

Domoticz MicroPython Projects - Block Diagrams - <Have Fun/>

Addendum to the [Domoticz Homeautomation Workbook](#).

By rwbl

Introduction

Purpose

To explore how to use the MicroPython programming language running on embedded hardware, the Microcontroller Unit MCU, interfacing with the Domoticz Home Automation System.

The core of the projects uses the Raspberry Pi Pico W, with actuators & sensors, acting as a Web Server to communicate with the Domoticz Home Automation System.

The projects can function as a base for projects or to trigger ideas for use.

The intention is to provide some practical guidance and not to explain Domoticz nor programming languages.

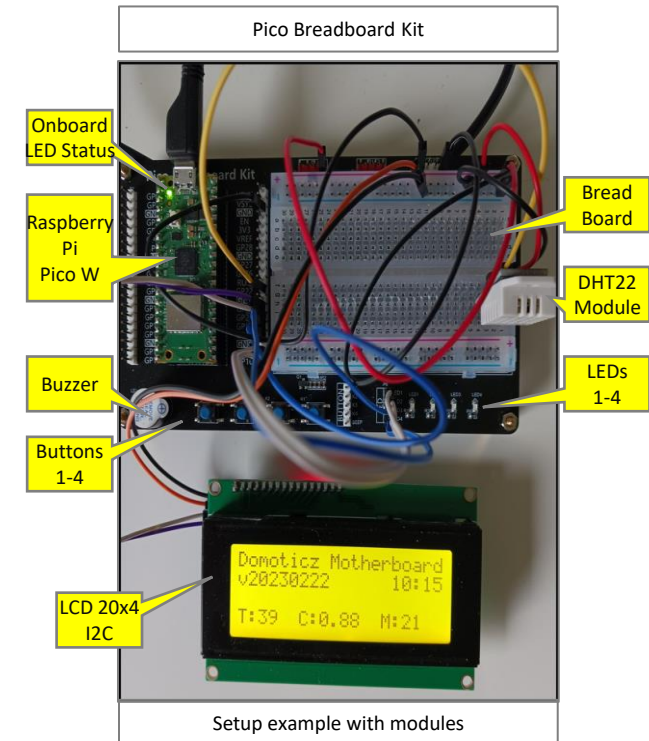
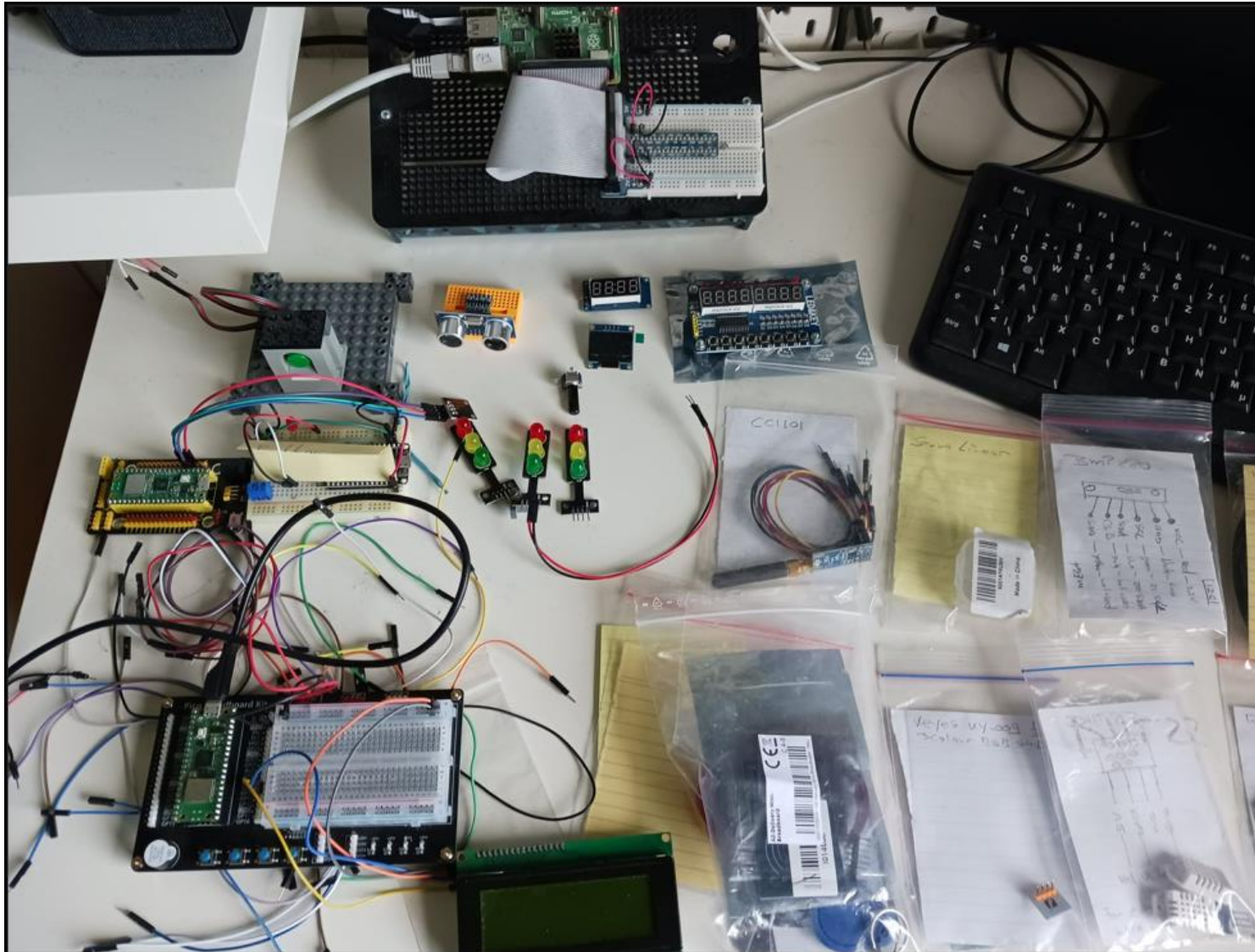
Prerequisites

Basic knowledge of

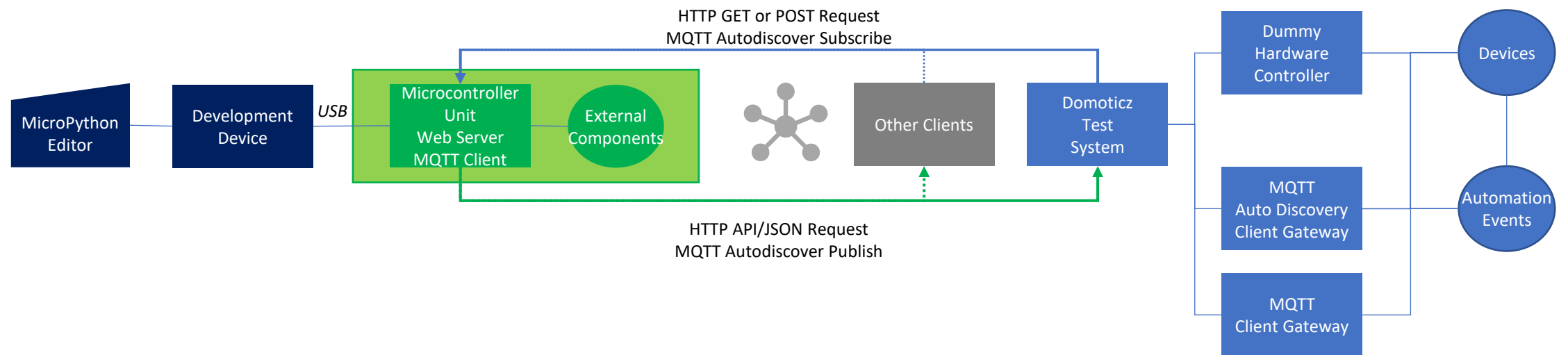
- Domoticz
- Domoticz Automation Event system dzVents & Lua
- Python and MicroPython
- Raspberry Pi Pico / Pico W microcontrollers
- Thonny Integrated Development Environment

Workbench

Overview of the Author's workbench

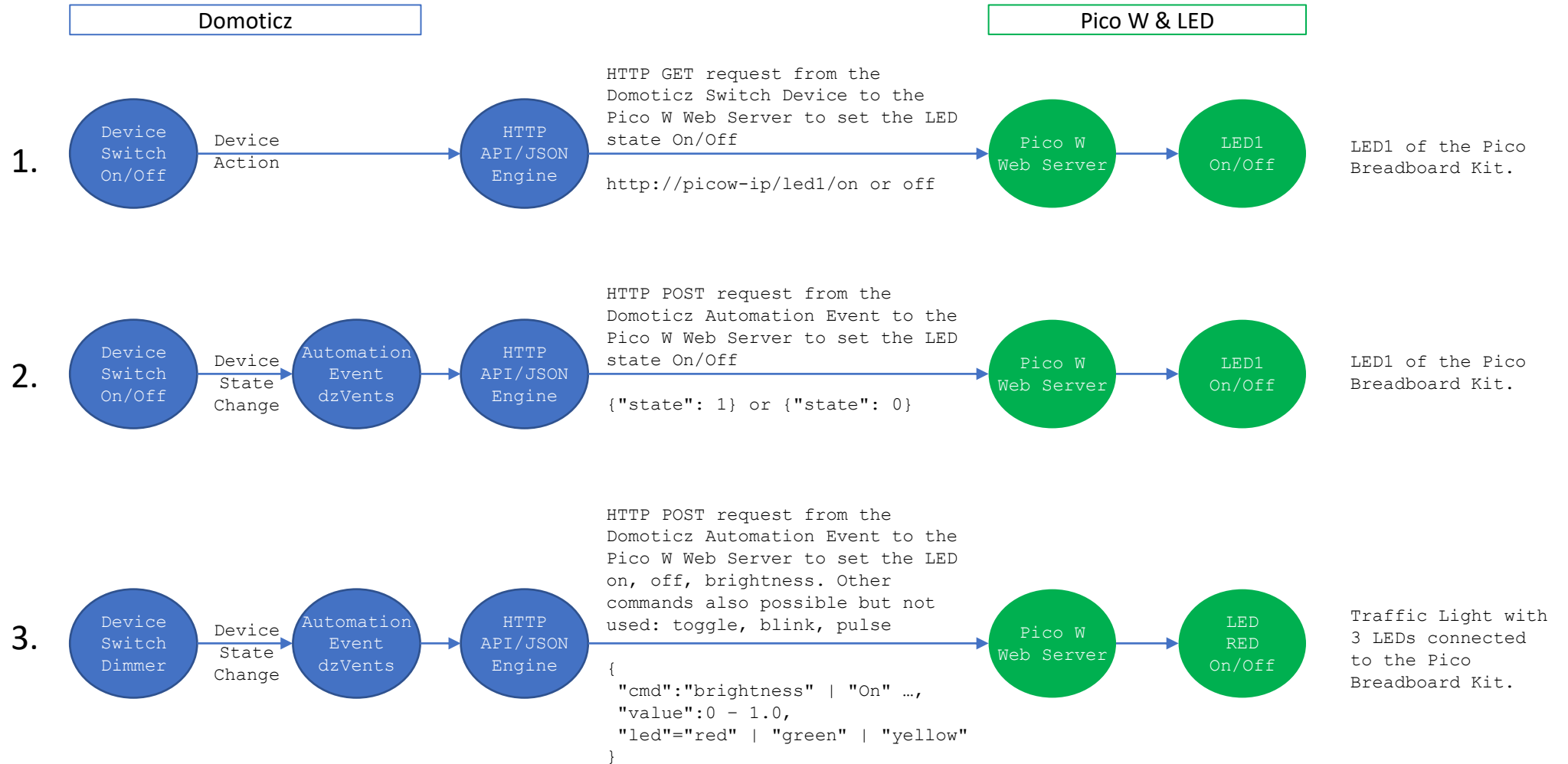


Blockdiagram Setup



Project LED Control

Domoticz Switch Device triggers Device On/Off/Brightness Action to set the Pico W LED1 of the Pico Breadboard Kit.



Project LED Control - Direct Action

Domoticz Switch Device triggers Device On/Off Action to set the Pico W LED1 of the Pico Breadboard Kit On/Off.

