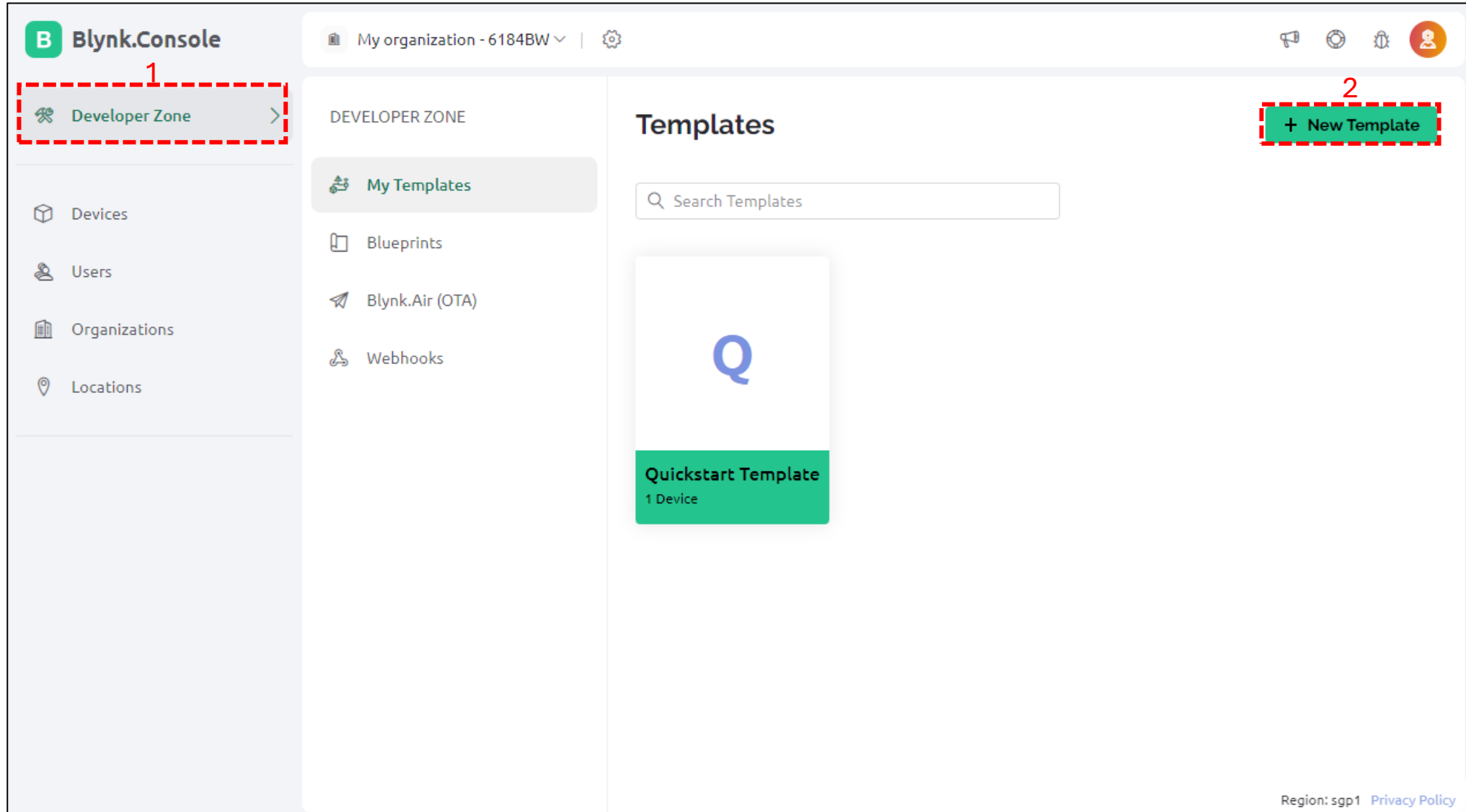


Blynk Setup for Hands-on

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Faculty of Engineering

Login to Blynk at <https://blynk.cloud/dashboard/login> and click the following options



Fill in the required fields as shown and click “Done”

Create New Template

NAME

Smart Farming

HARDWARE

ESP32

CONNECTION TYPE

WiFi

DESCRIPTION

Description

0 / 128

Cancel

Done

Click on “Datastreams”

Blynk.Console My organization - 6184BW

Developer Zone

Devices
Users
Organizations
Locations

Smart Farming

Cancel Save

Home **Datastreams** Web Dashboard Automations Metadata Connection Lifecycle

What's next?

