

LARISSA ARAÚJO GAMA

RM96496

CP3 – PROTOCOLO MQTT

PARTE 1: CRIAÇÃO DA INFRAESTRUTURA NA AZURE

I. CRIAÇÃO DA MÁQUINA VIRTUAL

The screenshot displays the Microsoft Azure portal interface for a virtual machine. The left sidebar shows the navigation menu with categories like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Resource visualizer, Connect, Networking, Load balancing, Application security groups, Network manager, Settings, Disks, Extensions + applications, Operating system, Configuration, Advisor recommendations, Properties, Locks, Availability + scale, Security, Backup + disaster recovery, and Operations. The main content area shows the details for the virtual machine 'VM-CP3-MQTT-RM96496'.

Overview

Advisor (1 of 3): Migrate workload to D-series or better virtual machine. →

Help me copy this VM in any region

Connect, Start, Restart, Stop, Hibernate, Capture, Delete, Refresh, Open in mobile, Feedback, CLI / PS

Essentials

Resource group (move)	: CP3-MQTT-RM96496-LarissaA	Operating system	: Linux (ubuntu 24.04)
Status	: Running	Size	: Standard E Copied 8 GIB memory)
Location	: Brazil South (Zone 2)	Public IP address	: 20.206.202.236
Subscription (move)	: Azure for Students	Virtual network/subnet	: VM-CP3-MQTT-RM96496-vnet/default
Subscription ID	: e510ce68-ccb7-4596-ba51-7356273b3692	DNS name	: Not configured
Availability zone	: 2	Health state	: -
		Time created	: 5/20/2025, 3:32 PM UTC

Tags (edit): CP3-MQTT-RM96496

Properties | Monitoring | Capabilities (7) | Recommendations (3) | Tutorials

Virtual machine

Computer name	VM-CP3-MQTT-RM96496
Operating system	Linux (ubuntu 24.04)
VM generation	V2
VM architecture	x64
Agent status	Ready
Agent version	2.13.1.1
Hibernation	Disabled
Host group	-
Host	-
Proximity placement group	-
Colocation status	N/A
Capacity reservation group	-
Disk controller type	SCSI

Networking

Public IP address	20.206.202.236 (Network interface vm-cp3-mqtt-rm96496780_x2)
Public IP address (IPv6)	-
Private IP address	10.0.0.4
Private IP address (IPv6)	-
Virtual network/subnet	VM-CP3-MQTT-RM96496-vnet/default
DNS name	Configure