Domoticz Hardware Dummy

Idx	Name	Enabled	Type	Address	Port	Data Timeout
3	VirtualSensors	Yes	Dummy (Does nothing, use for virtual switches only) Create Virtual Sensors			Disabled

Create Virtual Sensor

Name: LED1 Control

Sensor Type: Switch

OK Cancel

Device created

Idx	Hardware	ID	Unit	Name	Type	SubType	Data
16	VirtualSensors	00014060	1	LED1 Control	Light/Switch	Switch	On

Device Widget

LED1 Control On


Last Seen: 2023-02-23 19:12:58
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

Idx: 16

Name: LED1 Control

Switch Type: On/Off

Switch Icon:  Default icon

On Delay: 0 (Seconds) 0 = Disabled

Off Delay: 0 (Seconds) 0 = Disabled

On Action: <http://picow-ip/led1/on>

Off Action: <http://picow-ip/led1/off>

Protected: ☐

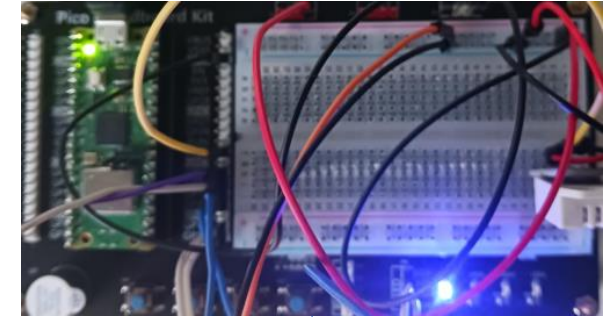
Description: Control the Raspberry Pi Pico W LED1 via HTTP GET request to the Pico W running as a Webserver (MicroPython).

Edit Switch Device Properties with HTTP GET request actions set to switch the Pico W LED1 On / Off

On/Off Action Command:
<http://picow-ip/led1/on> or <http://picow-ip/led1/off>

Device HTTP On / Off Actions to Pico W Web Server

Pico W with Breadboard Kit & LED1 On



Thonny - Pico W Web Server MicroPython Script & Log

```
Thonny - C:\Users\user\projects\homeautomation\domoticz\domoticz-microcontroller-workbook\Chapter1\Raspberry Pi Pico W\Projects\LEDControl\Source...
File Edit View Run Tools Help
New Ctrl-N
This computer
C:\Users\user\projects\homeautomation\domoticz\domoticz-microcontroller-workbook\Chapter1\Raspberry Pi Pico W\Projects\LEDControl\Source...
ledcontrol.py
config.py
ledcontrol.events
Raspberry Pi Pico
lib
config.py
Shell
>>> %Run -c $EDITOR_CONTENT
LEDControl v20230220
Network - Connected
Network - IP = picow-ip
Network Client connected from picow-ip
HTTP Command: /led1/~#
HTTP Response: {"status": "OK", "title": "/led1/off", "message": "Off"}
Network Client connected from picow-ip
HTTP Command: /led1/on
HTTP Response: {"status": "OK", "title": "/led1/on", "message": "On"}
MicroPython (Raspberry Pi Pico) - COM11
```


Project LED Control - Custom Event

Domoticz Switch Device State Change triggers Automation Event to set the Pico W LED1 of the Pico Breadboard Kit On/Off.

Domoticz Hardware

Idx	Name	Enabled	Type	Address	Port	Data Timeout
3	VirtualSensors	Yes	Dummy (Does nothing, use for virtual switches only) Create Virtual Sensors			Disabled

Create Virtual Sensor

Name: LED1 Control

Sensor Type: Switch

OK

Cancel

Domoticz Devices

Idx	Hardware	ID	Unit	Name	Type	SubType	Data
16	VirtualSensors	00014060	1	LED1 Control	Light/Switch	Switch	On