- ☐ Configure template
- ☐ Set Up Datastreams
- ☐ Set up the Web Dashboard
- ☐ Add first Device

Template settings ESP32, WiFi

Firmware configuration

Template ID and Template Name should be declared at the very top of the firmware code.

```
#define BLYNK_TEMPLATE_ID  
"TMPL6kcSShRVH"  
#define BLYNK_TEMPLATE_NAME "Smart  
Farming"
```

Region: sgp1 Privacy Policy

Click on “+ New Datastream”



The screenshot shows the Blynk.Console web interface. The top header includes the Blynk.Console logo, the organization name 'My organization - 6184BW', and various utility icons. A left sidebar contains navigation links for 'Developer Zone', 'Devices', 'Users', 'Organizations', and 'Locations'. The main content area is titled 'Smart Farming' and features a 'Datastreams' tab that is currently active. Below the tabs, a description of Datastreams is provided, followed by a green button labeled '+ New Datastream'. This button is highlighted with a red dashed rectangular border, and a red number '1' is positioned directly below it. At the bottom right of the interface, the region 'sgp1' and a 'Privacy Policy' link are visible.

Click on “Virtual Pin”

The screenshot shows the Blynk.Console interface for a project named "Smart Farming". The left sidebar contains navigation links: Developer Zone, Devices, Users, Organizations, and Locations. The top bar shows the organization name "My organization - 6184BW" and various icons. The main content area has a tabbed interface with "Datastreams" selected. A dropdown menu is open, listing options: Virtual Pin, Enum, Location (with an "UPGRADE" button), Digital Pin, and Analog Pin. The "Virtual Pin" option is highlighted with a red dashed box and the number 1. Below the dropdown is a "+ New Datastream" button. The bottom right corner shows "Region: sgp1" and a "Privacy Policy" link.

Fill in the fields as shown, enable history data and click “Create”

Virtual Pin Datastream


 **NAME** 1 **ALIAS** 2 

PIN 3 **DATA TYPE** 4

UNITS 5

MIN 6 **MAX** 7 **DECIMALS** **DEFAULT VALUE**


8 ☒ **Enable history data**

 **ADVANCED SETTINGS**

9

Add another virtual pin datastream and fill in the fields as shown and click “Create”

Virtual Pin Datastream




NAME1

Humidity

ALIAS2

Humidity



PIN3

V1

▼

DATA TYPE4

Double

▼

UNITS

None

▼

MIN5

0

MAX6

100

DECIMALS

#.##

▼

DEFAULT VALUE

Default Value

7

☒

Enable history data

⊕

ADVANCED SETTINGS



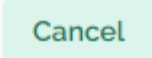
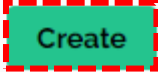
Cancel

8

Create


Add another virtual pin datastream and fill in the fields as shown and click “Create”

Virtual Pin Datastream

NAME	1	Moisture	ALIAS	2	Moisture	
PIN	3	V2	DATA TYPE	4	Integer	
UNITS		None				
MIN	5	0	MAX	6	4095	DEFAULT VALUE
						0
7		<input checked="" type="checkbox"/> Enable history data				
 ADVANCED SETTINGS						
						8
						 

Add another virtual pin datastream and fill in the fields as shown and click “Create”

Virtual Pin Datastream



NAME


1

Water Pump

ALIAS

2

Water Pump



PIN

3

V3

▼

DATA TYPE

4

Integer

▼

UNITS

None

▼

MIN

5

0

MAX


6

1

DEFAULT VALUE

0

☐ Enable history data

 ADVANCED SETTINGS

Cancel

7

Create

Click on “Web Dashboard”

The screenshot displays the Blynk.Console web interface. The top navigation bar includes the Blynk logo, the text 'My organization - 6184BW', and several utility icons. A left sidebar contains navigation links for 'Developer Zone', 'Devices', 'Users', 'Organizations', and 'Locations'. The main content area is titled 'Smart Farming' and features a horizontal menu with tabs: 'Home', 'Datastreams', 'Web Dashboard' (highlighted with a red dashed box and a red number '1'), 'Automations', 'Metadata', 'Connection Lifecycle', 'Events & Notifications', and 'Mobile Dashboard'. Below the 'Web Dashboard' tab, there is a 'Widget Box' on the left with controls for a 'Switch', 'Slider' (set to 8), 'Number Input' (set to 0), and an 'Image Button'. The main canvas area shows a 'Device name' widget with an 'Online' status, a 'Device Owner' field, a 'Company Name' field, a 'Tag' field, and a 'Show map' button. Below these are time range selectors (1h, 6h, 1d, 1w, 1mo, 3mo) and a large grid area with the text 'Add new widget' and instructions: 'Double click the widget on the left or drag it to the canvas'. The bottom right corner shows 'Region: sgp1' and a 'Privacy Policy' link.

