

การใช้งาน ThingsBoard IoTs Platform เพื่อสร้างและจัดการระบบอัจฉริยะ
ThingsBoard IoTs Platform for smart system

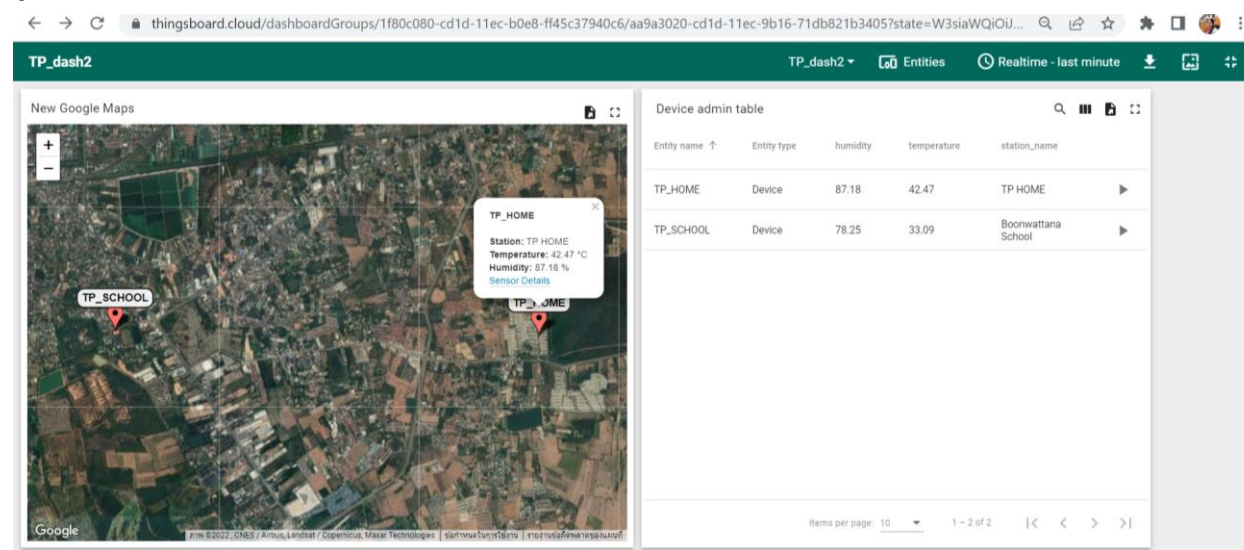
ชื่อ-สกุล : นางสาวณัฐชยา ผ่องกุล B6226718