Device Widget

LED1 Control

On

Last Seen: 2023-02-23 19:12:58

Type: Light/Switch, Switch, On/Off

Log

Edit

Timers

Notifications

```
1 #!/usr/bin/env python3
2 # Domoticz Automation Event dzVents triggered by state change of the
3 # Domoticz Switch device (IDX=16).
4
5 import sys
6 import logging
7 import json
8 import requests
9
10 # Domoticz API URL
11 URL = "http://192.168.1.100:3551"
12
13 # Domoticz Device ID
14 DEVICE_ID = 16
15
16 # Domoticz Device Name
17 DEVICE_NAME = "LED1 Control"
18
19 # Domoticz Device Type
20 DEVICE_TYPE = "Light/Switch"
21
22 # Domoticz Device SubType
23 DEVICE_SUBTYPE = "Switch"
24
25 # Domoticz Device Data
26 DEVICE_DATA = {}
27
28 # Domoticz Device State
29 DEVICE_STATE = "On"
30
31 # Domoticz Device Status
32 DEVICE_STATUS = "OK"
33
34 # Domoticz Device Error
35 DEVICE_ERROR = "Error"
36
37 # Domoticz Device Log
38 DEVICE_LOG = {}
39
40 # Domoticz Device Action
41 DEVICE_ACTION = "On/Off"
42
43 # Domoticz Device Command
44 DEVICE_COMMAND = "/led1/on"
45
46 # Domoticz Device Response
47 DEVICE_RESPONSE = {}
48
49 # Domoticz Device Data
50 DEVICE_DATA = {}
51
52 # Domoticz Device State
53 DEVICE_STATE = "On"
54
55 # Domoticz Device Status
56 DEVICE_STATUS = "OK"
57
58 # Domoticz Device Error
59 DEVICE_ERROR = "Error"
60
61 # Domoticz Device Log
62 DEVICE_LOG = {}
63
64 # Domoticz Device Action
65 DEVICE_ACTION = "On/Off"
66
67 # Domoticz Device Command
68 DEVICE_COMMAND = "/led1/on"
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70 # Domoticz Device Response
71 DEVICE_RESPONSE = {}
72
73 # Domoticz Device Data
74 DEVICE_DATA = {}
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85 # Domoticz Device Log
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88 # Domoticz Device Action
89 DEVICE_ACTION = "On/Off"
90
91 # Domoticz Device Command
92 DEVICE_COMMAND = "/led1/on"
93
94 # Domoticz Device Response
95 DEVICE_RESPONSE = {}
96
97 # Domoticz Device Data
98 DEVICE_DATA = {}
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100 # Domoticz Device State
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103 # Domoticz Device Status
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106 # Domoticz Device Error
107 DEVICE_ERROR = "Error"
108
109 # Domoticz Device Log
110 DEVICE_LOG = {}
111
112 # Domoticz Device Action
113 DEVICE_ACTION = "On/Off"
114
115 # Domoticz Device Command
116 DEVICE_COMMAND = "/led1/on"
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118 # Domoticz Device Response
119 DEVICE_RESPONSE = {}
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121 # Domoticz Device Data
122 DEVICE_DATA = {}
123
124 # Domoticz Device State
125 DEVICE_STATE = "On"
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127 # Domoticz Device Status
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133 # Domoticz Device Log
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814 # Domoticz Device Response
815 DEVICE_RESPONSE = {}
816
817 # Domoticz Device Data
818 DEVICE_DATA = {}
819
820 # Domoticz Device State
821 DEVICE_STATE = "On"
822
823 # Domoticz Device Status
824 DEVICE_STATUS = "OK"
825
826 # Domoticz Device Error
827 DEVICE_ERROR = "Error"
828
829 # Domoticz Device Log
830 DEVICE_LOG = {}
831
832 # Domoticz Device Action
833 DEVICE_ACTION = "On/Off"
834
835 # Domoticz Device Command
836 DEVICE_COMMAND = "/led1/on"
837
838 # Domoticz Device Response
839 DEVICE_RESPONSE = {}
840
841 # Domoticz Device Data
842 DEVICE_DATA = {}
843
844 # Domoticz Device State
845 DEVICE_STATE = "On"
846
847 # Domoticz Device Status
848 DEVICE_STATUS = "OK"
849
850 # Domoticz Device Error
851 DEVICE_ERROR = "Error"
852
853 # Domoticz Device Log
854 DEVICE_LOG = {}
855
856 # Domoticz Device Action
857 DEVICE_ACTION = "On/Off"
858
859 # Domoticz Device Command
860 DEVICE_COMMAND = "/led1/on"
861
862 # Domoticz Device Response
863 DEVICE_RESPONSE = {}
864
865 # Domoticz Device Data
866 DEVICE_DATA = {}
867
868 # Domoticz Device State
869 DEVICE_STATE = "On"
870
871 # Domoticz Device Status
872 DEVICE_STATUS = "OK"
873
874 # Domoticz Device Error
875 DEVICE_ERROR = "Error"
876
877 # Domoticz Device Log
878 DEVICE_LOG = {}
879
880 # Domoticz Device Action
881 DEVICE_ACTION = "On/Off"
882
883 # Domoticz Device Command
884 DEVICE_COMMAND = "/led1/on"
885
886 # Domoticz Device Response
887 DEVICE_RESPONSE = {}
888
889 # Domoticz Device Data
890 DEVICE_DATA = {}
891
892 # Domoticz Device State
893 DEVICE_STATE = "On"
894
895 # Domoticz Device Status
896 DEVICE_STATUS = "OK"
897
898 # Domoticz Device Error
899 DEVICE_ERROR = "Error"
900
901 # Domoticz Device Log
902 DEVICE_LOG = {}
903
904 # Domoticz Device Action
905 DEVICE_ACTION = "On/Off"
906
907 # Domoticz Device Command
908 DEVICE_COMMAND = "/led1/on"
909
910 # Domoticz Device Response
911 DEVICE_RESPONSE = {}
912
913 # Domoticz Device Data
914 DEVICE_DATA = {}
915
916 # Domoticz Device State
917 DEVICE_STATE = "On"
918
919 # Domoticz Device Status
920 DEVICE_STATUS = "OK"
921
922 # Domoticz Device Error
923 DEVICE_ERROR = "Error"
924
925 # Domoticz Device Log
926 DEVICE_LOG = {}
927
928 # Domoticz Device Action
929 DEVICE_ACTION = "On/Off"
930
931 # Domoticz Device Command
932 DEVICE_COMMAND = "/led1/on"
933
934 # Domoticz Device Response
935 DEVICE_RESPONSE = {}
936
937 # Domoticz Device Data
938 DEVICE_DATA = {}
939
940 # Domoticz Device State
941 DEVICE_STATE = "On"
942
943 # Domoticz Device Status
944 DEVICE_STATUS = "OK"
945
946 # Domoticz Device Error
947 DEVICE_ERROR = "Error"
948
949 # Domoticz Device Log
950 DEVICE_LOG = {}
951
952 # Domoticz Device Action
953 DEVICE_ACTION = "On/Off"
954
955 # Domoticz Device Command
956 DEVICE_COMMAND = "/led1/on"
957
958 # Domoticz Device Response
959 DEVICE_RESPONSE = {}
960
961 # Domoticz Device Data
962 DEVICE_DATA = {}
963
964 # Domoticz Device State
965 DEVICE_STATE = "On"
966
967 # Domoticz Device Status
968 DEVICE_STATUS = "OK"
969
970 # Domoticz Device Error
971 DEVICE_ERROR = "Error"
972
973 # Domoticz Device Log
974 DEVICE_LOG = {}
975
976 # Domoticz Device Action
977 DEVICE_ACTION = "On/Off"
978
979 # Domoticz Device Command
980 DEVICE_COMMAND = "/led1/on"
981
982 # Domoticz Device Response
983 DEVICE_RESPONSE = {}
984
985 # Domoticz Device Data
986 DEVICE_DATA = {}
987
988 # Domoticz Device State
989 DEVICE_STATE = "On"
990
991 # Domoticz Device Status
992 DEVICE_STATUS = "OK"
993
994 # Domoticz Device Error
995 DEVICE_ERROR = "Error"
996
997 # Domoticz Device Log
998 DEVICE_LOG = {}
999
1000 # Domoticz Device Action
1001 DEVICE_ACTION = "On/Off"
1002
1003 # Domoticz Device Command
1004 DEVICE_COMMAND = "/led1/on"
1005
1006 # Domoticz Device Response
1007 DEVICE_RESPONSE = {}
1008
1009 # Domoticz Device Data
1010 DEVICE_DATA = {}
1011
1012 # Domoticz Device State
1013 DEVICE_STATE = "On"
1014
1015 # Domoticz Device Status
1016 DEVICE_STATUS = "OK"
1017
1018 # Domoticz Device Error
1019 DEVICE_ERROR = "Error"
1020
1021 # Domoticz Device Log
1022 DEVICE_LOG = {}
1023
1024 # Domoticz Device Action
1025 DEVICE_ACTION = "On/Off"
1026
1027 # Domoticz Device Command
1028 DEVICE_COMMAND = "/led1/on"
1029
1030 # Domoticz Device Response
1031 DEVICE_RESPONSE = {}
1032
1033 # Domoticz Device Data
1034 DEVICE_DATA = {}
1035
1036 # Domoticz Device State
1037 DEVICE_STATE = "On"
1038
1039 # Domoticz Device Status
1040 DEVICE_STATUS = "OK"
1041
1042 # Domoticz Device Error
1043 DEVICE_ERROR = "Error"
1044
1045 # Domoticz Device Log
1046 DEVICE_LOG = {}
1047
1048 # Domoticz Device Action
1049 DEVICE_ACTION = "On/Off"
1050
1051 # Domoticz Device Command
1052 DEVICE_COMMAND = "/led1/on"
1053
1054 # Domoticz Device Response
1055 DEVICE_RESPONSE = {}
1056
1057 # Domoticz Device Data
1058 DEVICE_DATA = {}
1059
1060 # Domoticz Device State
1061 DEVICE_STATE = "On"
1062
1063 # Domoticz Device Status
1064 DEVICE_STATUS = "OK"
1065
1066 # Domoticz Device Error
1067 DEVICE_ERROR = "Error"
1068
1069 # Domoticz Device Log
1070 DEVICE_LOG = {}
1071
1072 # Domoticz Device Action
1073 DEVICE_ACTION = "On/Off"
1074
1075 # Domoticz Device Command
1076 DEVICE_COMMAND = "/led1/on"
1077
1078 # Domoticz Device Response
1079 DEVICE_RESPONSE = {}
1080
1081 # Domoticz Device Data
1082 DEVICE_DATA = {}
1083
1084 # Domoticz Device State
1085 DEVICE_STATE = "On"
1086
1087 # Domoticz Device Status
1088 DEVICE_STATUS = "OK"
1089
1090 # Domoticz Device Error
1091 DEVICE_ERROR = "Error"
1092
1093 # Domoticz Device Log
1094 DEVICE_LOG = {}
1095
1096 # Domoticz Device Action
1097 DEVICE_ACTION = "On/Off"
1098
1099 # Domoticz Device Command
1100 DEVICE_COMMAND = "/led1/on"
1101
1102 # Domoticz Device Response
1103 DEVICE_RESPONSE = {}
1104
1105 # Domoticz Device Data
1106 DEVICE_DATA = {}
1107
1108 # Domoticz Device State
1109 DEVICE_STATE = "On"
1110
1111 # Domoticz Device Status
1112 DEVICE_STATUS = "OK"
1113
1114 # Domoticz Device Error
1115 DEVICE_ERROR = "Error"
1116
1117 # Domoticz Device Log
1118 DEVICE_LOG = {}
1119
1120 # Domoticz Device Action
1121 DEVICE_ACTION = "On/Off"
1122
1123 # Domoticz Device Command
1124 DEVICE_COMMAND = "/led1/on"