Size

Size	Standard B1s
vCPUs	1
RAM	1 GiB

Source image details

II. INSTALAÇÃO DO NODE.JS E NODE-RED

```
Last login: Wed May 21 02:13:20 2025 from 179.98.222.29
RM96496@VM-CP3-MQTT-RM96496:~$ node-red
21 May 04:35:59 - [info]

Welcome to Node-RED
=====

21 May 04:35:59 - [info] Node-RED version: v4.0.9
21 May 04:35:59 - [info] Node.js version: v18.20.8
21 May 04:35:59 - [info] Linux 6.11.0-1014-azure x64 LE
21 May 04:35:59 - [info] Loading palette nodes
21 May 04:36:00 - [info] Settings file : /home/RM96496/.node-red/settings.js
21 May 04:36:00 - [info] Context store : 'default' [module=memory]
21 May 04:36:00 - [info] User directory : /home/RM96496/.node-red
21 May 04:36:00 - [warn] Projects disabled : editorTheme.projects.enabled=false
21 May 04:36:00 - [info] Flows file : /home/RM96496/.node-red/flows.json
21 May 04:36:00 - [info] Server now running at http://127.0.0.1:1880/
21 May 04:36:00 - [warn]

-----

Your flow credentials file is encrypted using a system-generated key.

If the system-generated key is lost for any reason, your credentials
file will not be recoverable, you will have to delete it and re-enter
your credentials.

You should set your own key using the 'credentialSecret' option in
your settings file. Node-RED will then re-encrypt your credentials
file using your chosen key the next time you deploy a change.

-----

21 May 04:36:00 - [info] Starting flows
21 May 04:36:00 - [info] Started flows
21 May 04:36:00 - [info] [mqtt-broker:f2cd100d24f538e0] Connected to broker: mqtt://20.206.202.236:1883
21 May 04:47:57 - [info] Stopping flows
21 May 04:47:58 - [info] Stopped flows
21 May 04:47:58 - [info] Updated flows
21 May 04:47:58 - [info] Starting flows
21 May 04:47:58 - [info] Started flows
21 May 04:47:58 - [info] [mqtt-broker:f2cd100d24f538e0] Connected to broker: mqtt://20.206.202.236:1883
21 May 04:48:08 - [warn]

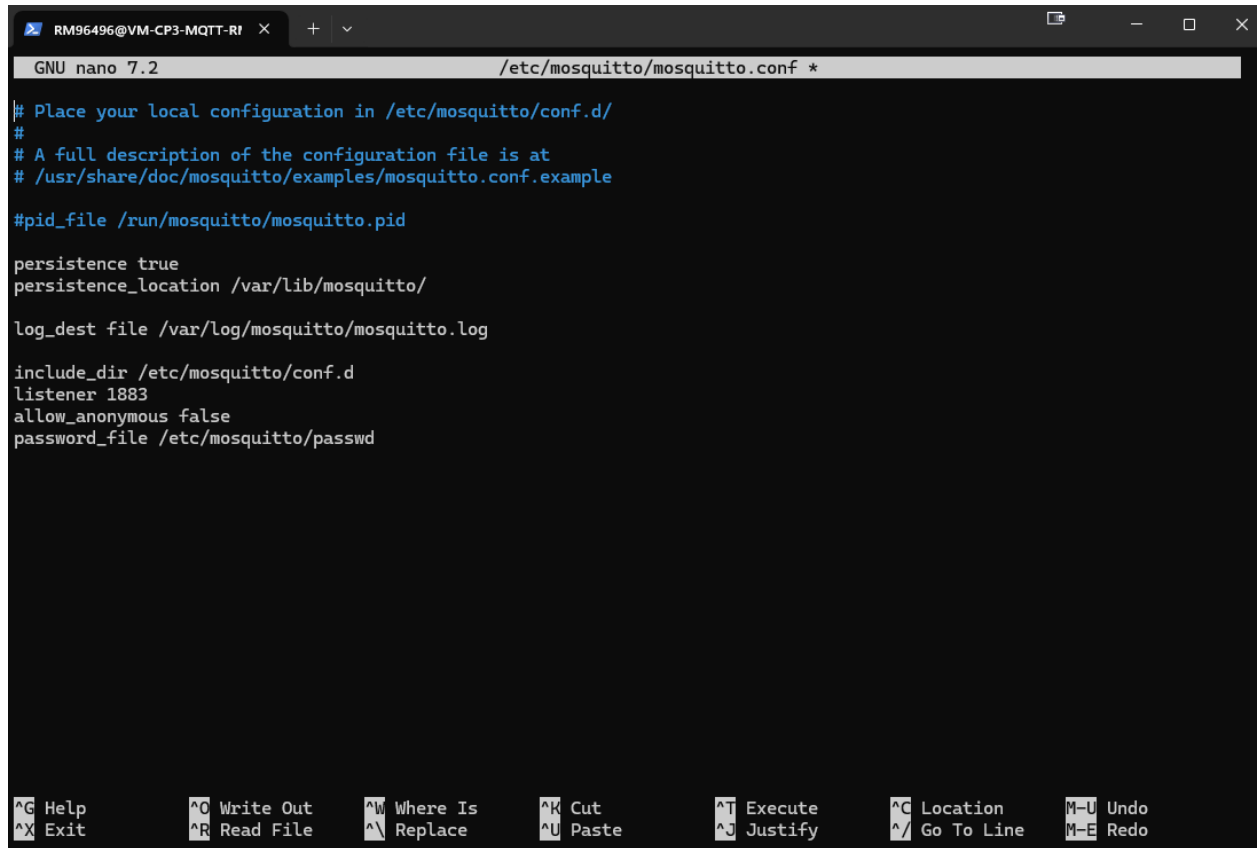
-----

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file will not be recoverable, you will have to delete it and re-enter
your credentials.

You should set your own key using the 'credentialSecret' option in
your settings file. Node-RED will then re-encrypt your credentials
```