5/5 -- คำถามท้ายบทเพื่อทดสอบความเข้าใจ

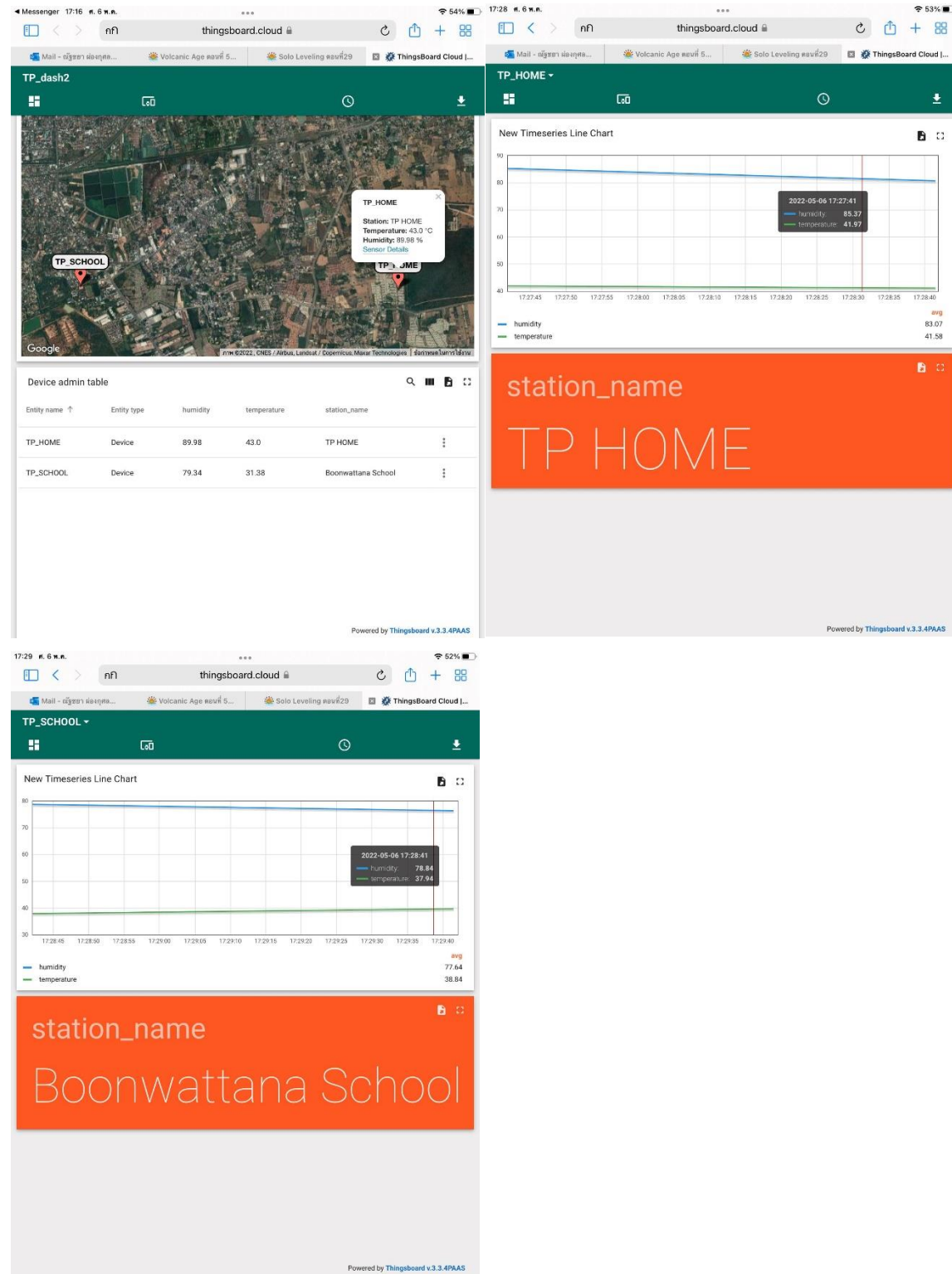
Quiz_301 – MAP Widgets and Multilayer Dashboard – 2 Point Data

- แสดงรูป โปรแกรม ของผลการทำงานตามหัวข้อ Lab304 – Using Rule Chains, MAP Widget and Multilayer dashboard

รูปการทดสอบ 1: Dashboard



รูปการทดสอบ 2: Display on Mobile device



รูปการทดสอบ 3

thingsboard.cloud/ruleChains/e8a90430-cd19-11ec-9b16-71db821b3405

ThingsBoard Cloud Platform

Rule chains > TP_STATION

Current subscription: ThingsBoard Cloud Maker
Status: Trial ends on the May 29, 2022

Natchaya Phongkison
Tenant administrator

Data_AA

Action - generator

Details Events Help

Name * Data_AA ☐ Debug mode

Message count (0 - unlimited) * 0

Period in seconds * 60

Originator Type Device TP_HOME

Generate

```
function Generate(prevMsg, prevMetadata, prevMsgType) {
  1 var msg = {
  2   station_name : "TP HOME",
  3   latitude : 14.952397937082447,
  4   longitude : 102.16413967294146,
  5   temperature : (Math.random()*10+40).toFixed(2),
  6   humidity : (Math.random()*10+80).toFixed(2) };
  7 var metadata = { data: 40 };
  8 var msgType = "POST_TELEMETRY_REQUEST";
  9 return { msg: msg, metadata: metadata, msgType: msgType };
}
```