1125
1126 # Domoticz Device Response
1127 DEVICE_RESPONSE = {}
1128
1129 # Domoticz Device Data
1130 DEVICE_DATA = {}
1131
1132 # Domoticz Device State
1133 DEVICE_STATE = "On"
1134
1135 # Domoticz Device Status
1136 DEVICE_STATUS = "OK"
1137
1138 # Domoticz Device Error
1139 DEVICE_ERROR = "Error"
1140
1141 # Domoticz Device Log
1142 DEVICE_LOG = {}
1143
1144 # Domoticz Device Action
1145 DEVICE_ACTION = "On/Off"
1146
1147 # Domoticz Device Command
1148 DEVICE_COMMAND = "/led1/on"
1149
1150 # Domoticz Device Response
1151 DEVICE_RESPONSE = {}
1152
1153 # Domoticz Device Data
1154 DEVICE_DATA = {}
1155
1156 # Domoticz Device State
1157 DEVICE_STATE = "On"
1158
1159 # Domoticz Device Status
1160 DEVICE_STATUS = "OK"
1161
1162 # Domoticz Device Error
1163 DEVICE_ERROR = "Error"
1164
1165 # Domoticz Device Log
1166 DEVICE_LOG = {}
1167
1168 # Domoticz Device Action
1169 DEVICE_ACTION = "On/Off"
1170
1171 # Domoticz Device Command
1172 DEVICE_COMMAND = "/led1/on"
1173
1174 # Domoticz Device Response
1175 DEVICE_RESPONSE = {}
1176
1177 # Domoticz Device Data
1178 DEVICE_DATA = {}
1179
1180 # Domoticz Device State
1181 DEVICE_STATE = "On"
1182
1183 # Domoticz Device Status
1184 DEVICE_STATUS = "OK"
1185
1186 # Domoticz Device Error
1187 DEVICE_ERROR = "Error"
1188
1189 # Domoticz Device Log
1190 DEVICE_LOG = {}
1191
1192 # Domoticz Device Action
1193 DEVICE_ACTION = "On/Off"
1194
1195 # Domoticz Device Command
1196 DEVICE_COMMAND = "/led1/on"
1197
1198 # Domoticz Device Response
1199 DEVICE_RESPONSE = {}
1200
1201 # Domoticz Device Data
1202 DEVICE_DATA = {}
1203
1204 # Domoticz Device State
1205 DEVICE_STATE = "On"
1206
1207 # Domoticz Device Status
1208 DEVICE_STATUS = "OK"
1209
1210 # Domoticz Device Error
1211 DEVICE_ERROR = "Error"
1212
1213 # Domoticz Device Log
1214 DEVICE_LOG = {}
1215
1216 # Domoticz Device Action
1217 DEVICE_ACTION = "On/Off"
1218
1219 # Domoticz Device Command
1220 DEVICE_COMMAND = "/led1/on"
1221
1222 # Domoticz Device Response
1223 DEVICE_RESPONSE = {}
1224
1225 # Domoticz Device Data
1226 DEVICE_DATA = {}
1227
1228 # Domoticz Device State
1229 DEVICE_STATE = "On"
1230
1231 # Domoticz Device Status
1232 DEVICE_STATUS = "OK"
1233
1234 # Domoticz Device Error
1235 DEVICE_ERROR = "Error"
1236
1237 # Domoticz Device Log
1238 DEVICE_LOG = {}
1239
1240 # Domoticz Device Action
1241 DEVICE_ACTION = "On/Off"
1242
1243 # Domoticz Device Command
1244 DEVICE_COMMAND = "/led1/on"
1245
1246 # Domoticz Device Response
1247 DEVICE_RESPONSE = {}
1248
1249 # Domoticz Device Data
1250 DEVICE_DATA = {}
1251
1252 # Domoticz Device State
1253 DEVICE_STATE = "On"
1254
1255 # Domoticz Device Status
1256 DEVICE_STATUS = "OK"
1257
1258 # Domoticz Device Error
1259 DEVICE_ERROR = "Error"
1260
1261 # Domoticz Device Log
1262 DEVICE_LOG = {}
1263
1264 # Domoticz Device Action
1265 DEVICE_ACTION = "On/Off"
1266
1267 # Domoticz Device Command
1268 DEVICE_COMMAND = "/led1/on"
1269
1270 # Domoticz Device Response
1271 DEVICE_RESPONSE = {}
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1273 # Domoticz Device Data
1274 DEVICE_DATA = {}
1275
1276 # Domoticz Device State
1277 DEVICE_STATE = "On"
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1279 # Domoticz Device Status
1280 DEVICE_STATUS = "OK"
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1282 # Domoticz Device Error
1283 DEVICE_ERROR = "Error"
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1285 # Domoticz Device Log
1286 DEVICE_LOG = {}
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1288 # Domoticz Device Action
1289 DEVICE_ACTION = "On/Off"
1290
1291 # Domoticz Device Command
1292 DEVICE_COMMAND = "/led1/on"
1293
1294 # Domoticz Device Response
1295 DEVICE_RESPONSE = {}
1296
1297 # Domoticz Device Data
1298 DEVICE_DATA = {}
1299
1300 # Domoticz Device State
1301 DEVICE_STATE = "On"
1302
1303 # Domoticz Device Status
1304 DEVICE_STATUS = "OK"
1305
1306 # Domoticz Device Error
1307 DEVICE_ERROR = "Error"
1308
1309 # Domoticz Device Log
1310 DEVICE_LOG = {}
1311
1312 # Domoticz Device Action
1313 DEVICE_ACTION = "On/Off"
1314
1315 # Domoticz Device Command
1316 DEVICE_COMMAND = "/led1/on"
1317
1318 # Domoticz Device Response
1319 DEVICE_RESPONSE = {}
1320
1321 # Domoticz Device Data
1322 DEVICE_DATA = {}
1323
1324 # Domoticz Device State
1325 DEVICE_STATE = "On"
1326
1327 # Domoticz Device Status
1328 DEVICE_STATUS = "OK"
1329
1330 # Domoticz Device Error
1331 DEVICE_ERROR = "Error"
1332
1333 # Domoticz Device Log
1334 DEVICE_LOG = {}
1335
1336 # Domoticz Device Action
1337 DEVICE_ACTION = "On/Off"
1338
1339 # Domoticz Device Command
1340 DEVICE_COMMAND = "/led1/on"
1341
1342 # Domoticz Device Response
1343 DEVICE_RESPONSE = {}
1344
1345 # Domoticz Device Data
1346 DEVICE_DATA = {}
1347
1348 # Domoticz Device State
1349 DEVICE_STATE = "On"
1350
1351 # Domoticz Device Status
1352 DEVICE_STATUS = "OK"
1353
1354 # Domoticz Device Error
1355 DEVICE_ERROR = "Error"
1356
1357 # Domoticz Device Log
1358 DEVICE_LOG = {}
1359
1360 # Domoticz Device Action
1361 DEVICE_ACTION = "On/Off"
1362
1363 # Domoticz Device Command
1364 DEVICE_COMMAND = "/led1/on"
1365
1366 # Domoticz Device Response
1367 DEVICE_RESPONSE = {}
1368
1369 # Domoticz Device Data
1370 DEVICE_DATA = {}
1371
1372 # Domoticz Device State
1373 DEVICE_STATE = "On"
1374
1375 # Domoticz Device Status
1376 DEVICE_STATUS = "OK"
1377
1378 # Domoticz Device Error
1379 DEVICE_ERROR = "Error"
1380
1381 # Domoticz Device Log
1382 DEVICE_LOG = {}
1383
1384 # Domoticz Device Action
1385 DEVICE_ACTION = "On/Off"
1386
1387 # Domoticz Device Command
1388 DEVICE_COMMAND = "/led1/on"
1389
1390 # Domoticz Device Response
1391 DEVICE_RESPONSE = {}
1392
1393 # Domoticz Device Data
1394 DEVICE_DATA = {}
1395
1396 # Domoticz Device State
1397 DEVICE_STATE = "On"
1398
1399 # Domoticz Device Status
1400 DEVICE_STATUS = "OK"
1401
1402 # Domoticz Device Error
1403 DEVICE_ERROR = "Error"
1404
1405 # Domoticz Device Log
1406 DEVICE_LOG = {}
1407
1408 # Domoticz Device Action
1409 DEVICE_ACTION = "On/Off"
1410
1411 # Domoticz Device Command
1412 DEVICE_COMMAND = "/led1/on"
1413
1414 # Domoticz Device Response
1415 DEVICE_RESPONSE = {}
1416
1417 # Domoticz Device Data
1418 DEVICE_DATA = {}
1419
1420 # Domoticz Device State
1421 DEVICE_STATE = "On"
1422
1423 # Domoticz Device Status
1424 DEVICE_STATUS = "OK"
1425
1426 # Domoticz Device Error
1427 DEVICE_ERROR = "Error"
1428
142
```

Project DHT22 - HTTP API/JSON

Pico W samples DHT22 sensor data and triggers updating the Domoticz Temp + Humidity device.

Domoticz Hardware

Idx	Name	Enabled	Type	Address	Port	Data Timeout
3	VirtualSensors	Yes	Dummy (Does nothing, use for virtual switches only) Create Virtual Sensors			Disabled

Create Virtual Sensor


Name:

Sensor Type:

Domoticz Devices

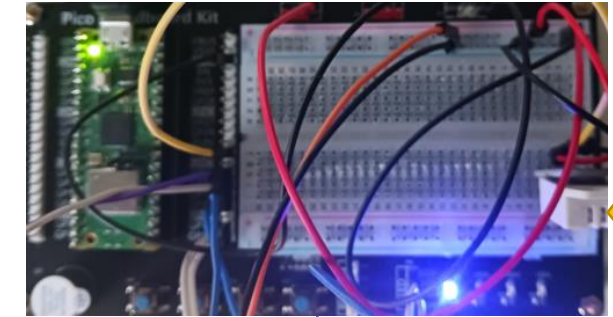
Idx	Hardware	ID	Unit	Name	Type	SubType	Data
15	VirtualSensors	1405F	1	DHT22	Temp + Humidity	THGN122/123/132, THGR122/228 /238/268	17.0 C, 58 %

DHT22 17° C / 58%

 Normal, Dew Point: 8.68° C
Last Seen: 2023-02-24 15:57:26

Pico W Web Server HTTP API/JSON GET request to Domoticz to update the device.
Example HTTP URL:
<http://domoticz-ip:8080/json.htm?type=command¶m=udevice&idx=15&nvalue=0&svalue=17;58;0>

Pico W with Breadboard Kit & DHT22



Get DHT22 Data

Thonny - Pico W Web Server MicroPython Script & Log

```
Thonny - C:\Users\pico\OneDrive\Documents\domoticz-microcontroller-workbook\Chapters\Raspberry Pi Pico W\Projects\DHT22\Server\dh22domoticz.py @ 50:1
File Edit View Run Tools Help
dh22domoticz.py
This computer
C:\Users\pico\OneDrive\Documents\domoticz-microcontroller-workbook\Chapters\Raspberry Pi Pico W\Projects\DHT22\Server
domoticz-microcontroller-w
domoticz-microcontroller-w
Raspberry Pi Pico W
Projects\DHT22\Server
dh22domoticz.py
config.py
dh22domoticz.py
# Constants
VERSION = "PicoW-DHT22toDomoticz v20230224"
CRLF = chr(13) + chr(10)
SPACE = chr(32)
# Init the LED objects led using data from config.py
# Create the onboard LED object to indicate controller is up and network connected
ledstatus = Pin("LED", Pin.OUT)
ledstatus.off()
# Create the led object indicating dht22 measurement in progress
led = Pin(config.PIN_LED1, Pin.OUT)
# DHT22
## DHT22 Signal Pin GP22 #Pin 20
PIN_DHT22 = 22
## DHT22 measurement sampling rate in seconds
SAMPLING_RATE_DHT22 = 60
51 ## DHT22_IDX of the Domoticz TempHum device
52 DHT22_IDX = 15
53 ## URL Domoticz
54 ## Note the idx of the domoticz device ( see GUI > Setup > Devices)
55 ## The svalue is added in the main loop after getting the data from the DHT22 module.
56
Shell
$ curl -X GET http://192.168.1.179:8080/json.htm?type=command&param=udevice&idx=15&nvalue=0&svalue=17;58;0
Sending data OK
DHT22 measuring...
DHT22 read data OK
DHT22 read data...
DHT22 read data OK
Sending data to http://192.168.1.179:8080/json.htm?type=command&param=udevice&idx=15&nvalue=0&svalue=17;58;0
Sending data OK
Domoticz-ip
```


Project DHT22 - Custom Event

Pico W samples DHT22 sensor data and triggers Automation Event to update the Domoticz Temp + Humidity device.