Scroll down to look for the “Gauge” widget

The screenshot displays the Blynk Console interface for a project named "Smart Farming". On the left sidebar, the "Developer Zone" is active, showing options for Devices, Users, Organizations, and Locations. The main dashboard area has tabs for Home, Datastreams, Web Dashboard (selected), Automations, Metadata, Connection Lifecycle, Events & Notifications, and Mobile Dashboard. A "Widget Box" on the left contains several widgets: a "Label" widget showing "112", a "Gauge" widget showing "42" (highlighted with a red dashed box and labeled with a red "2"), a "Radial Gauge" widget showing "42", and an "Alarm and Sound" widget. The main dashboard area shows "Device name" (Online), "Device Owner", "Company Name", and a "Show map" button. A large grid area at the bottom is labeled "Add new widget" with instructions: "Double click the widget on the left or drag it to the canvas".

Click and drag the “Gauge” widget to place it on the dashboard

The screenshot displays the Blynk Console interface for a project named "Smart Farming". On the left, a sidebar contains navigation options: "Developer Zone", "Devices", "Users", "Organizations", and "Locations". The main area shows the "Web Dashboard" tab, with other tabs like "Home", "Datastreams", "Automations", "Metadata", "Connection Lifecycle", "Events & Notifications", and "Mobile Dashboard". A "Widget Box" on the left lists available widgets: "Label", "Gauge", "Radial Gauge", and "Alarm and Sound". A "Gauge" widget is highlighted with a red dashed box and labeled "1". A red arrow points from this box to a "Gauge" widget on the dashboard, which is also highlighted with a red dashed box and labeled "3". Another red dashed box labeled "2" is around the arrow. The dashboard shows device information, a map, and a grid of empty widget slots.

Click the setup icon

The screenshot displays the Blynk.Console web interface for a project named 'Smart Farming'. The interface includes a left sidebar with navigation options: Developer Zone, Devices, Users, Organizations, and Locations. The main content area shows a dashboard with a 'Widget Box' on the left containing a Label (112), a Gauge (42), a Radial Gauge (42), and an Alarm and Sound widget. The main dashboard area features a 'Device name' section with 'Online' status, a 'Device Owner' field, a 'Company Name' field, and a 'Show map' button. Below this is a 'Dashboard' section with a 'Gauge' widget. A red dashed box highlights the setup icon (a gear) on the gauge widget, with a red number '1' indicating it should be clicked. The interface also includes a 'Cancel' button and a 'Save' button in the top right corner. The bottom right corner shows the region 'sgp1' and a 'Privacy Policy' link.

Fill in the fields as shown and click save

Gauge Settings

TITLE (OPTIONAL) 1

Temperature

Datastream 2

Temperature (V0)

☐ Override Datastream's Min/Max fields

LEVEL COLOR 3

☒ Change color based on value

4

5

Cancel Save

Temperature (V0)

27 °C

0 100

Click and drag the “Gauge” widget to place it on the dashboard and click the setup icon.

The screenshot displays the Blynk.Console interface for a "Smart Farming" dashboard. On the left, a "Widget Box" contains several widgets: a "Label" with the value "112", a "Gauge" (labeled 1), a "Radial Gauge", and an "Alarm and Sound" widget. A red dashed box (labeled 2) highlights the "Gauge" widget in the "Widget Box". A red dashed box (labeled 3) highlights a "Gauge" widget on the dashboard. A red dashed box (labeled 4) highlights the setup icon (a gear) on the dashboard gauge. A red arrow points from the "Gauge" widget in the "Widget Box" to the "Gauge" widget on the dashboard. The dashboard also shows a "Device name" section with "Online" status, a "Temperature (V0)" gauge showing 53 °C, and a map with "Show map" and "UPGRADE" buttons. The bottom right corner shows "Region: sgp1" and a "Privacy Policy" link.