III. INSTALAÇÃO DO MOSQUITTO BROKER



The image shows a terminal window with a dark background. The title bar at the top indicates the user is 'RM96496@VM-CP3-MQTT-R1' and the current file is '/etc/mosquitto/mosquitto.conf *'. The terminal displays the contents of the Mosquitto configuration file, which includes comments and settings for persistence, logging, and listeners. At the bottom, a status bar lists various keyboard shortcuts for editing the file.

```
GNU nano 7.2 /etc/mosquitto/mosquitto.conf *

# Place your local configuration in /etc/mosquitto/conf.d/
#
# A full description of the configuration file is at
# /usr/share/doc/mosquitto/examples/mosquitto.conf.example

#pid_file /run/mosquitto/mosquitto.pid

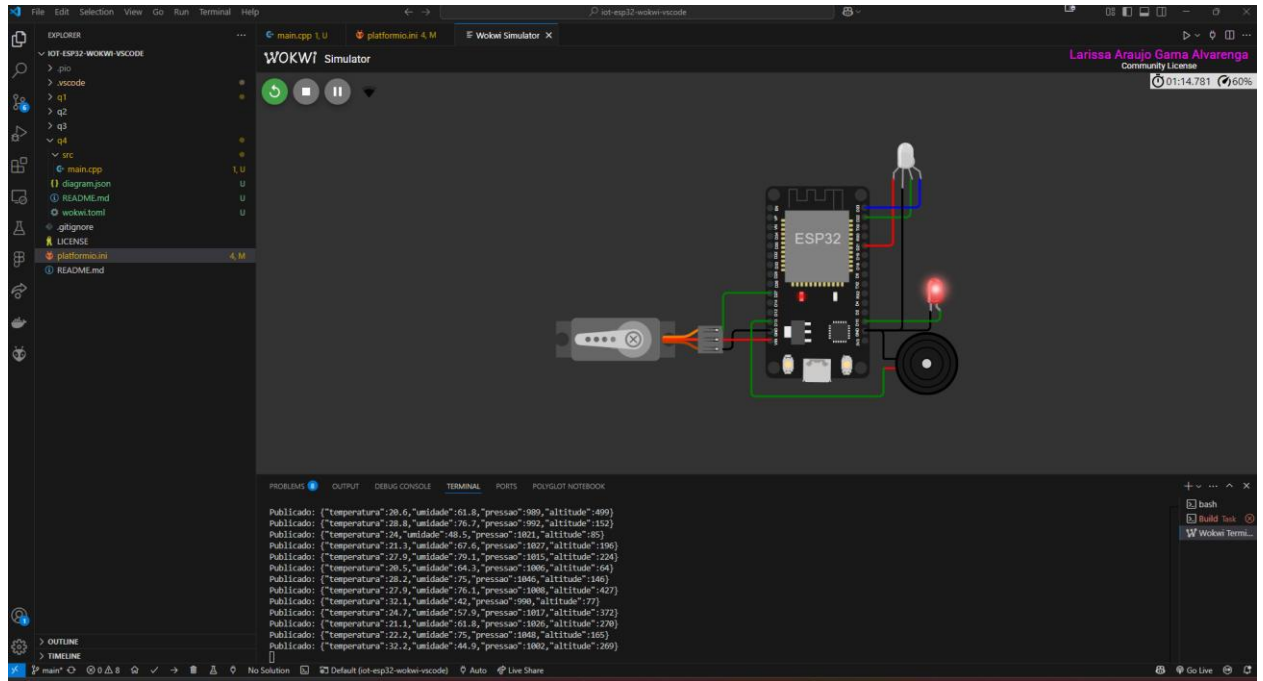
persistence true
persistence_location /var/lib/mosquitto/

log_dest file /var/log/mosquitto/mosquitto.log

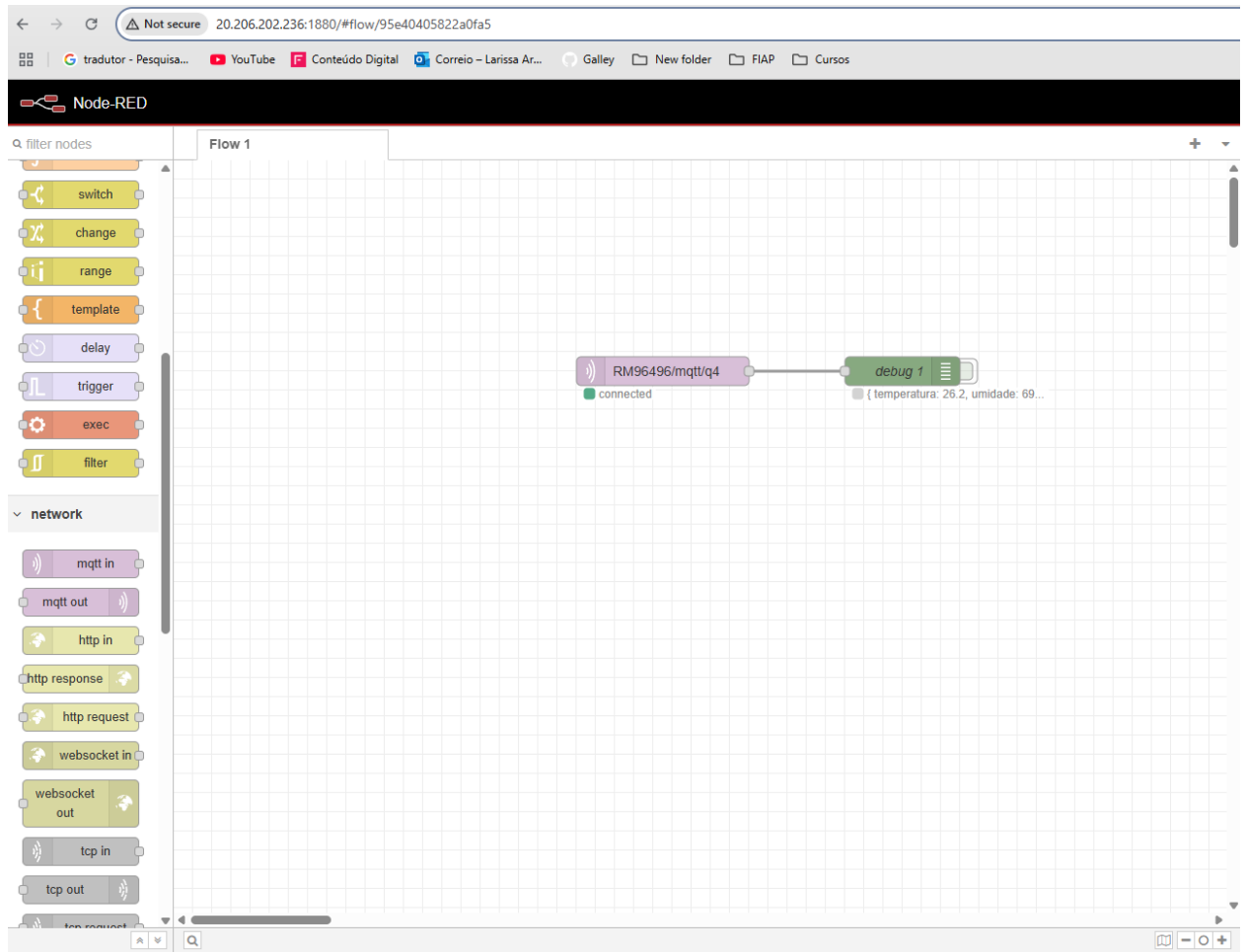
include_dir /etc/mosquitto/conf.d
listener 1883
allow_anonymous false
password_file /etc/mosquitto/passwd
```