thingsboard.cloud/ruleChains/e8a90430-cd19-11ec-9b16-71db821b3405

ThingsBoard Cloud Platform

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  7 var metadata = { data: 40 };
  8 var msgType = "POST_TELEMETRY_REQUEST";
  9 return { msg: msg, metadata: metadata, msgType: msgType };
}
```

รูปการทดสอบ 4

The screenshot displays the ThingsBoard IoT Platform interface. On the left, a dashboard titled "TP_dash2" is visible, featuring a table labeled "Device admin table". The table has columns for "Entity name", "Entity type", "humidity", and "temperature". It contains two rows of data:

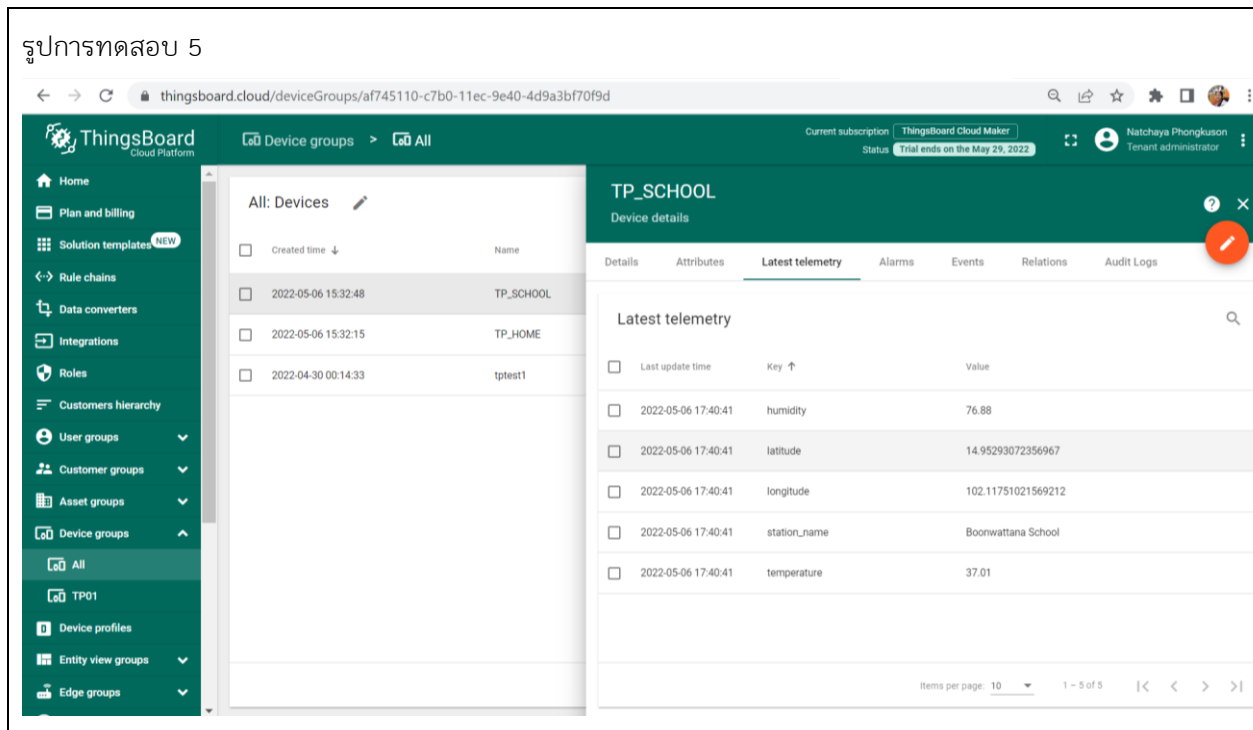
Entity name	Entity type	humidity	temperature
TP_HOME	Device	89.74	42.14
TP_SCHOOL	Device	73.87	35.52

On the right, an "Add action" dialog box is open. It shows a search bar with "play_arrow" selected. Below the search bar, there is a checkbox labeled "Show/hide action using function" which is unchecked. The "Type" is set to "Custom action". The "Function" field contains the following code:

```
function (device, widgetContext, entityId, entityName, additionalParams, entityLabel) {  
  3- deviceService.getDevice(entityId.id).subscribe(function(device) {  
  4-   if (device.name == 'TP_Station_AA') {  
  5-     openDashboardState('Home_Data',device)  
  6-   }  
  7-   else if(device.name == 'TP_Station_BB') {  
  8-     openDashboardState('Boonwattana_Data',device)  
  9-   }  
  10- });  
  11- function openDashboardState(stateId,device) {  
  12-   var params = {  
    ...  
  }  
}
```

The dialog box has "Cancel" and "Add" buttons at the bottom right. The background dashboard is dimmed, and a red checkmark icon is visible in the top right corner of the dashboard area.

รูปการทดสอบ 5



The screenshot displays the ThingsBoard Cloud Platform interface. The left sidebar contains navigation links: Home, Plan and billing, Solution templates (NEW), Rule chains, Data converters, Integrations, Roles, Customers hierarchy, User groups, Customer groups, Asset groups, Device groups (selected), All, TP01, Device profiles, Entity view groups, and Edge groups. The main content area is divided into two sections. The top section, titled 'All: Devices', shows a table of devices with columns for 'Created time' and 'Name'. The bottom section, titled 'TP_SCHOOL Device details', shows the 'Latest telemetry' data for the selected device.

Current subscription: ThingsBoard Cloud Maker
Status: Trial ends on the May 29, 2022

Current user: Natchaya Phongkison
Tenant administrator

Device groups: All

Device details: TP_SCHOOL

Latest telemetry

Last update time	Key	Value
2022-05-06 17:40:41	humidity	76.88
2022-05-06 17:40:41	latitude	14.95293072356967
2022-05-06 17:40:41	longitude	102.11751021569212
2022-05-06 17:40:41	station_name	Boonwattana School
2022-05-06 17:40:41	temperature	37.01

Items per page: 10 1 - 5 of 5