Domoticz Hardware

Idx	Name	Enabled	Type	Address	Port	Data Timeout
3	VirtualSensors	Yes	Dummy (Does nothing, use for virtual switches only) Create Virtual Sensors			Disabled

Create Virtual Sensor

Name: DHT22

Sensor Type: Temp+Hum

OK Cancel

Domoticz Devices

Idx	Hardware	ID	Unit	Name	Type	SubType	Data
15	VirtualSensors	1405F	1	DHT22	Temp + Humidity	THGN122/123/132, THGR122/228 /238/268	17.0 C, 58 %

DHT22 17° C / 58%

Normal, Dew Point: 8.68° C
Last Seen: 2023-02-24 15:57:26

Log Edit Notifications

```
1 -- picow_dht22_customew
2 -- Listen to picow webserver request custom event command and update the temp+hum dev
3 -- 20230225 rub1
4
5 -- Test:
6 -- http://192.168.1.179:8080/json.htm?type=command&param=customevent&event=DHT22&data={
7 -- [{"
8 2023-02-24 16:33:03.190 Status: dzVents: Info: Handling Domoticz custom event for: "
9 2023-02-24 16:33:03.190 Status: dzVents: Info: Start Internal script: picow_d
10 2023-02-24 16:33:03.191 Status: dzVents: Info: [{"isXML"}]=false, [{"isSystem"}]=false,
11 2023-02-24 16:33:03.191 Status: dzVents: Info: {"t":19,"h":58,"s":0}
12 2023-02-24 16:33:03.192 Status: dzVents: Info: t=19,h=58,s=0
13 2023-02-24 16:33:03.192 Status: dzVents: Info: ----- Finished picow_dht22_customew
14 ]}
15
16 local IDX_DHT22 = 15
17 local CUSTOM_EVENT_NAME = "DHT22"
18
19 -- return {
20 --   on = {
21     customEvents = { CUSTOM_EVENT_NAME }
22   },
23   data = {},
24   logging = {},
25   execute = function(domoticz, triggeredItem)
26     if (triggeredItem.isCustomEvent) then
27       domoticz.log(triggeredItem)
28       domoticz.log(triggeredItem.data)
29       local data = triggeredItem.json
30       domoticz.log(string.format("t=%d,h=%d,s=%d", data.t, data.h, data.s))
31       domoticz.devices(IDX_DHT22).updateTempHum(data.t, data.h, data.s)
32       -- Take any other action based on temp or hum or hum_stat
33     end
34   end
35 }
```

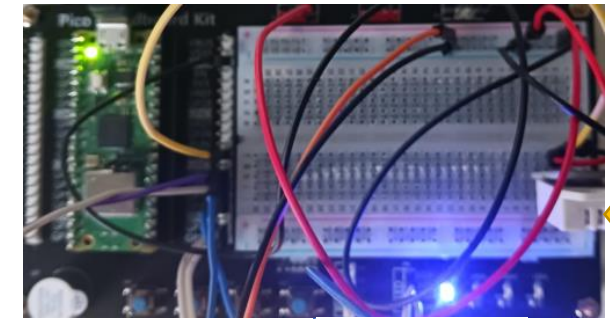
Domoticz Automation Event dzVents
Trigger: Custom Event

Pico W Web Server HTTP API/JSON POST request to Domoticz Automation Event to update the device.

Example HTTP URL:

[http://domoticz-ip:8080/json.htm?type=command¶m=customevent&event=DHT22&data={\"h\": 58, \"t\": 17, \"s\": 0}](http://domoticz-ip:8080/json.htm?type=command¶m=customevent&event=DHT22&data={\)

Pico W with Breadboard Kit & DHT22



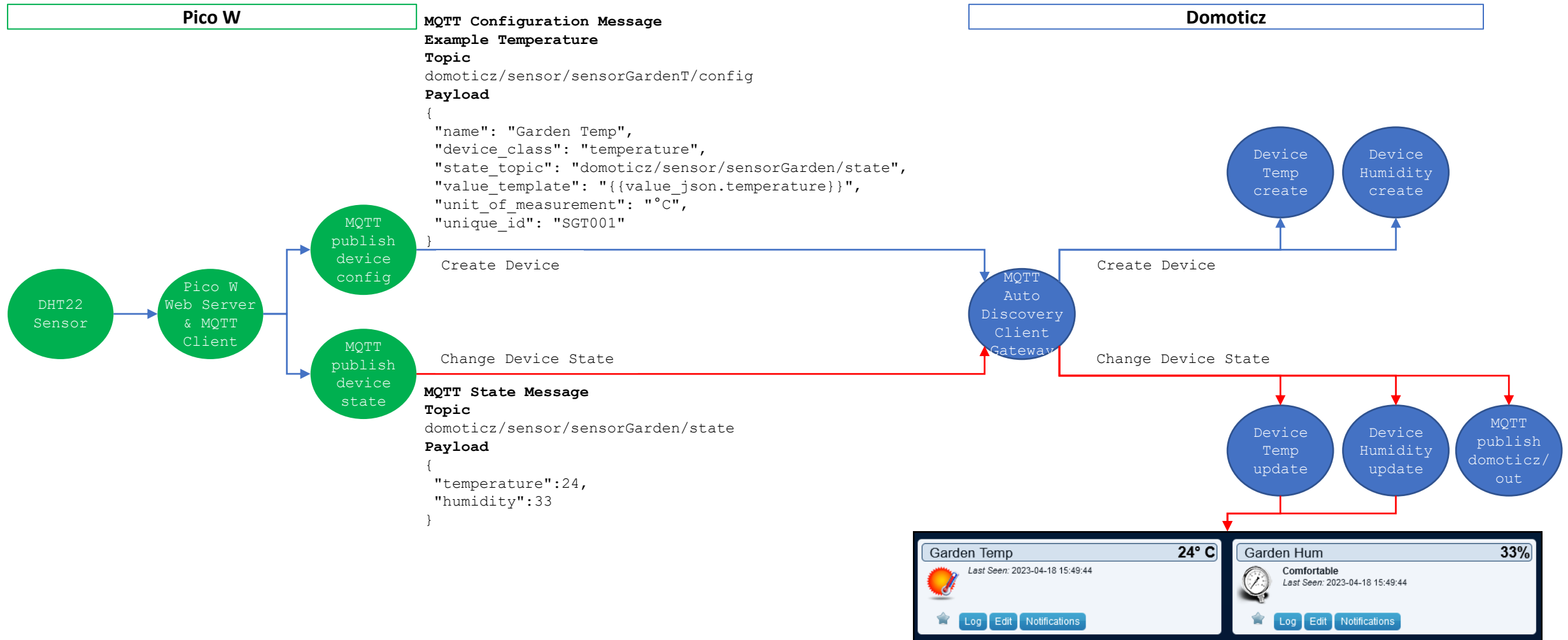
Get DHT22 Data

Thonny - Pico W Web Server MicroPython Script & Log

```
1 import json
2 from machine import Pin
3 from utime import sleep
4 # DHT22 module internal lib
5 from dht import DHT22
6 # Configuration (must be uploaded to the Pico W)
7 import config
8
9 # Constants
10 VERSION = "PicoW-DHT22toDomoticz v20230224"
11
12 CRLF = chr(13) + chr(10)
13 SPACE = chr(32)
14
15 # Init the LED objects led using data from config.py
16 # Create the onboard LED object to indicate controller is up and network connected
17 ledstatus = Pin("LED", Pin.OUT)
18 ledstatus.off()
19 # Create the led object indicating dht22 measurement in progress
20 led = Pin(config.PIN_LED1, Pin.OUT)
21
22 # DHT22
23 # DHT22 Signal Pin GP22 WPin 29
24 PIN_DHT22 = 22
25
26 # DHT22 measurement sampling rate in seconds
27 SAMPLING_RATE_DHT22 = 60
28
29 # DHT22 IDK of the Domoticz Temp+Hum device
30 IDX_DHT22 = 15
31 # URL Domoticz
32 # Note the IDK of the domoticz device ( see GUI > Setup > Devices)
33 # The swalin is added in the main loop after getting the data from the DHT22 module.
34
35 # Main loop
36 while True:
37     # Read data from DHT22
38     dht22 = DHT22(PIN_DHT22)
39     (temp, humidity) = dht22.read_data()
40     # Send data to Domoticz
41     url = "http://domoticz-ip:8080/json.htm?type=command&param=customevent&event=DHT22&data={\"h\": %d, \"t\": %d, \"s\": 0}" % (humidity, temp)
42     # Send data to Domoticz
43     r = requests.post(url)
```

Project DHT22 - MQTT Autodiscover

Pico W publishes MQTT Config & State Messages to Domoticz MQTT Auto Discovery Client Gateway.



Project LCD LED Control

Domoticz Switch Device State Change triggers Automation Event to set the Pico W LED1 & LCD2004 display.

Domoticz Hardware

Idx	Name	Enabled	Type	Address	Port	Data Timeout
3	VirtualSensors	Yes	Dummy (Does nothing, use for virtual switches only) Create Virtual Sensors			Disabled

Create Virtual Sensor

Name:


Sensor Type:


Domoticz Devices

Idx	Hardware	ID	Unit	Name	Type	SubType	Data
16	VirtualSensors	00014060	1	LED1 Control	Light/Switch	Switch	On

Device Widget

LED1 Control On

 Last Seen: 2023-02-23 19:12:58
Type: Light/Switch, Switch, On/Off



```
16 2023-02-23 19:12:58 Status: dzVents: Info: LOG_PICOW_LEDLEDCONTROL: L
19 2023-02-23 19:12:58 Status: dzVents: Info: LOG_PICOW_LEDLEDCONTROL: L
20 2023-02-23 19:12:58 Status: dzVents: Info: LOG_PICOW_LEDLEDCONTROL: L
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22
23 -- Domoticz
24 -- For tests the trigger is an switch type onoff
25 IDX_SWITCH = 16
26
27 URL_SERVER = "http://pico-w-ip"
28 CMD_LED_ON = "({state:'on'})"
29 CMD_LED_OFF = "({state:'off'})"
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31 RES_HTTP = "RES_PICOW_LEDLEDCONTROL"
32 LOG_MARKER = "LOG_PICOW_LEDLEDCONTROL"
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```

Project LCD Motherboard

Domoticz sends RPi Motherboard sensor data to set the LCD 20x4 I2C display connected to the Pico W.

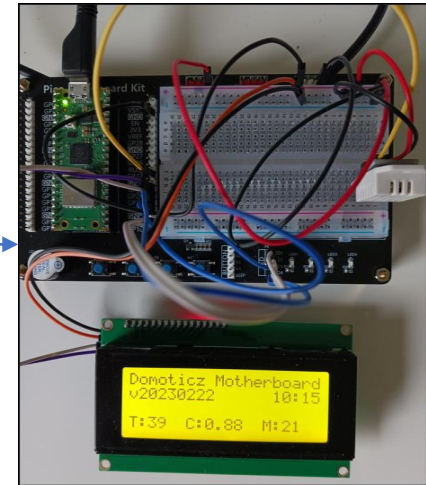
Domoticz Hardware

Idx	Name	Enabled	Type	Address	Port	Data Timeout
5	RPi Motherboard	Yes	Motherboard sensors			Disabled

Domoticz Devices (selective)

Idx	Hardware	ID	Unit	Name	Type	SubType	
18	RPi Motherboard	0001	1	Internal Temperature	Temp	LaCrosse TX3	38.9 C
26	RPi Motherboard	0000044D	1	CPU_Usage	General	Percentage	0.41%
22	RPi Motherboard	0000044C	1	Memory Usage	General	Percentage	18.35%

Pico W with
Breadboard Kit & LCD 20x4