Fill in the fields as shown and click save

Gauge Settings

TITLE (OPTIONAL) 1
Humidity

Datastream 2
Humidity (V1)

☐ Override Datastream's Min/Max fields

LEVEL COLOR 3
☒ Change color based on value

4

5
Cancel Save

Humidity (V1)

90

0 100

Click and drag the “Gauge” widget to place it on the dashboard and click the setup icon.

The screenshot displays the Blynk.Console interface for a "Smart Farming" project. On the left, a "Widget Box" contains several widgets: "LED", "Label" (showing 112), "Gauge" (showing 42), and "Radial Gauge" (showing 42). The "Gauge" widget in the box is highlighted with a red dashed box and labeled with a red "1". A red dashed arrow labeled with a red "2" points from this widget to a "Gauge" widget on the main dashboard. The main dashboard shows device information (Device name, Online status, Device Owner, Company Name), a map, and various data widgets: "Temperature (V0)" (79 °C), "Humidity (V1)" (73), and a "Gauge" widget. The "Gauge" widget on the dashboard is highlighted with a red dashed box and labeled with a red "3". A red dashed box labeled with a red "4" highlights the setup icon (a gear) on the dashboard gauge widget. The dashboard also features a "Tag X" button, a "Show map" toggle, and an "UPGRADE" button. The bottom right corner shows "Region: sgp1" and a "Privacy Policy" link.

Fill in the fields as shown and click save

Gauge Settings

TITLE (OPTIONAL)
Moisture

Datastream
Moisture (V2)

☐ Override Datastream's Min/Max fields

LEVEL COLOR
☒ Change color based on value

Moisture (V2)

2,218

04,095

Cancel

Save


Click and drag the “Switch” widget to place it on the dashboard and click the setup icon.


The screenshot displays the Blynk.Console web interface for a "Smart Farming" dashboard. On the left, a "Widget Box" contains various controls. A red dashed box labeled "1" highlights the "Switch" widget in the "CONTROL" section. A red dashed arrow labeled "2" points from this widget to a red dashed box labeled "3" on the dashboard grid. Inside box "3", a red dashed box labeled "4" highlights the setup icon (a gear) next to the newly placed "Switch" widget. The dashboard itself shows a "Device name" section with "Online" status, a "Show map" button, and three gauges for Temperature (V0) at 34°C, Humidity (V1) at 69, and Moisture (V2) at 3,280. The bottom right corner indicates the region is "sgp1" and includes a "Privacy Policy" link.

Fill in the fields as shown and click save

Switch Settings ⓘ

TITLE (OPTIONAL) 1
Water pump

Datastream 2
Water Pump (V3) 


ON VALUE OFF VALUE
1 0 

3 ☒ Show on/off labels

ON LABEL OFF LABEL
ON OFF 4 5

LABEL POSITION
Left **Right**

☐ Hide widget name

Water pump (V3)
 OFF

6
Cancel Save

Click and drag the “Chart” widget to place it on the dashboard and click the setup icon.

The screenshot shows the Blynk.Console interface for a "Smart Farming" project. The left sidebar contains navigation links: Developer Zone, Devices, Users, Organizations, and Locations. The main dashboard area has tabs for Home, Datastreams, Web Dashboard (selected), Automations, Metadata, Connection Lifecycle, Events & Notifications, and Mobile Dashboard. A "Widget Box" on the left lists available widgets: Chart (highlighted with a red dashed box and labeled '1'), Map, and Image Gallery. A red arrow labeled '2' points from the 'Chart' widget in the box to a 'Chart' widget on the dashboard, which is also highlighted with a red dashed box and labeled '3'. The dashboard widget shows "No Data" and has a setup icon (gear) highlighted with a red dashed box and labeled '4'. The dashboard also displays device information (Device name: Online, Device Owner, Company Name), a map, and various sensors (Temperature, Humidity, Moisture) and a water pump control.

Fill in the fields as shown and click save

Chart Settings ⓘ

TITLE (OPTIONAL) 1
Moisture History

Datastreams
UPGRADE to add more datastreams

2
Moisture (V2) AVG of

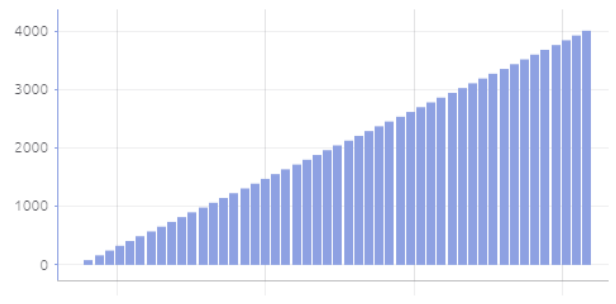
3
CHART TYPE COLOR
[Line] [Area] [Bar] [Line] [Blue]