The image displays two screenshots of the ThingsBoard IoT Platform interface, specifically the 'TP_dash2' dashboard. The top screenshot shows the 'Manage dashboard states' dialog box, which allows users to configure the default state for the dashboard. The bottom screenshot shows the 'Entity aliases' dialog box, which allows users to define aliases for entities and their filters.

Manage dashboard states

Name	State Id	Root state
\$(entityName) Boonwattana_Data		<input type="checkbox"/>
\$(entityName) Home_Data		<input type="checkbox"/>
TP_dash2	default	<input checked="" type="checkbox"/>

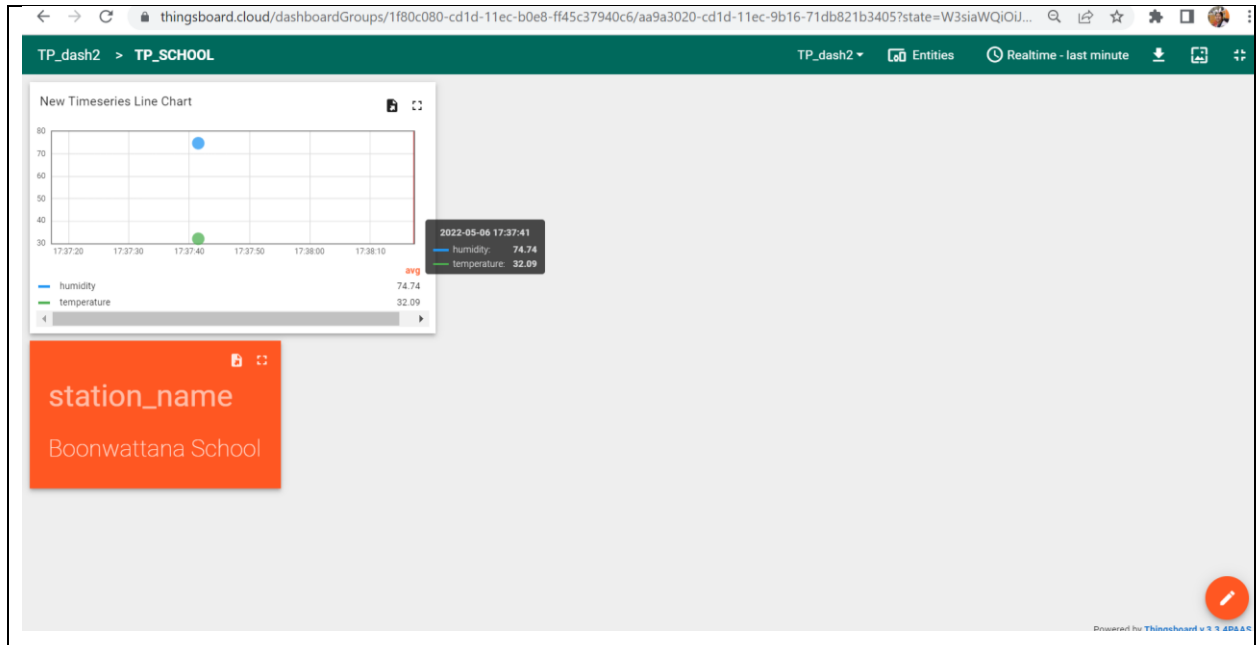
Items per page: 5 1 - 3 of 3

Cancel Save

Entity aliases

Alias name	Entity filter	Resolve as multiple entities
1. TP_Station_AA	One device	<input type="checkbox"/>
2. TP_Station_BB	One device	<input type="checkbox"/>
3. All_Node	List of 2 devices	<input checked="" type="checkbox"/>

Add alias Cancel Save



Quiz_302 – MAP Widgets and Multilayer Dashboard – 4 Point Data

- จากหัวข้อ Quiz_301 ลองปรับเพิ่มจุดข้อมูลจากสองจุด(STP,SUT) เป็นสี่จุดข้อมูล ตามแต่ผู้เรียนกำหนด

รูปการทดสอบ 1: Dashboard

TP_dash2

Current subscription: ThingsBoard Cloud Maker
Status: Trial ends on the May 29, 2022

Natchaya Phongkoon
Tenant administrator

TP_dash2 ▾ Entities Realtime - last minute

New Google Maps

TP_SCHOOL TP_LOTUS TP_DOHOM TP_HOME

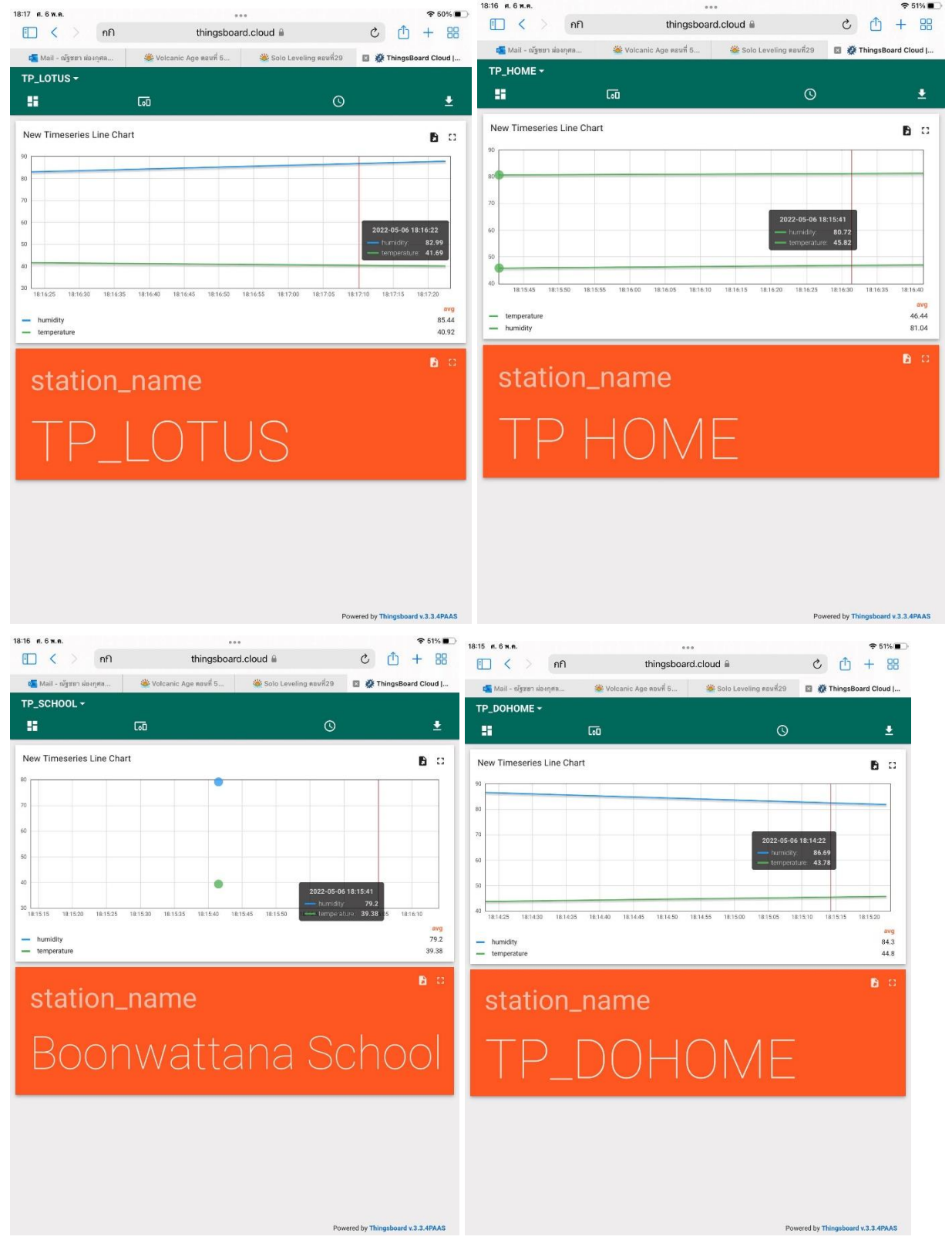
Device admin table

Entity name ↑	Entity type	humidity	temperature	station_name
TP_DOHOM	Device	82.51	48.71	TP_DOHOM
TP_HOME	Device	88.57	45.21	TP HOME
TP_LOTUS	Device	89.43	41.26	TP_LOTUS
TP_SCHOOL	Device	72.86	38.28	Boonwattana School

1 - 4 of 4 |< < > >|


Powered by Thingsboard v.3.3.4PAAS

รูปการทดสอบ 2: Display on Mobile device



18:06 ๙. 6 พ.ค. thingsboard.cloud 52%

TP_dash2



Google

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Device admin table