```
On Off picow_lcdmotherboard
44 -- setSensor(3,5,'T',round(domoticz.devices(IDX_INTERNALTEMPERATURE
45 - local function setSensor(row,col,pre,data)
46   return setText(row,col,string.format('%s%s', pre, tostring(data))
47 end
48 -- [{"internaltemperature"}]= [{"col"}]=5, [{"data"}]= "T:39.4", [{"row"}]=3
49
50
51 - local function getMotherboardData(domoticz)
52   local data = {}
53
54   -- row=1, col=15, data=HH:MM len=5, range = 15+5-1=19
55   data['timestamp'] = setText(1, 15, string.sub(domoticz.time.rawt,
56
57   -- row=3, col=0, data=T:NN len=4, range = 0+4-1=3
58   data['internaltemperature'] = setSensor(3, 0, 'T:', round(domoti
59   -- row=3, col=6, data=C:NN.NN len=5, range = 6+5-1=10
60   data['cpuusage'] = setSensor(3, 6, 'C:', round(domoti
61   -- row=3, col=14, data=M:NN len=4, range = 14+4-1=17
62   data['memoryusage'] = setSensor(3, 14, 'M:', round(domoti
63
64
65
66 --[[
67 data['internaltemperature'] = round(domoticz.devices(IDX_INTERNA
68 data['armclockspeed'] = round(domoticz.devices(IDX_ARMCLOC
69 data['v3dclockspeed'] = round(domoticz.devices(IDX_V3DCLOC
70 data['coreclockspeed'] = round(domoticz.devices(IDX_CORECLOC
71 data['memoryusage'] = round(domoticz.devices(IDX_MEMORYUS
72 data['processusage'] = round(domoticz.devices(IDX_PROCESSU
73 data['hddboot'] = round(domoticz.devices(IDX_HDDBOOT)
74 data['hdd'] = round(domoticz.devices(IDX_HDD)
75 data['cpuusage'] = round(domoticz.devices(IDX_CPUUSAG
76 ]])
77
78 -- Test embedding json: r=row 0-3, c=col 0-19, d=data
79 --[[
80 local x = {}
81 x['r']=3
82 x['c']=5
83 x['d']=string.format('T:%s', tostring(data['internaltemperature']
84 data['temp'] = x
85 ]])
86 domoticz.log(data)
87 return data
88 end
```

Domoticz Automation Event dzVents

Trigger: Timer

An event is reading in regular intervals the RPi motherboard data.

The data is converted to a JSON object and sent as HTTP POST request to the Pico W Web Server.

```
{
  ["internaltemperature"]=
  { ["col"]=0, ["text"]="T:38", ["row"]=3},
  ["timestamp"]=
  { ["col"]=15, ["text"]="16:19", ["row"]=1},
  ["memoryusage"]=
  { ["col"]=14, ["text"]="M:21", ["row"]=3},
  ["cpuusage"]=
  { ["col"]=6, ["text"]="C:0.35", ["row"]=3}
}
```

Thonny - Pico W Web Server Script & Log

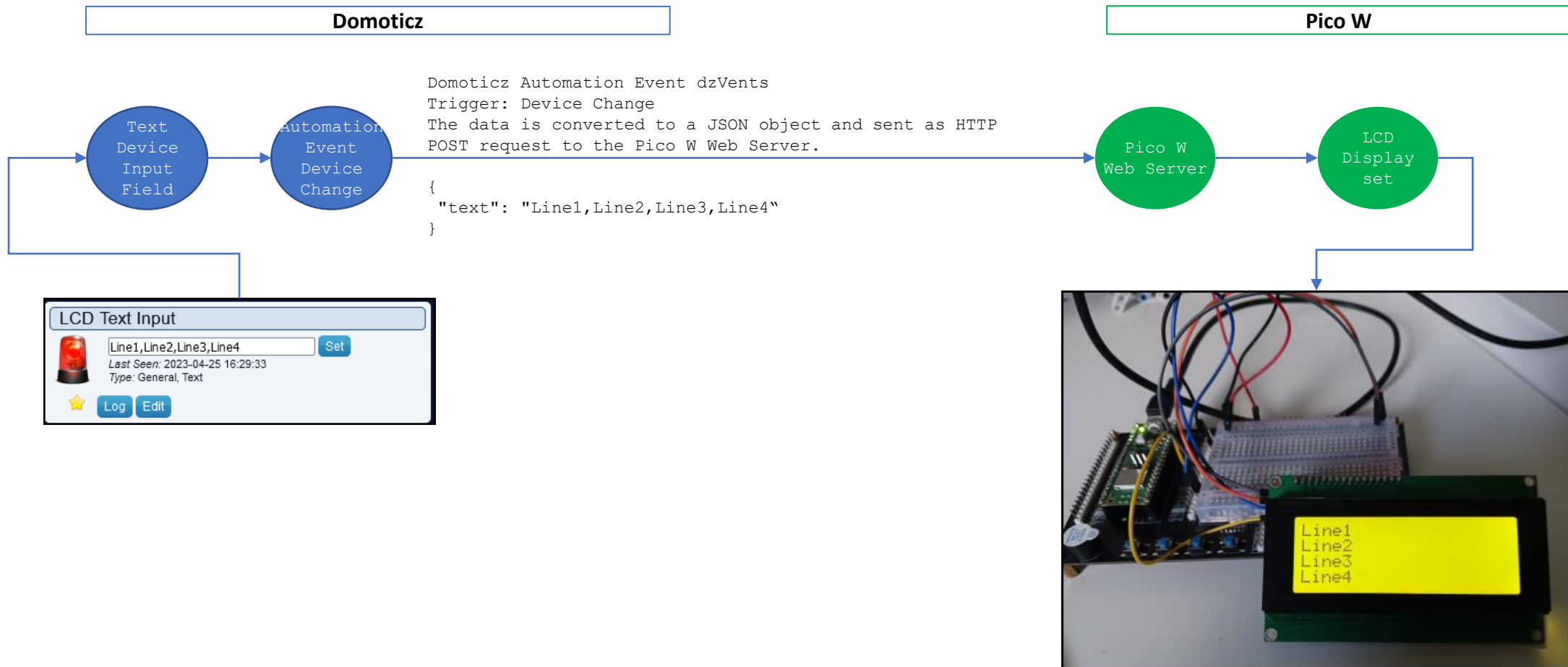
```
Files
This computer
C:\Daten\projects\homeautomation\
domoticz\
domoticz-microcontroller-workbook\
Chapters\ Raspberry Pi Pico W \
Experiments\LCDMotherboard\ Source
  lcdmotherboard.dzvents
  lcdmotherboard.py
Raspberry Pi Pico
  lcd_api.py
  machine_i2c_lcd.py
  config.py

lcdmotherboard.py
139 raise RuntimeError('[ERROR] Network Connection closed')
140
141 # Get the data from the HTTP response.
142 # The last line of the HTTP response contains the data.
143 # The HTTP response is decoded and split as a string list.
144 # Return data
145 def getHttpData(request):
146   # Split the decoded request string into a list
147   data = str(request.decode()).split(CRLF)
148   # print(data)
149   # Check if there is data to get the first item
150   if (len(data) == 0):
151     # JSON parse the last list item holding the data as JSON
152     # Convert the string to a JSON object
153     data = json.loads(data[len(data) - 1])
154   else:
155     print('[ERROR] HTTP POST request not valid.')
156   # Return the data as JSON object
157   print(f'HTTP POST Data from Domoticz: {CRLF}{data}')
158   return data
159
160 # Main
161 # Listen for incoming connections from the Domoticz Automation Event
162 print(f'NAME (VERSION)')
163
164 # Set the LCD display object
165 lcd = setLCD(LCD_I2C_ADDRESS, LCD_PIN_SDA, LCD_PIN_SCL, LCD_ROWS,
166
167 # Show initial info on the LCD. Waiting is replaced by RPi mother
168 setLCDWelcome(NAME, VERSION, '', WAITING)
169

Shell
>>> %Run -c $EDITOR_CONTENT
Domoticz Motherboard v20230222
==: [39]
Domoticz-ip - red. IP: 192.168.1.108
Network - Client connected from 192.168.1.23
HTTP POST Data from Domoticz:
{'timestamp': {'text': '11:51', 'col': 15, 'row': 1}, 'memoryusage':
ture': {'text': 'T:38', 'col': 0, 'row': 3}}
HTTP Response to Domoticz:
{'status': 'OK', 'title': 'Set LCD', 'message': ''}
```

Project LCD Text Input

Domoticz sends text from a Text Device enabling Input to set the LCD 20x4 I2C display connected to the Pico W.



Inspired by [this](#) Domoticz Forum Post (thanks for sharing).

Project LED Display TM1637

Domoticz sends RPi Motherboard Internal Temperature to set the 4-Digit 7-Segment display connected to the Pico W.

Domoticz Hardware

Idx	Name	Enabled	Type	Address	Port	Data Timeout
5	RPi Motherboard	Yes	Motherboard sensors			Disabled

Domoticz Devices

Idx	Hardware	ID	Unit	Name	Type	SubType	Value
18	RPi Motherboard	0001	1	Internal Temperature	Temp	LaCrosse TX3	37.0 C

```
picow_tm1637_motherboard_internal_temperature x +
On Off picow_tm1637_motherboard
20 HTTP_RES = 'RES_PICOW_LCDLEDCONTROL'
21
22 LOG_MARKER = 'LOG_PICOW_LCDLEDCONTROL'
23
24 TIMER_RULE = "every minute"
25
26 -- Helpers
27 local function round(number, decimals)
28     local power = 10^decimals
29     return math.floor(number * power) / power
30 end
31
32 -- Post Data to the Pico W Webserver.
33 -- The data is a JSON object with the temperature rounded
34 local function HTTPPost(domoticz)
35     local data = {}
36     data['data'] = domoticz.devices(IDX_INTERNAL_TEMPERATURE).value
37     domoticz.log(string.format('device=%s, temperature=%s', data['data'], data['data']))
38     domoticz.log(data)
39     -- Submit remote HTTP POST request to set the tm1637 display
40     domoticz.openURL({
41         url = HTTP_URL,
42         method = 'POST',
43         headers = { ['content-type'] = 'application/json' },
44         postData = data,
45         callback = HTTP_RES,
46     })
47 end
```

Domoticz Automation Event dzVents
Trigger: Timer or Switch
An event is reading in regular intervals the RPi motherboard internal temperature sensor.

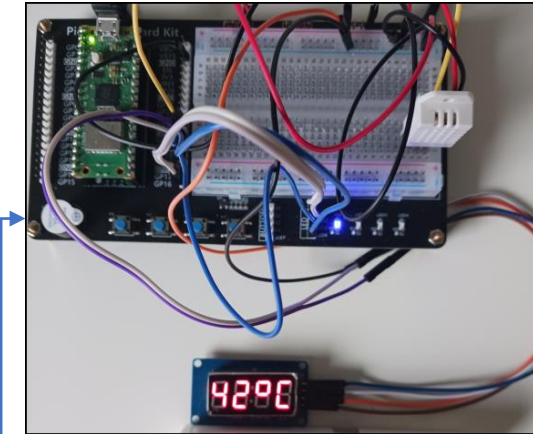
The data is converted to a JSON object and sent as HTTP POST request to the Pico W Web Server.