4
Y-AXIS
☒ Show Y-axis
☐ Autoscale
☐ Override Datastream's Min/Max fields
MINIMUM Y AXIS RANGE
Minimum Y axis range

☐ Enable Zoom
☐ Show legend

Moisture History (V2)

5
Cancel Save



Click on “Save”

The screenshot shows the Blynk.Console interface for a 'Smart Farming' project. The top navigation bar includes 'My organization - 6184BW' and a settings icon. The left sidebar lists 'Developer Zone', 'Devices', 'Users', 'Organizations', and 'Locations'. The main dashboard is titled 'Smart Farming' and has tabs for 'Home', 'Datastreams', 'Web Dashboard' (selected), 'Automations', 'Metadata', 'Connection Lifecycle', 'Events & Notifications', and 'Mobile Dashboard'. On the left, a 'Widget Box' contains a 'CONTROL' section with a 'Switch' (checked), a 'Slider' (set to 8), a 'Number Input' (set to 0), and an 'Image Button'. The main dashboard area shows a 'Device name' 'Smart Farming' with an 'Online' status. Below this are gauges for 'Temperature (V0)' at 65°C, 'Humidity (V1)' at 63, and 'Moisture (V2)' at 2,112. A 'Water pump (V3)' toggle is set to 'OFF'. A 'Moisture History (V2)' bar chart shows a decreasing trend. In the top right corner, there are 'Cancel' and 'Save' buttons. The 'Save' button is highlighted with a red dashed box and a red number '1' above it. The bottom right corner shows 'Region: sgp1' and a 'Privacy Policy' link.

Click on “Devices” then “+ New Devices”

The screenshot shows the Blynk.Console web interface. On the left sidebar, the 'Developer Zone' is expanded, and the 'Devices' option is highlighted with a red dashed box and a red '1'. The main content area is titled 'Devices' and features a search bar with the placeholder 'Start typing'. Below the search bar, there are two tabs: 'All 1' (active) and 'My devices 1'. A table lists the devices, with one device shown: 'Quickstart Device'. The table has columns for Name, Auth Token, Device Owner, Status, Last Reported At, Organization Name, and Actions. The 'Quickstart Device' is currently 'Inactive'. In the top right corner of the main content area, a '+ New Device' button is highlighted with a red dashed box and a red '2'. The footer of the page indicates the region is 'sgp1' and provides a link to the 'Privacy Policy'.

Name	Auth Token	Device Owner	Status	Last Reported At	Organization Name	Actions
Quickstart Device	xMTziOgG165nbSVP3SDo46Ri4kri...	wooihaw@gmail.com (you)	Inactive	2:01 PM Feb 22, 2024	My organization - 6184BW	


Click on “From template”

New Device


Choose a way to create new device

1


From template




Scan QR code



Manual entry



 Point on the cards to see instructions

Cancel

Fill in the required fields as shown and click “Create”

New Device

Create new device by filling in the form below

TEMPLATE

Smart Farming

DEVICE NAME

ESP32

5 / 50

Cancel

Create

Copy “Copy to clipboard” and paste into Arduino IDE

The screenshot shows the Blynk.Console web interface. On the left is a sidebar with navigation links: Developer Zone, Devices, Users, Organizations, and Locations. The main area displays a device named 'ESP32' with status 'Offline'. Below the device name are three gauges for Temperature, Humidity, and Moisture. The Moisture gauge shows a value of 0. A 'Water pump' toggle switch is set to 'OFF'. A 'Moisture History' section shows 'No Data'. A modal window titled 'New Device Created!' is open on the right, displaying the following code:

```
#define BLYNK_TEMPLATE_ID "TMPL6kcSShRVH"
#define BLYNK_TEMPLATE_NAME "Smart Farming"
#define BLYNK_AUTH_TOKEN
"CANxxFPUG32d5yu0uxBXICNGZ1wKE0Ab"
```

Below the code, a note states: 'Template ID, Template Name, and AuthToken should be declared at the very top of the firmware code.' At the bottom of the modal are two buttons: 'Documentation' and 'Copy to clipboard'. The 'Copy to clipboard' button is highlighted with a red dashed box and a red number 3.

Region: sgp1 [Privacy Policy](#)