Entity name ↑	Entity type	humidity	temperature	station_name
TP_DOHOME	Device	86.88	42.62	TP_DOHOME
TP_HOME	Device	84.99	49.72	TP HOME
TP_LOTUS	Device	86.27	42.72	TP_LOTUS
TP_SCHOOL	Device	75.4	31.96	Boonwattana School

Cell_HTable

Powered by Thingsboard v.3.3.4PAAS

รูปการทดสอบ 3:

The screenshot displays the ThingsBoard Cloud Platform interface, divided into two main sections: a rule chain editor and a device details view.

Top Section: Rule Chain Editor

- URL:** `thingsboard.cloud/ruleChains/e8a90430-cd19-11ec-9b16-71db821b3405`
- Header:** Shows "Rule chains" and "TP_STATION".
- Left Sidebar:** Contains navigation links like Home, Plan and billing, Solution templates, Rule chains, Data converters, Integrations, Roles, Customers hierarchy, User groups, Customer groups, Asset groups, Device groups, Device profiles, Entity view groups, Edge groups, Edge management, and Widgets Library.
- Filter:** Set to "gen".
- Flow Diagram:**
 - Input:** A green box labeled "Input".
 - Generators:** Four red boxes labeled "generator Data_AA", "generator Data_BB", "generator Data_CC", and "generator Data_DD".
 - Success Nodes:** Four blue boxes labeled "Success" connected to the generators.
 - Message Type Switch:** A yellow box labeled "message type switch TP_Msg" receiving input from the Success nodes.
 - Post Telemetry:** A blue box labeled "Post telemetry" connected to the Message Type Switch.
 - Save Timeseries:** A red box labeled "save timeseries TP_SaveTime" connected to the Post Telemetry node.

Bottom Section: Device Details View

- URL:** `thingsboard.cloud/deviceGroups/af745110-c7b0-11ec-9e40-4d9a3bf70f9d`
- Header:** Shows "Device groups" and "All".
- Left Sidebar:** Similar to the top section, but with "Device groups" highlighted.
- Device List:**
 - All: Devices** (with a search icon)