```
{
  ["data"]=40.900001525879
}
```

Thonny - Pico W Web Server Script & Log

```
tm1637.py
146 # Create the HTTP response JSON object
147 response = {}
148
149 # Init title (holding the command as JSON object)
150 response[config.KEY_TITLE] = getCommand(request)
151 response[config.KEY_STATE] = config.STATE_ERROR
152 response[config.KEY_MESSAGE] = config.MESSAGE_OK
153
154 # TM1637 display set
155 tm.show(' ')
156 sleep(.3)
157
158 # Select the command from the response[config.KEY_TITLE]
159 cmd = response[config.KEY_TITLE]
160 # Get the temperature rounded (no digits)
161 temperature = round(cmd['data'])
162 # Set the display - number only, i.e. 41
163 # tm.number(temperature)
164 # Set the display NN°C
165 tm.temperature(temperature)
```

Pico W with Breadboard Kit & TM1637



Project Servo Control

Domoticz Dimmer Device State Change triggers Automation Event to set the angle of a servo motor connected to the Pico W.

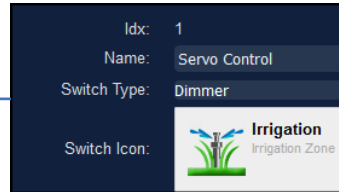
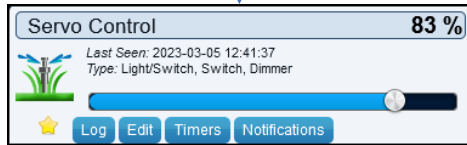
Domoticz Hardware

Idx	Name	Enabled	Type	Address	Port	Data Timeout
3	VirtualSensors	Yes	Dummy (Does nothing, use for virtual switches only) Create Virtual Sensors			Disabled

Domoticz Devices

Idx	Hardware	ID	Unit	Name	Type	SubType	
1	VirtualSensors	00014051	1	Servo Control	Light/Switch	Switch	Set Level: 83 %

Device Widget



Edit Set Switch
Type to Dimmer
and Switch Icon
to Irrigation

```
On Off picow_servocontrol
35 LOG_MARKER = "LOG_PICOW_SERVOCONTROL"
36
37 -- Helpers
38 -- Round to the nearest number
39 local function roundNearest(number)
40     return math.floor(number + 0.5)
41 end
42
43 -- Post Data to the Pico W Webserver.
44 -- The data is a JSON object with the servo angle and
45 local function HTTPPost(domoticz, angle)
46     local data = {}
47     data['angle'] = angle
48     --data['angle'] = domoticz.devices(IDX_INTERNAL_1)
49     domoticz.log(string.format("device=%s, angle=%d",
50     domoticz.openURL({
51         url = HTTP_URL,
52         method = "POST",
53         headers = { ['content-type'] = 'application/json' },
54         postData = data,
55         callback = HTTP_RES,
56     })
57 end
58
59 return {
60     -- Listen to dimmer device changes and HTTP response
61     on = {
62         devices = { IDX_DIMMER },
63         httpResponses = { HTTP_RES },
64     },
65     logging = { level = domoticz.LOG_INFO, marker = LOG_MARKER },
66     execute = function(domoticz, item)
67         -- domoticz.log(item)
68         if item.isDevice then
69             -- Check if state is on, Get the slider
```

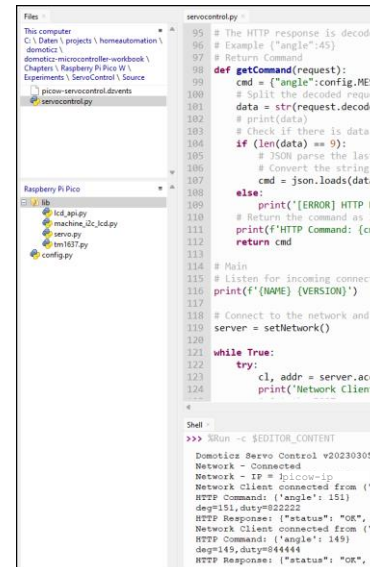
Domoticz Automation Event dzVents triggered by state change of the Domoticz Dimmer device (IDX=1). The servo angle is converted from the dimmer level 0-100% to 0-180 deg. 83% = 149 deg.

The event submits HTTP POST request to the Pico W Web Server to set the servo angle. The post-data is a JSON Object:

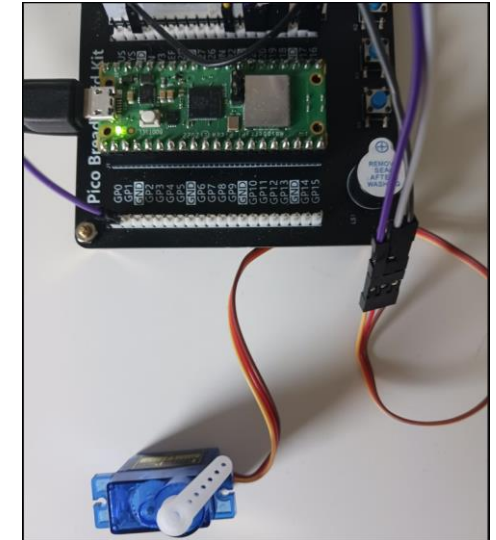
```
{"angle": 149}
```

Device HTTP POST Request to Pico W Web Server

Thonny - Pico W Web Server MicroPython Script & Log



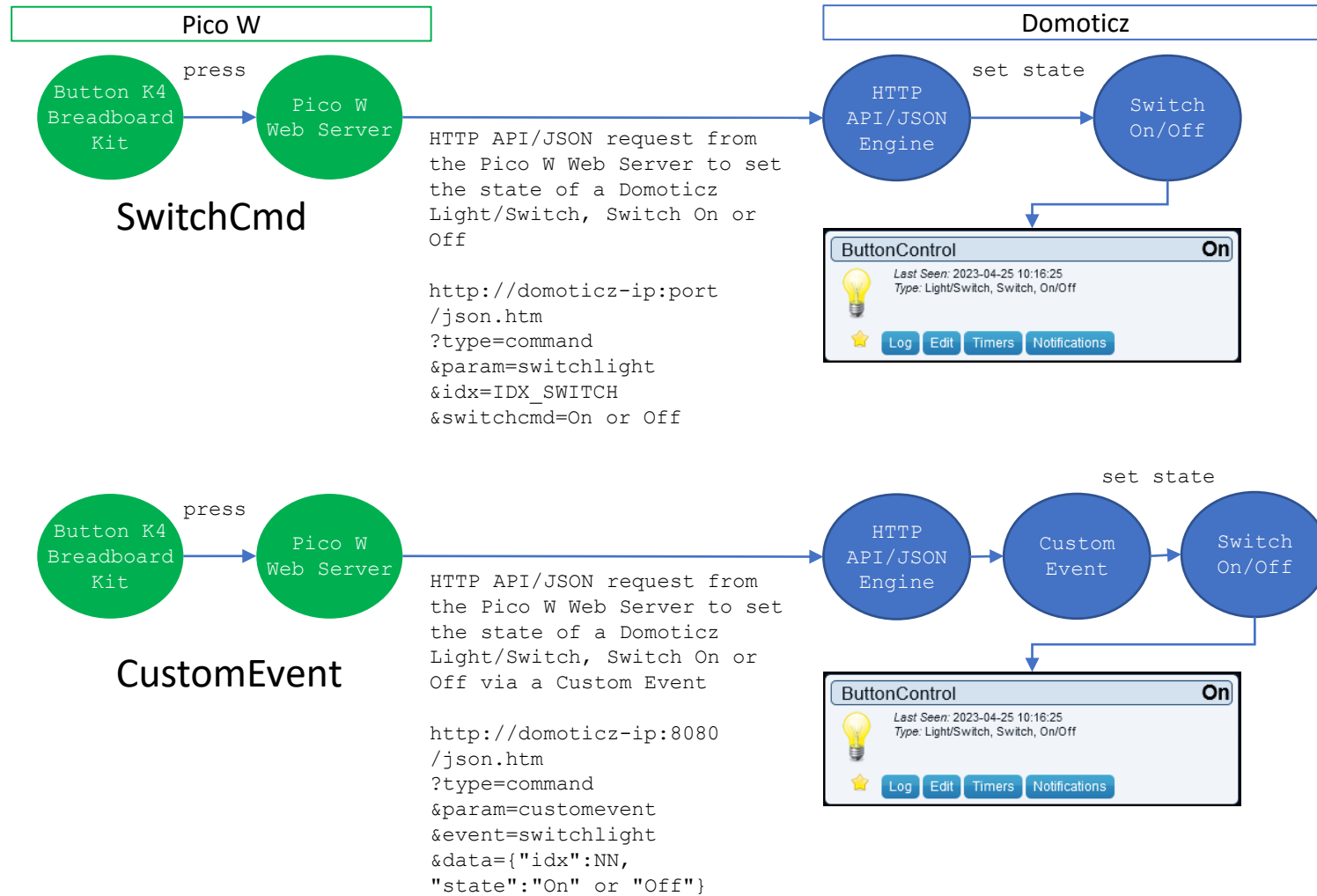
Pico W with Breadboard Kit & Servo Motor SG90



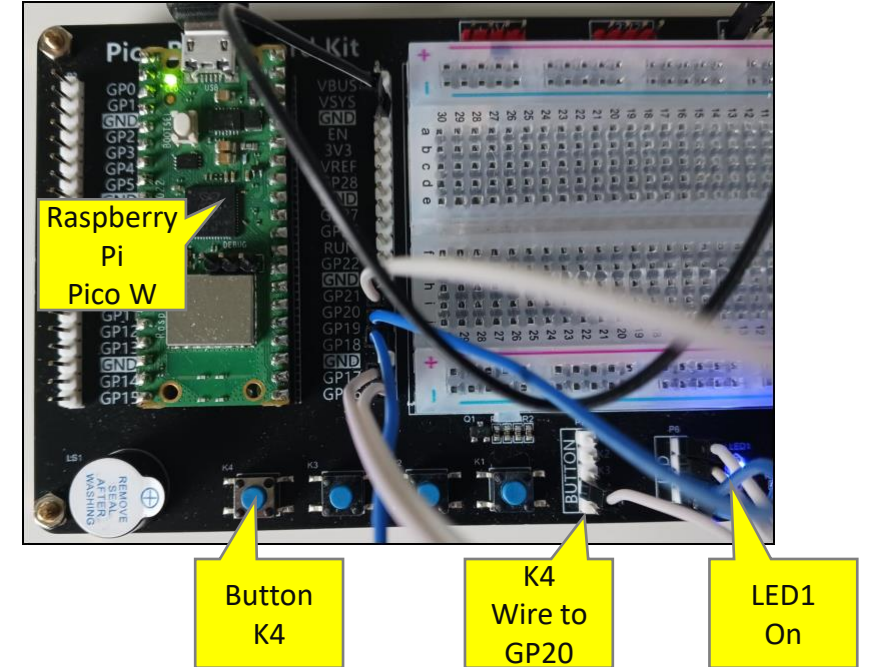
Servo Angle
149 deg

Project Button Control

Pico W with Pushbutton to set the state of a Domoticz Switch On/Off Device.

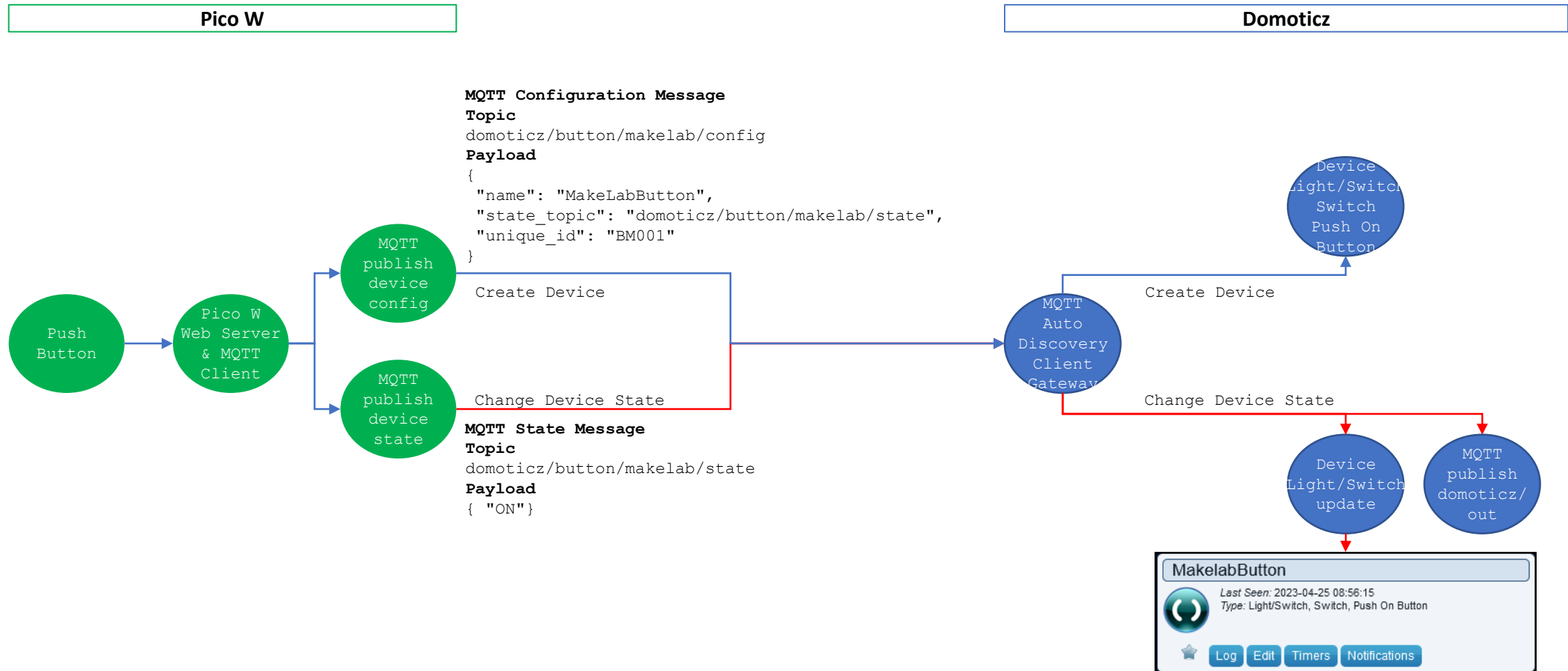


Pico W with Breadboard Kit Button K4 connected



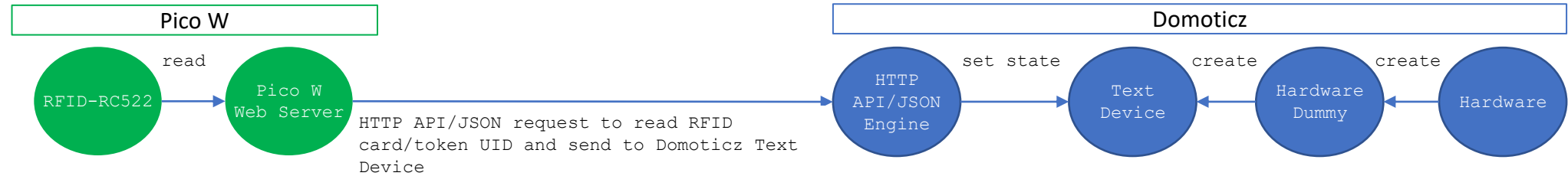
Project Button Control - MQTT Autodiscover

Pico W Push button set state of Domoticz Push On Button Device using Domoticz MQTT Auto Discovery Client Gateway.



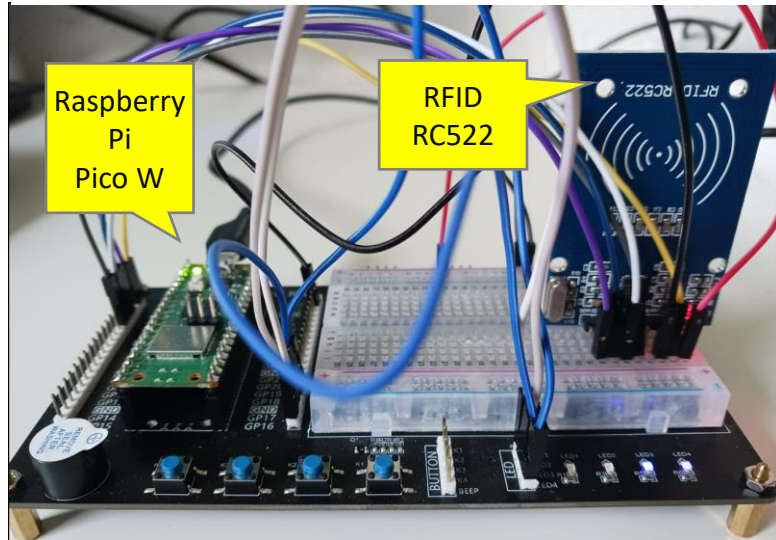
Project RFID Reader

Pico W to read RFID cards/tokens via RFID-RC522 module and send the UID to a Domoticz Text Device.

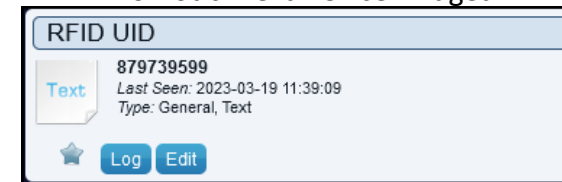


