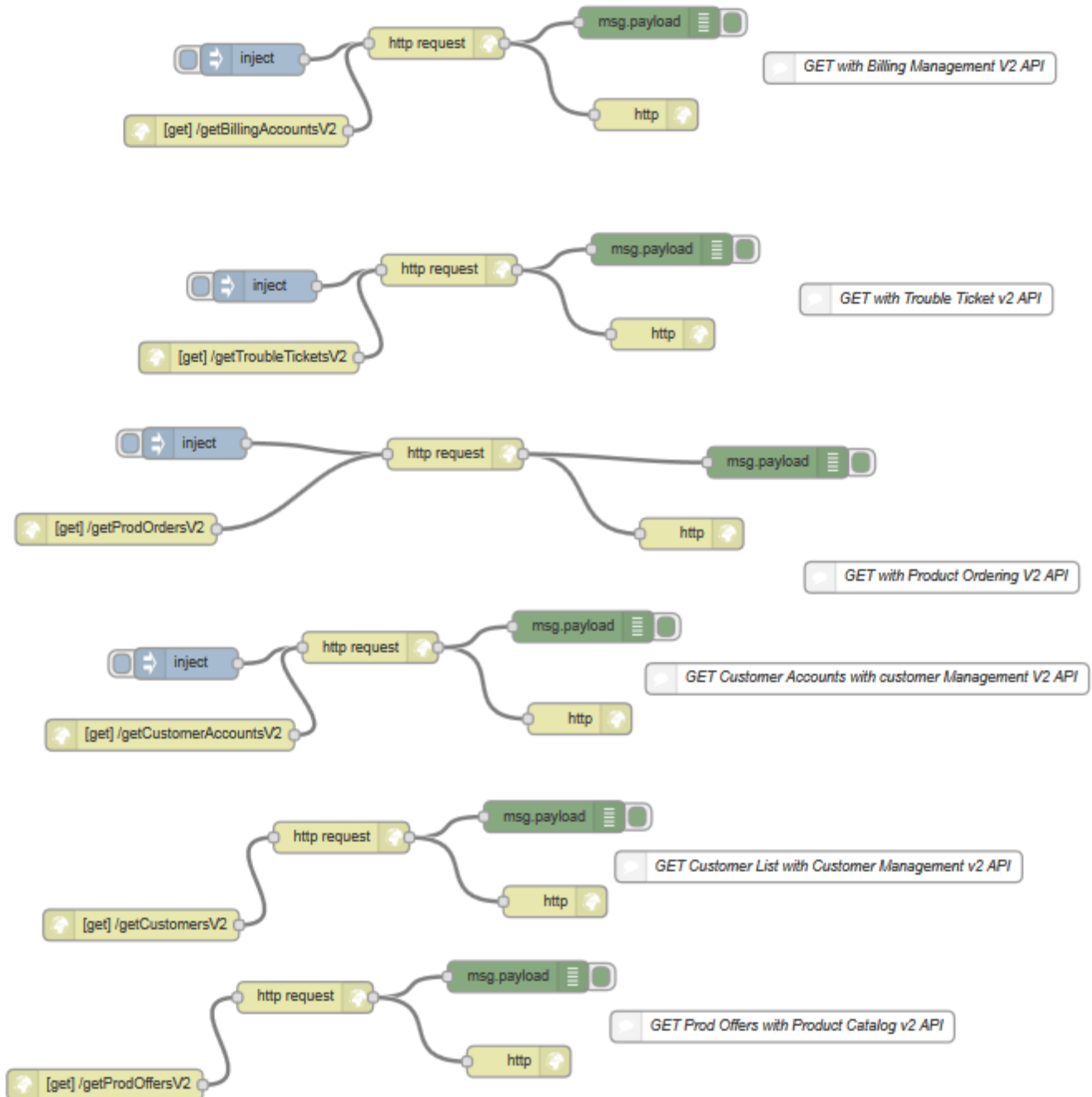
The url: <http://nicetmfapis.mybluemix.net/TMFChartResult> will show a google charts based on content read from the TMF site using the gets shown in the flow.





