Ravee Khandagale

CS266 Lab5

1) In 2 or 3 sentence describe a way to manipulate event reporting.

Answer:

- Event reporting could be manipulated by using delay mechanisms.
- We introduce an event such as a drop in TCP packets between an IoT hub and its server by adding a firewall rule.
- On deleting this rule, all message notifications would be received at approximately the same time the rule is removed.
- This delay in messages would result in a resultant delay in actions as well.

2) **Testing**

Start another terminal and enter the following command to view the messages received on the cloud side

iothub-explorer monitor-events device0 --login "*Connection string primary key* "

On node-red page, click on the button on the inject node. You should get the following output
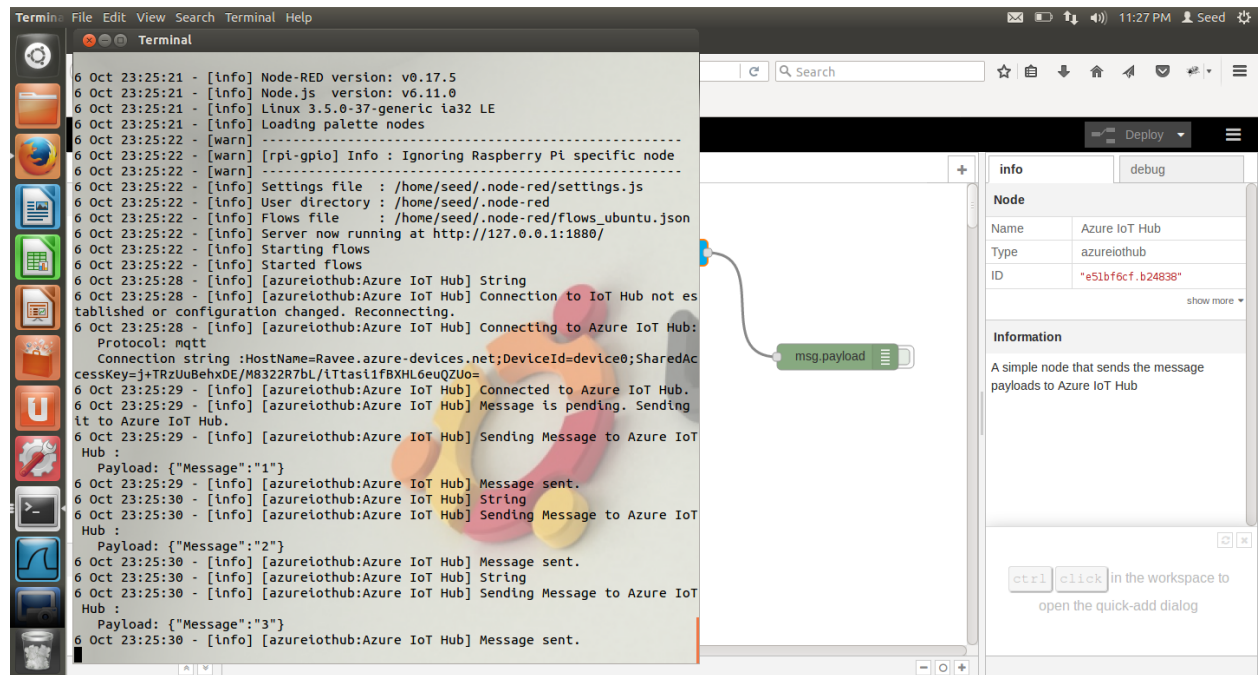
Take a screenshot.
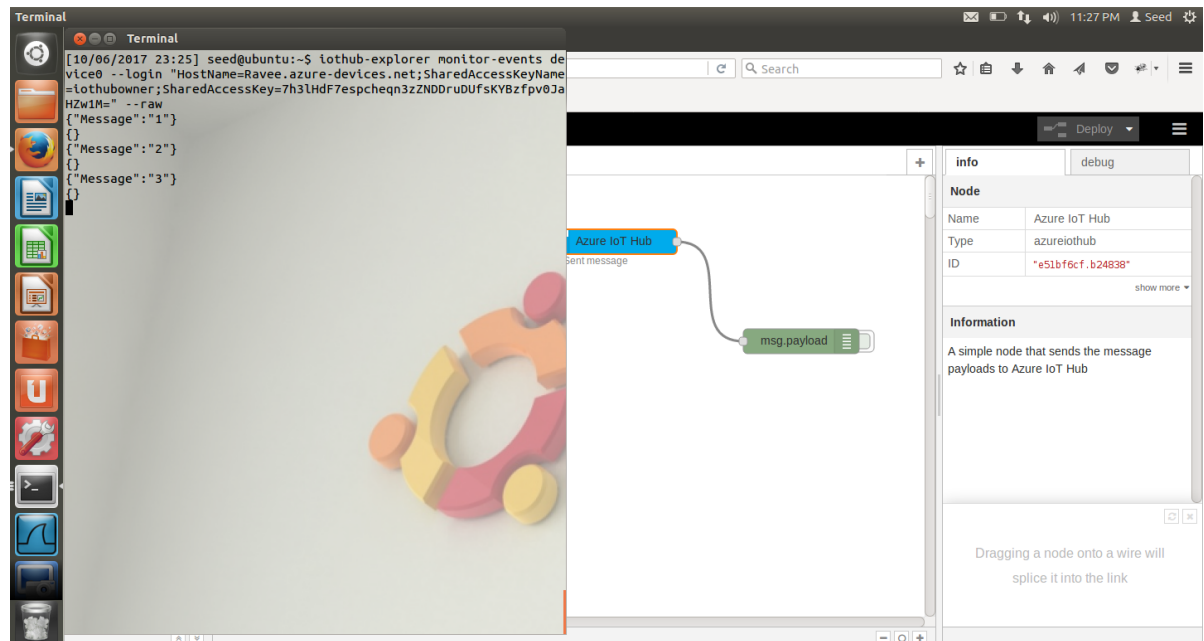
Answer:

3) The terminal (your virtual device) where you start the node-red should

also confirm the message send. Take a screenshot.
Answer:

4) **Experiment - Delaying device message**

After you remove the rule, take screenshot to show your message is delayed; that is, messages buffered in your machine due to your rule would be sent out moment after the rule is removed (see screenshot below).

Put your rule in the report.

Answer: **Command to add firewall rule,**
sudo iptables -A OUTPUT -o eth24 -p tcp --destination-port 8883 -j DROP
On deleting the rule, all buffered messages would be sent.

Screenshot:

Terminal

Payload: {"Message":"14"}
6 Oct 23:29:06 - [info] [azureiothub:Azure IoT Hub] String
6 Oct 23:29:06 - [info] [azureiothub:Azure IoT Hub] Sending Message to Azure IoT
Hub :
Payload: {"Message":"15"}
6 Oct 23:29:06 - [info] [azureiothub:Azure IoT Hub] String
6 Oct 23:29:06 - [info] [azureiothub:Azure IoT Hub] Sending Message to Azure IoT
Hub :
Payload: {"Message":"16"}
6 Oct 23:29:07 - [info] [azureiothub:Azure IoT Hub] String
6 Oct 23:29:07 - [info] [azureiothub:Azure IoT Hub] Sending Message to Azure IoT
Hub :
Payload: {"Message":"17"}
6 Oct 23:29:08 - [info] [azureiothub:Azure IoT Hub] String
6 Oct 23:29:08 - [info] [azureiothub:Azure IoT Hub] Sending Message to Azure IoT
Hub :
Payload: {"Message":"18"}
6 Oct 23:29:09 - [info] [azureiothub:Azure IoT Hub] String
6 Oct 23:29:09 - [info] [azureiothub:Azure IoT Hub] Sending Message to Azure IoT
Hub :
Payload: {"Message":"19"}
6 Oct 23:29:09 - [info] [azureiothub:Azure IoT Hub] String
6 Oct 23:29:09 - [info] [azureiothub:Azure IoT Hub] Sending Message to Azure IoT
Hub :
Payload: {"Message":"20"}
6 Oct 23:29:10 - [info] [azureiothub:Azure IoT Hub] String
6 Oct 23:29:10 - [info] [azureiothub:Azure IoT Hub] Sending Message to Azure IoT
Hub :
Payload: {"Message":"21"}
6 Oct 23:29:18 - [info] [azureiothub:Azure IoT Hub] Message sent.
6 Oct 23:29:18 - [info] [azureiothub:Azure IoT Hub] Message sent.
6 Oct 23:29:18 - [info] [azureiothub:Azure IoT Hub] Message sent.
6 Oct 23:29:18 - [info] [azureiothub:Azure IoT Hub] Message sent.
6 Oct 23:29:18 - [info] [azureiothub:Azure IoT Hub] Message sent.
6 Oct 23:29:18 - [info] [azureiothub:Azure IoT Hub] Message sent.
6 Oct 23:29:18 - [info] [azureiothub:Azure IoT Hub] Message sent.
6 Oct 23:29:18 - [info] [azureiothub:Azure IoT Hub] Message sent.

Deploy

info   debug

Flow

Name   Flow 1
ID   "c9b0280e.c1b1c8"
Status Enabled

Information

msg.payload

You can remove the selected nodes or
links with delete

Terminal

{"Message":"3"}
{}
{"Message":"4"}
{}
{"Message":"5"}
{}
{"Message":"6"}
{}
{"Message":"7"}
{}
{"Message":"8"}
{}
{"Message":"9"}
{}
{"Message":"10"}
{}
{"Message":"11"}
{}
{"Message":"12"}
{}
{"Message":"13"}
{}
{"Message":"14"}
{}
{"Message":"15"}
{}
{"Message":"16"}
{}
{"Message":"17"}
{}
{"Message":"18"}
{}
{"Message":"19"}
{}
{"Message":"20"}
{}
{"Message":"21"}
{}

tcp dpt:8883

-p tcp --dest

-p tcp --dest

-p tcp --dest

-p tcp --dest

-p tcp --dest

-p tcp --dest

Deploy

info   debug

Flow

Name   Flow 1
ID   "c9b0280e.c1b1c8"
Status Enabled

Information

msg.payload

ctrl-space will toggle the view of
this sidebar