

# VIENNA HACKATHON

The hackathon setup to control the Vienna Module is following the tutorial setup from the NGSI-LD / IoT Agent tutorial to be found here: <https://ngsi-ld-tutorials.readthedocs.io/en/latest/iot-agent.html>

The Vienna Module is a remote edge device to be controlled via the Orion-LD Context Broker. Additionally, there is a MQTT Broker and an IoT Agent working in the background, both are not and must not be accessible to the hackathon participants. All setup activities are done and the participants can start to control the Vienna Module only with NGSI-LD interactions with the Orion-LD Context Broker.

The connection to the Vienna Module is unidirectional. You can only control elements on/to the Vienna Module. There are no sensor readings realized from the Vienna Module so far.

For controlling the Vienna Module you just have to make a PATCH HTTP-Call as shown below. You can find a working curl and Postman demo call for all available commands. Additional details can be found in the individual call descriptions. It is following the descriptions to be found here: <https://ngsi-ld-tutorials.readthedocs.io/en/latest/iot-agent-json.html#southbound-traffic-commands>

To start a control command just release one of the following HTTP-Call-Commands to update the individual command on the Vienna Module. Please find links to documents showing the complete collection of HTTP-Calls in curl or in Postman format.

BEWARE, please look out for logical sequences of in the individual descriptions and do not inject commands on a high frequency. Best wait 5-10 seconds before releasing next calls, the Vienna Module is build from LEGO Bricks and it is a toy, not an industrial application. Sometimes it might be neccessary to repeat a command.

For each of the existing commands you will find 2 Attributes in the NGSI-LD Entity named "urn:ngsi-ld:Device:vienna-legomodule-001",

i.e. Command HOUSE\_DEMO -> ENABLE

HOUSE\_DEMO\_status - should show value "OK" for successful command execution

HOUSE\_DEMO\_info should show a command confirmation like: "HOUSE\_DEMO ENABLED"

And please be cautious when controlling the Vienna Module, do not abuse it.

**GET** /ngsi-lid/v1/entities/urn:ngsi-lid:Device:vienna-legomodule-001

*Read the control values from the urn:ngsi-lid:Device:vienna-legomodule-001 NGSI-LD-Entity.*

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**PATCH** /ngsi-lid/v1/entities/urn:ngsi-lid:Device:vienna-legomodule-001/attrs/HOUSE\_DEMO

*Enable automatic changes of the town hall lightings.*

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**PATCH** /ngsi-lid/v1/entities/urn:ngsi-lid:Device:vienna-legomodule-001/attrs/HOUSE\_RGB

*Please always disable the automatic changes of the town hall lightings with call "03 Update HOUSE\_DEMO -> DISABLE" before using this command to avoid strange behaviour.*

*For changing the town hall lightings with your own mixed colors, please change the payload of this PATCH command to your individual RGB values. Values are to be named in R G B sequence separated with one space between the values. Values have to be between 0 and 255.*

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**PATCH** /ngsi-lid/v1/entities/urn:ngsi-lid:Device:vienna-legomodule-001/attrs/HOUSE\_R

*Please always disable the automatic changes of the town hall lightings with call "03 Update HOUSE\_DEMO -> DISABLE" before using this command to avoid strange behaviour.*

*For changing the town hall lightings with your own R color value, please change the payload of this PATCH command to your individual R value. This call is only to address the R value in the range between 0 and 255.*

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**PATCH** /ngsi-ld/v1/entities/urn:ngsi-ld:Device:vienna-legomodule-001/attrs/HOUSE\_G

*Please always disable the automatic changes of the town hall lightings with call "03 Update HOUSE\_DEMO -> DISABLE" before using this command to avoid strange behaviour.*

*For changing the town hall lightings with your own G color value, please change the payload of this PATCH command to your individual G value. This call is only to address the G value in the range between 0 and 255.*

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**PATCH** /ngsi-ld/v1/entities/urn:ngsi-ld:Device:vienna-legomodule-001/attrs/HOUSE\_B

*Please always disable the automatic changes of the town hall lightings with call "03 Update HOUSE\_DEMO -> DISABLE" before using this command to avoid strange behaviour.*

*For changing the town hall lightings with your own B color value, please change the payload of this PATCH command to your individual B value. This call is only to address the B value in the range between 0 and 255.*

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**PATCH** /ngsi-ld/v1/entities/urn:ngsi-ld:Device:vienna-legomodule-001/attrs/FERRIS

*Enable turning of the Ferris wheel.*

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**PATCH** /ngsi-lid/v1/entities/urn:ngsi-lid:Device:vienna-legomodule-001/attrs/FERRIS

*Disable turning of the Ferris wheel.*

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**PATCH** /ngsi-lid/v1/entities/urn:ngsi-lid:Device:vienna-legomodule-001/attrs/METRO\_DEMO

*Enable automatic operation of the 2 metro lines 1 and 2.*

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**PATCH** /ngsi-lid/v1/entities/urn:ngsi-lid:Device:vienna-legomodule-001/attrs/METRO\_DEMO

*Disable automatic operation of the 2 metro lines 1 and 2.*

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**PATCH** /ngsi-lid/v1/entities/urn:ngsi-lid:Device:vienna-legomodule-001/attrs/METRO\_1\_DRIVE

*Please always disable the automatic operation of the METRO Demo with call "11 Update METRO\_DEMO -> DISABLE" before using this command to avoid strange behaviour.*

*Command Metro 1 to drive into the station to stop and wait there.*

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**PATCH** /ngsi-ld/v1/entities/urn:ngsi-

**Id:Device:vienna-legomodule-001/attrs/METRO\_1\_DRIVE**

*Please always disable the automatic operation of the METRO Demo with call "11 Update METRO\_DEMO -> DISABLE" before using this command to avoid strange behaviour.*

*Command Metro 1 to drive into the tunnel to stop and wait there.*

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**PATCH** /ngsi-ld/v1/entities/urn:ngsi-

**Id:Device:vienna-legomodule-001/attrs/METRO\_2\_DRIVE**

*Please always disable the automatic operation of the METRO Demo with call "11 Update METRO\_DEMO -> DISABLE" before using this command to avoid strange behaviour.*

*Command Metro 2 to drive into the station to stop and wait there.*

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**PATCH** /ngsi-ld/v1/entities/urn:ngsi-

**Id:Device:vienna-legomodule-001/attrs/METRO\_2\_DRIVE**

*Please always disable the automatic operation of the METRO Demo with call "11 Update METRO\_DEMO -> DISABLE" before using this command to avoid strange behaviour.*

*Command Metro 2 to drive into the tunnel to stop and wait there.*