2/

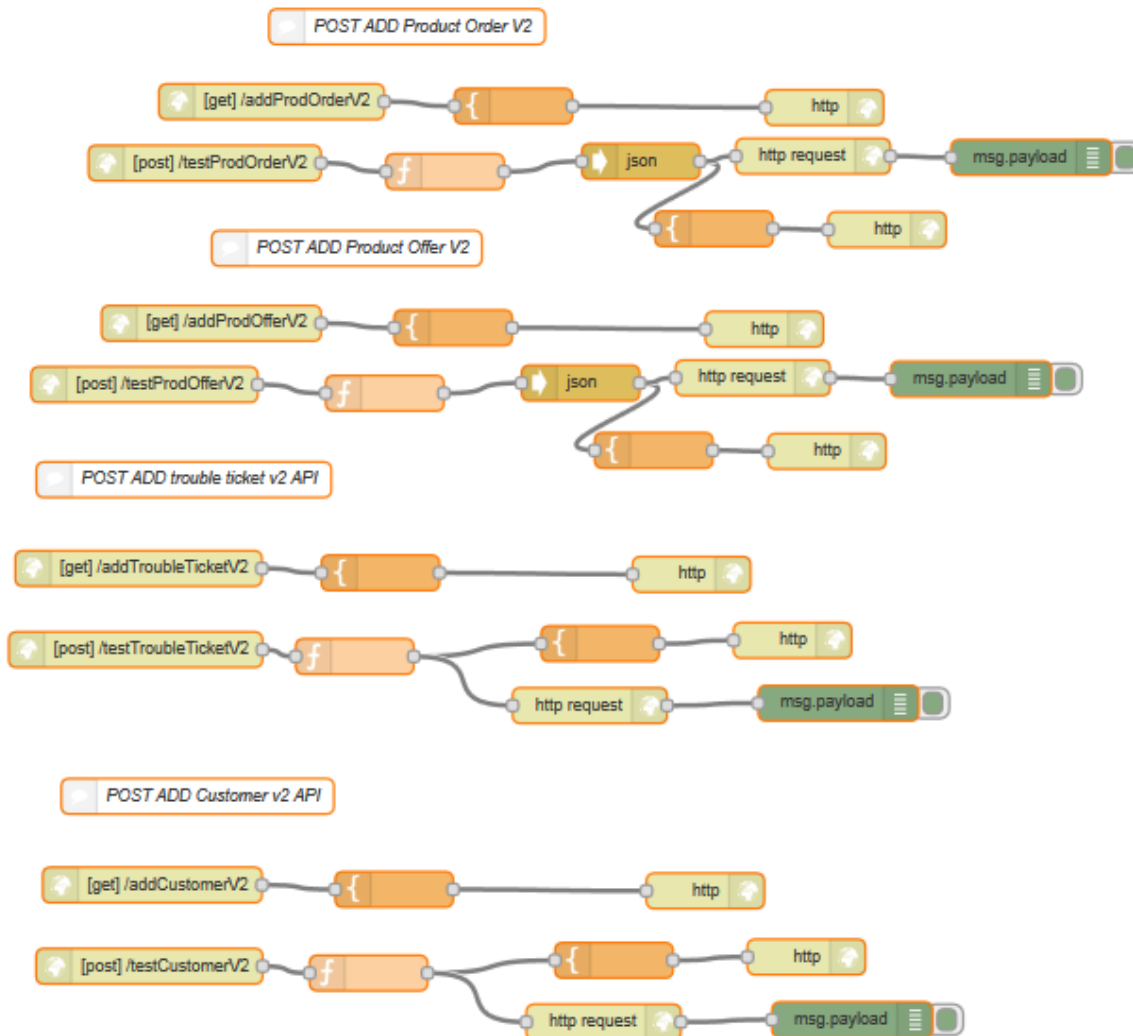
The Flow below shows many of the GETs to few of the APIs as an example. These can be used to replicate calls for use of other APIs. The url route is <http://nicetmfapis.mybluemix.net> followed by an endpoint, example, /getTroubleTicketsV2 etc..





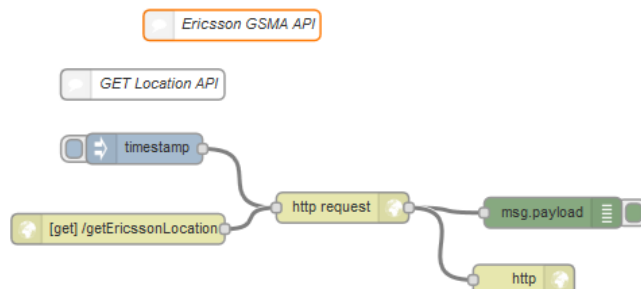
3/

As per the above. This flow shows how to POST add with sample JSON data.



4/

Ericsson APIs example:





5/

### Flware APIs.

There are many flows below but as stated above two of the links are to Flware test environments. We then have 5 other flows that do a GET from live data from sensors. For example, the time of the last measure (Timestamp), sound level (sound), sensor battery charge (batteryCharge) and sensor location (Latitude and Longitude). For further information, try the urls and see json output.