 - Table with columns: Created time, Name.

Created time	Name
2022-05-06 17:44:22	TP_DOHOME
2022-05-06 17:43:31	TP_LOTUS
2022-05-06 15:32:48	TP_SCHOOL
2022-05-06 15:32:15	TP_HOME
2022-04-30 00:14:33	tptest1
- TP_DOHOME Device details:**
 - Latest telemetry:**

Last update time	Key	Value
2022-05-06 17:49:22	humidity	86.84
2022-05-06 17:49:22	latitude	14.935794385081737
2022-05-06 17:49:22	longitude	102.13603978970258
2022-05-06 17:49:22	station_name	TP_DOHOME
2022-05-06 17:49:22	temperature	41.46

The top screenshot displays the 'Entity aliases' dialog box for the dashboard 'TP_dash2'. The dialog lists six aliases with their respective filters and resolution settings:

Alias name	Entity filter	Resolve as multiple entities
1. TP_Station_AA	One device	<input type="checkbox"/>
2. TP_Station_BB	One device	<input type="checkbox"/>
3. All_Node	List of 2 devices	<input checked="" type="checkbox"/>
4. TP_Station_CC	One device	<input type="checkbox"/>
5. TP_Station_DD	One device	<input type="checkbox"/>
6. IIAll_Node	List of 4 devices	<input checked="" type="checkbox"/>

The bottom screenshot shows the 'New Google Maps' widget configuration. The 'Data' tab is active, displaying a list of datasources. The first datasource is configured with the following parameters:

Type	Parameters
Entity	<ul style="list-style-type: none">Entity alias: IIAll_NodeFilter: (empty)

The 'Advanced' tab is also visible, showing a list of parameters to be displayed on the map:

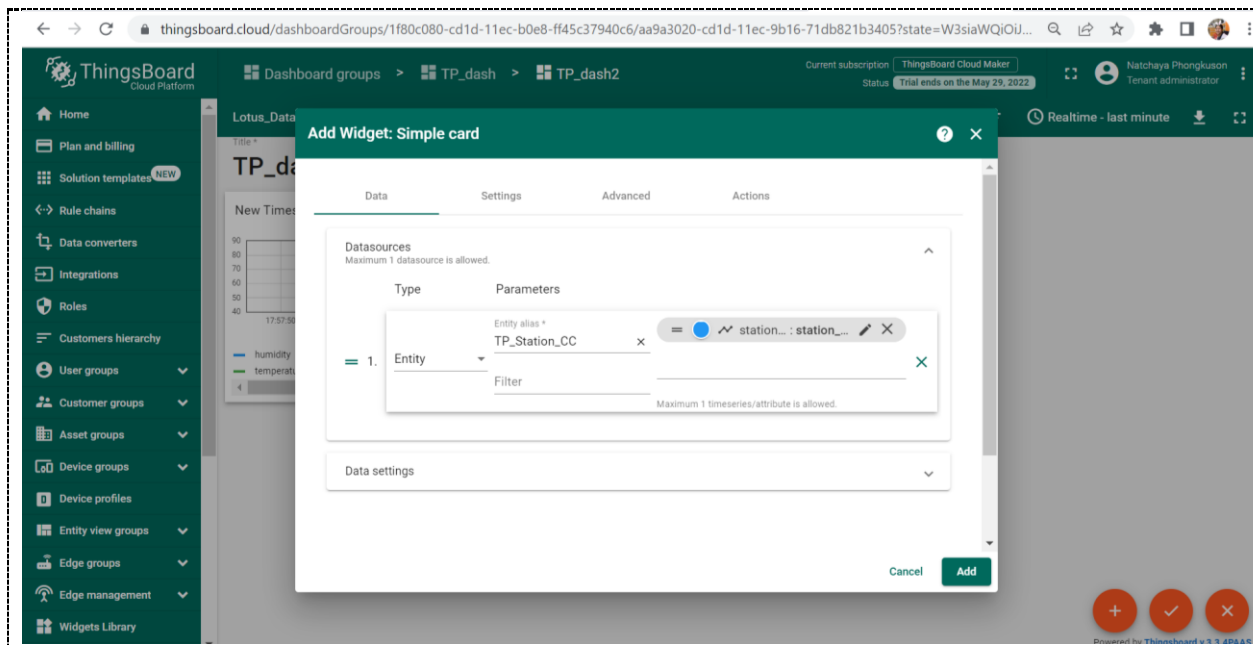
- humidity: humidity
- latitude: latitude
- longitude: longitude
- station_name: station_name
- temperature: temperature