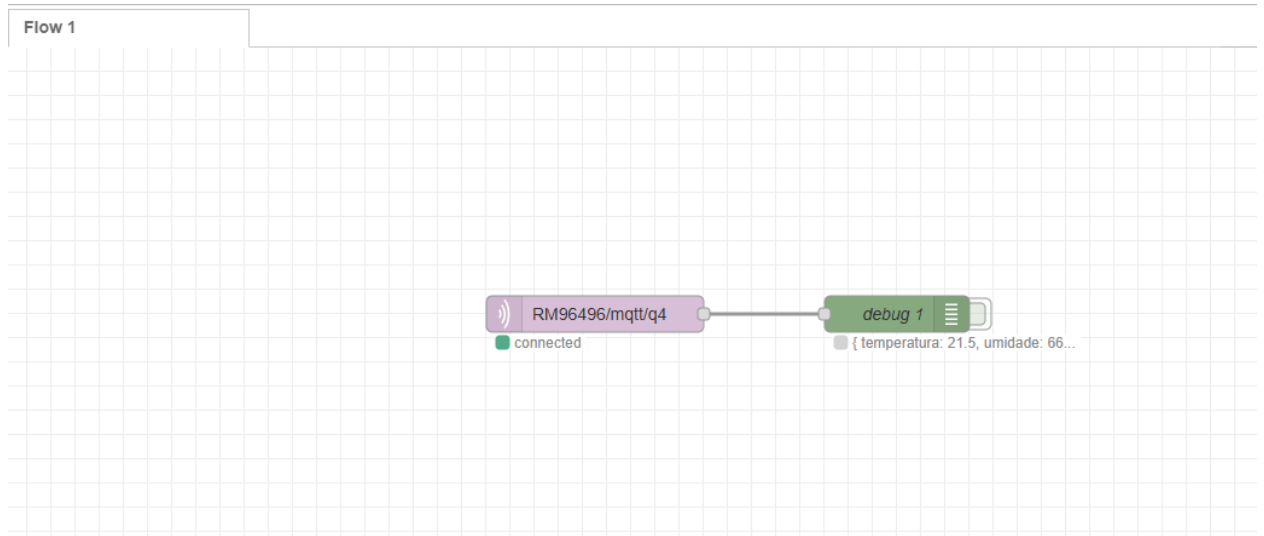
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^_ Go To Line M-E Redo

PARTE 2: ENVIO DE DADOS VIA MQTT NO ESP32



IV. TESTES NO NODE-RED





V. LINK

<https://github.com/larissalaga/CP3--PROTOCOLO-MQTT-COM-ESP32>