The top screenshot shows the ThingsBoard Cloud Platform interface. The main dashboard is titled "TP_dash2" and displays a Google Map with markers for "TP_SCHOOL", "TP_LOTUS", and "TP_DC". A modal window titled "Manage dashboard states" is open, showing a table of dashboard states. The table has columns for Name, State Id, and Root state. The states listed are: Boonwattana_Data, Home_Data, Lotus_Data, Dohome_Data, and TP_dash2 (default). The TP_dash2 state is selected as the root state.

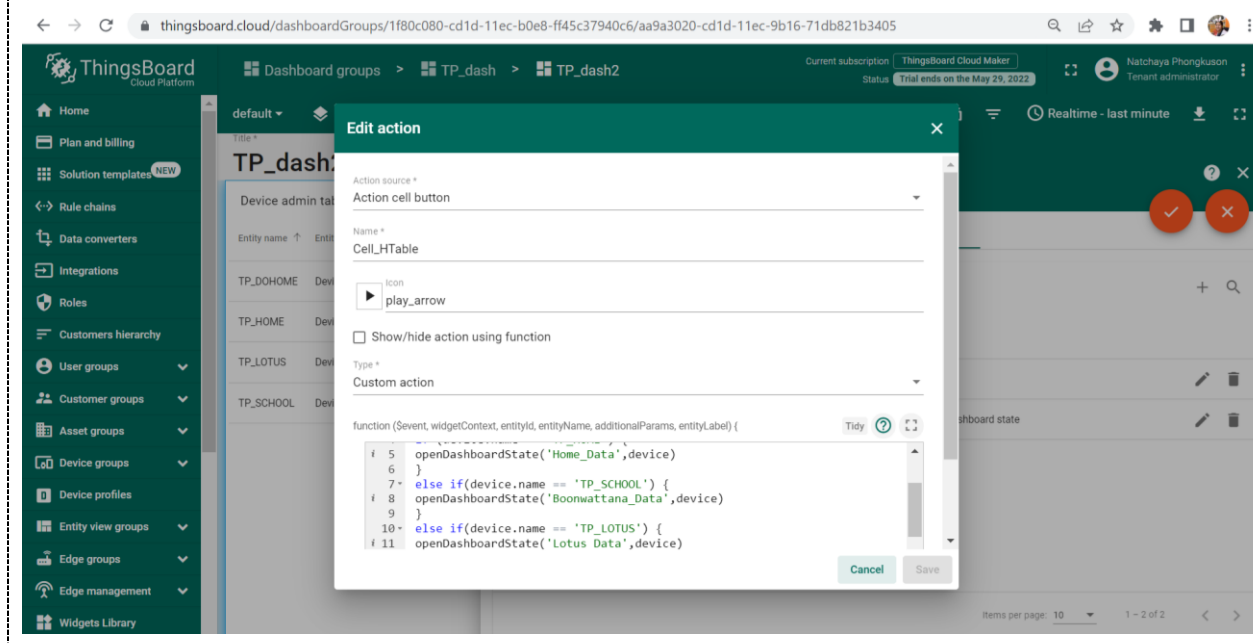
Name	State Id	Root state
\$(entityName) Boonwattana_Data		<input type="checkbox"/>
\$(entityName) Home_Data		<input type="checkbox"/>
\$(entityName) Lotus_Data		<input type="checkbox"/>
\$(entityName) Dohome_Data		<input type="checkbox"/>
TP_dash2	default	<input checked="" type="checkbox"/>

The bottom screenshot shows the ThingsBoard Cloud Platform interface. The main dashboard is titled "TP_dash2" and displays a "Lotus_Data" widget. A modal window titled "Add Widget: Timeseries Line Chart" is open, showing the "Data" tab. The widget is configured to use the dashboard timewindow and display the timewindow. The data source is "TP_Station_CC" with parameters "humidity: humidity" and "temperature: temperature".

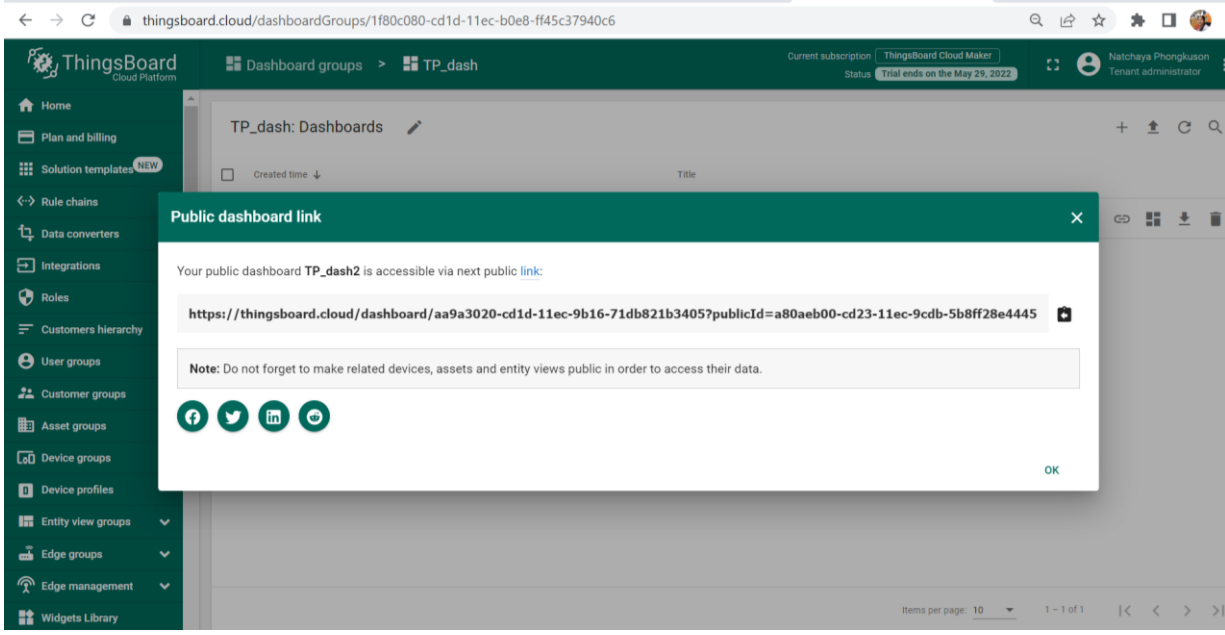
Type	Parameters
Entity	TP_Station_CC
Filter	



รูปการทดสอบ 4



รูปการทดสอบ 5



The screenshot displays the ThingsBoard Cloud Platform interface. A modal window titled "Public dashboard link" is open, showing the public link for dashboard TP_dash2. The link is: <https://thingsboard.cloud/dashboard/aa9a3020-cd1d-11ec-9b16-71db821b3405?publicId=a80aeb00-cd23-11ec-9cdb-5b8ff28e4445>. A note below the link states: "Note: Do not forget to make related devices, assets and entity views public in order to access their data." The modal also includes social media sharing icons for Facebook, Twitter, LinkedIn, and WhatsApp, and an "OK" button.

<https://thingsboard.cloud/dashboard/aa9a3020-cd1d-11ec-9b16-71db821b3405?publicId=a80aeb00-cd23-11ec-9cdb-5b8ff28e4445>