```
http://domoticz-ip:port
/json.htm
?type=command
&param=udevice
&idx=IDX_RFID
&nvalue=0
&svalue=879739599
```

Pico W with Breadboard Kit & RFID-RC522 connected



Domoticz Text Device Widget



The RFID card/token UID is:
879739599 (HEX 346FC2CF).
The card type is 10.

Domoticz Text Device Log

Date	
2023-03-19 12:04:31	1446518016
2023-03-19 12:04:26	879739599
2023-03-19 12:04:19	249942437
2023-03-19 11:39:08	879739599
2023-03-19 11:39:04	1446518016
2023-03-19 11:37:42	879739599
2023-03-19 11:37:22	1446518016
2023-03-19 11:32:21	879739599

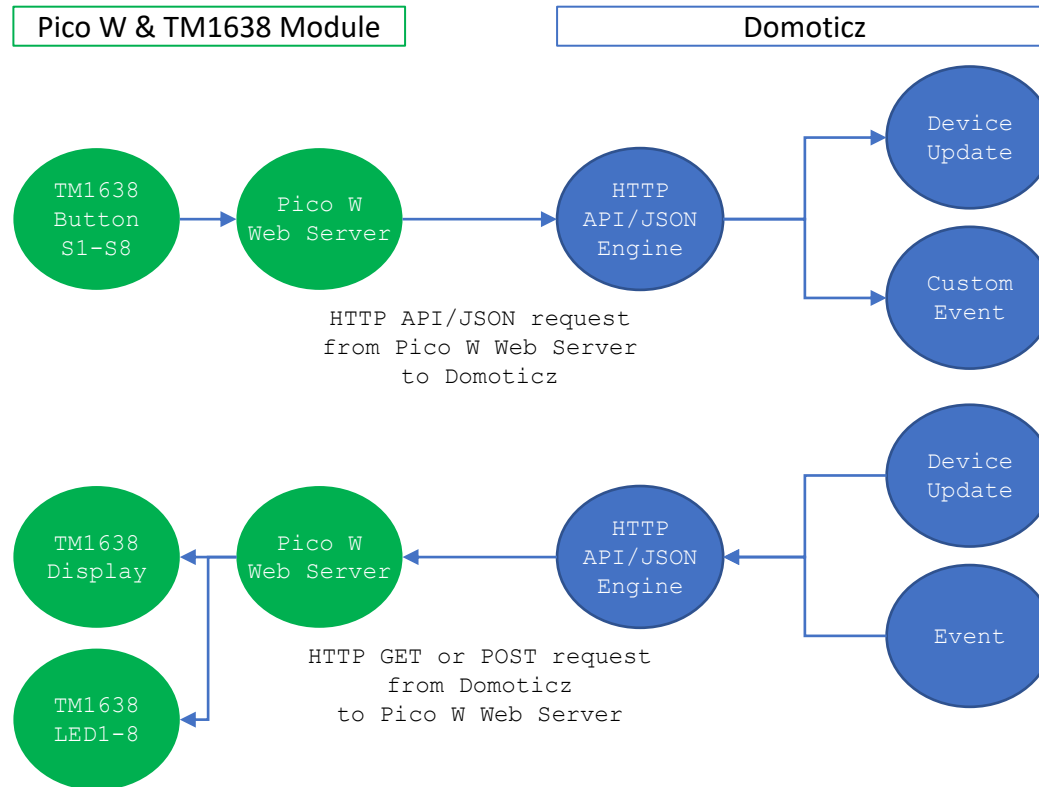


Domoticz Text Device Log with Flag

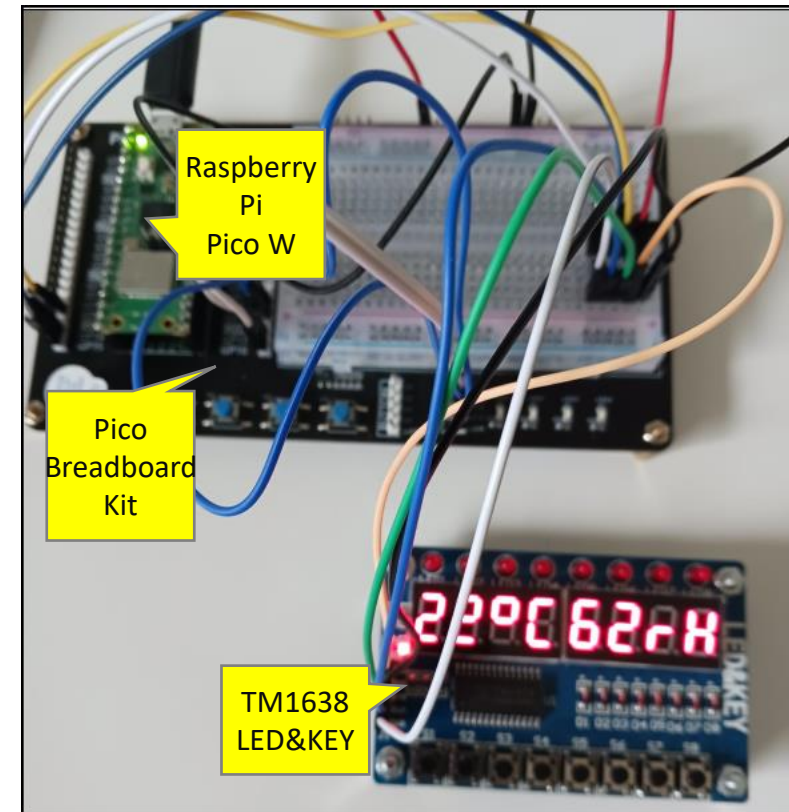
Date	
2023-03-20 10:42:01	8797395990,NOT VALID
2023-03-20 10:42:01	8797395990
2023-03-20 10:41:49	879739599,VALID
2023-03-20 10:41:49	879739599

Project TM1638 LED&KEY

Pico W with TM1638 to trigger Domoticz device action or Domoticz to set TM1638 LED or Display.



Pico W with Breadboard Kit & TM1638 LED&KEY



Project OLED Motherboard

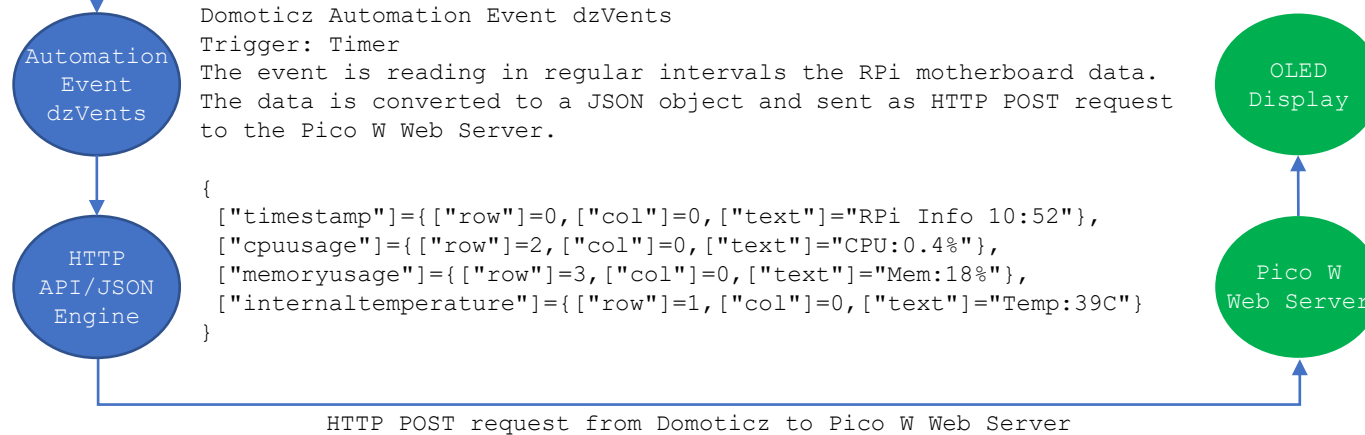
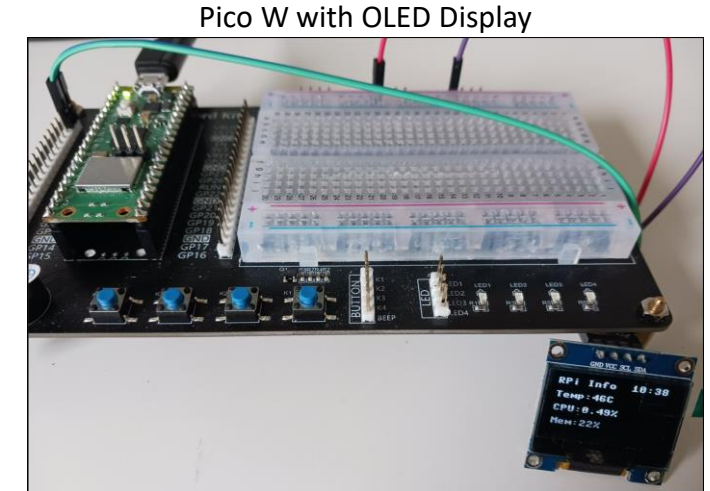
Domoticz sends RPi Motherboard sensor data to set the 0,96" I2C OLED display connected to the Pico W.

Domoticz Hardware

Idx	Name	Enabled	Type	Address	Port	Data Timeout
5	RPi Motherboard	Yes	Motherboard sensors			Disabled

Domoticz Devices (selective)

Idx	Hardware	ID	Unit	Name	Type	SubType	
18	RPi Motherboard	0001	1	Internal Temperature	Temp	LaCrosse TX3	38.9 C
26	RPi Motherboard	0000044D	1	CPU_Usage	General	Percentage	0.41%
22	RPi Motherboard	0000044C	1	Memory Usage	General	Percentage	18.35%



Project OLED Motherboard /2

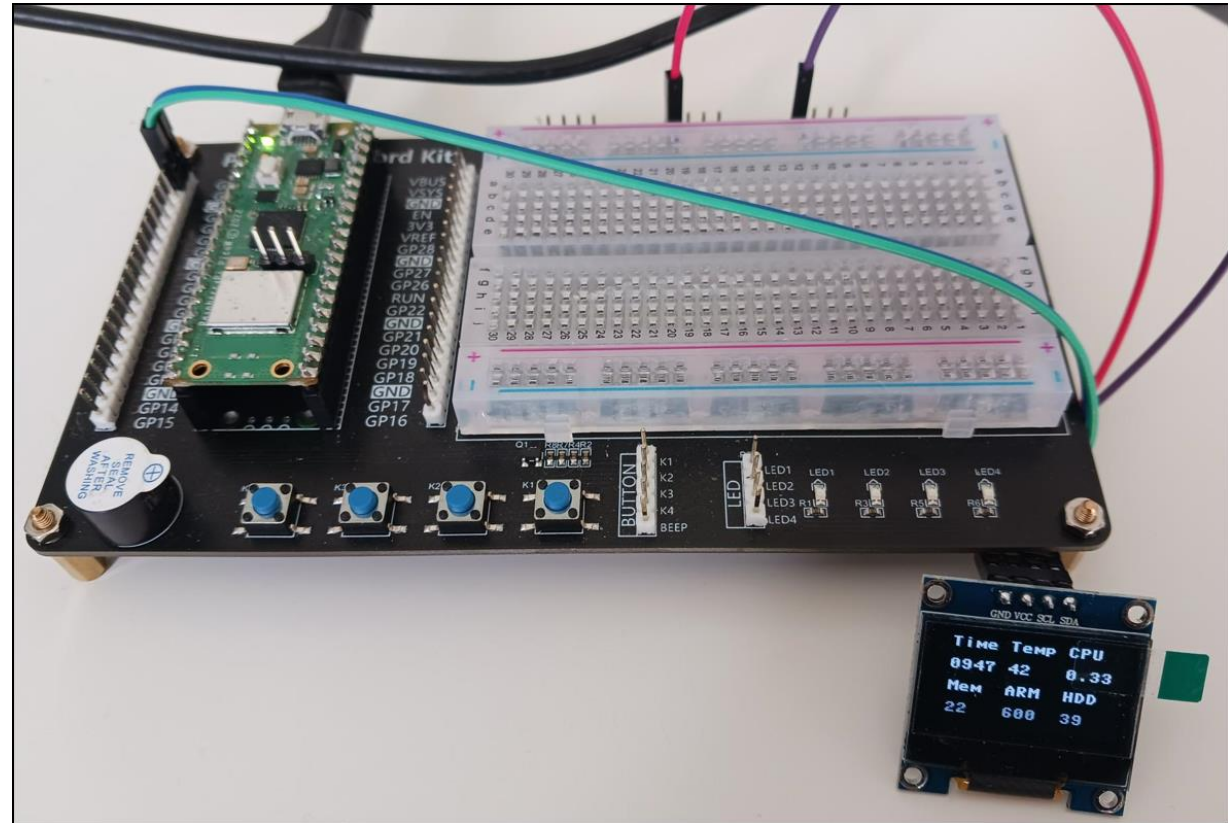
*Domoticz sends RPi Motherboard sensor data to set the 0,96" I2C OLED display connected to the Pico W.
The sensor data is displayed in up-to 6 blocks with title & value*

OLED Display 6 Blocks Setup
Each block 2 rows with 4 characters

Col	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Row																
0																
1																
2																
3																

Block Data generated by Domoticz Automation Event.
Example JSON array with 6 blocks:

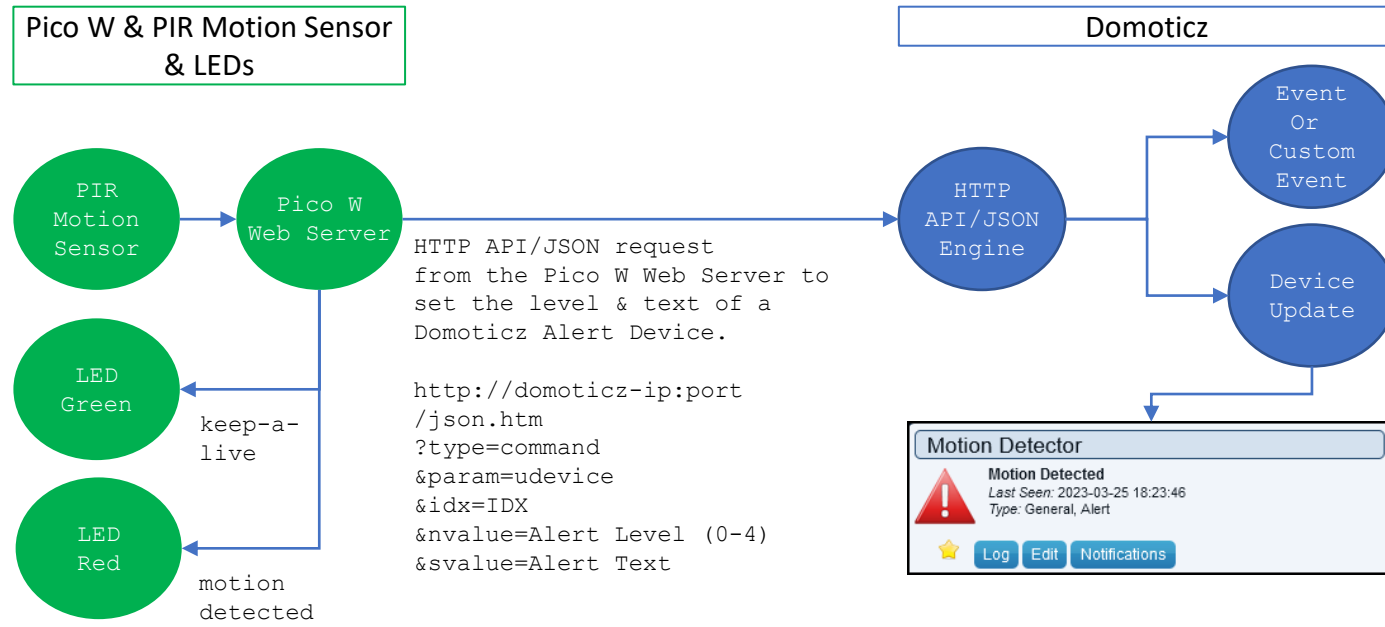
```
[
  {'block': 1, 'title': 'Time', 'value': '0947'},
  {'block': 2, 'title': 'Temp', 'value': 42},
  {'block': 3, 'title': 'CPU', 'value': 0.33},
  {'block': 4, 'title': 'Mem', 'value': 22},
  {'block': 5, 'title': 'ARM', 'value': 600},
  {'block': 6, 'title': 'HDD', 'value': 39}
]
```



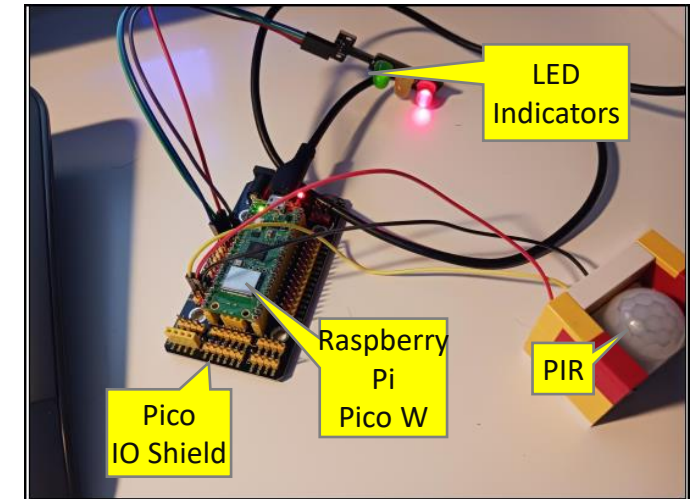
Pico W with OLED Display showing 6 blocks with RPi Motherboard sensor data

Project PIR Motion Sensor

PicoW to detect motion and sent message to a Domoticz Alert sensor.



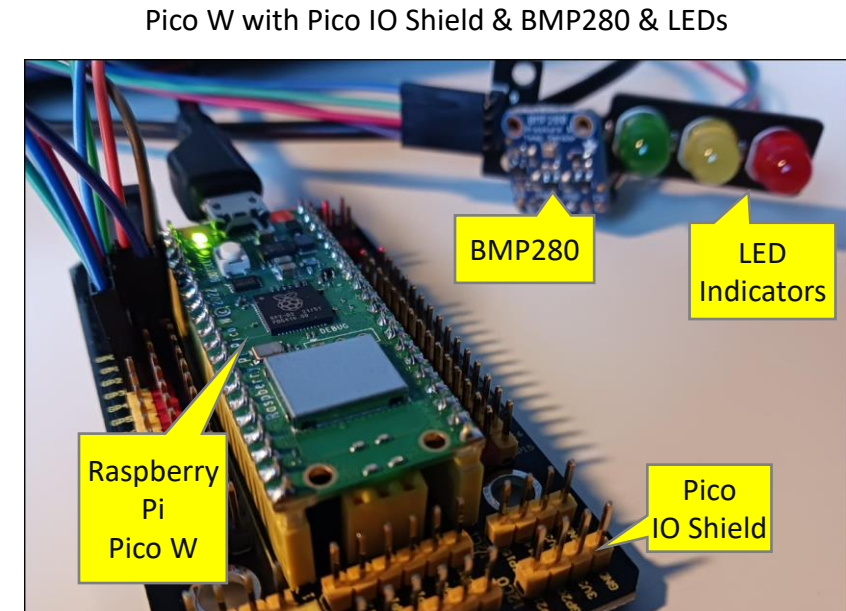
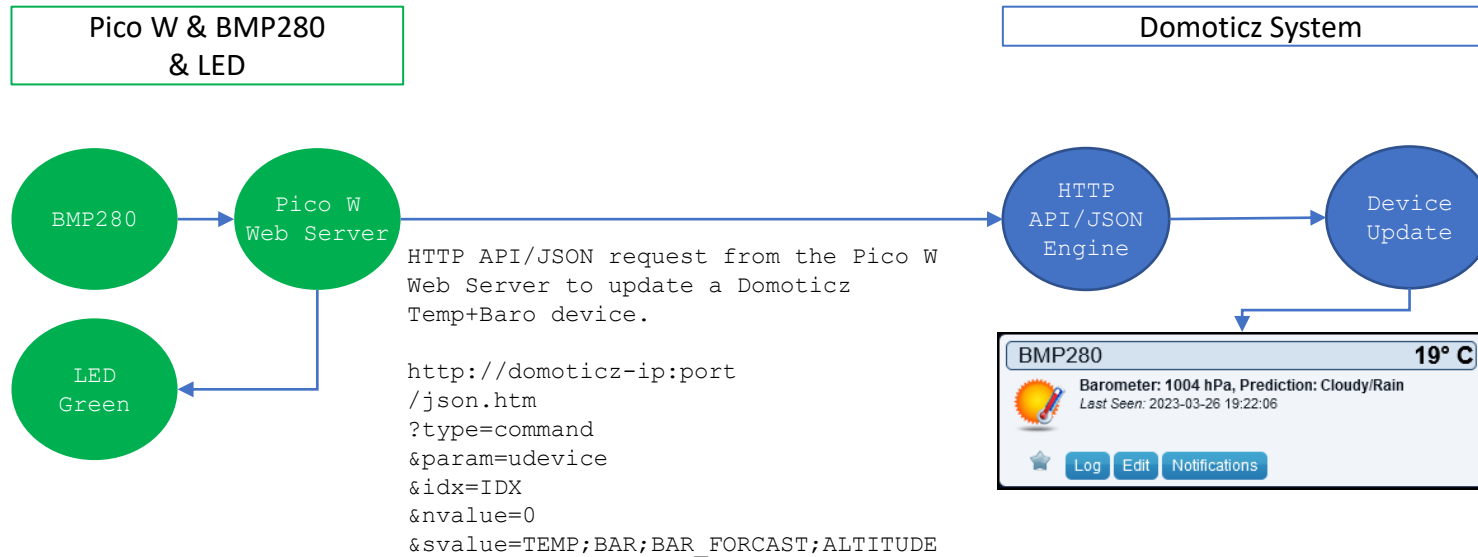
Pico W with PIR connected, and motion detected



Note: The yellow LED from the LED traffic light is not used.

Project BMP280

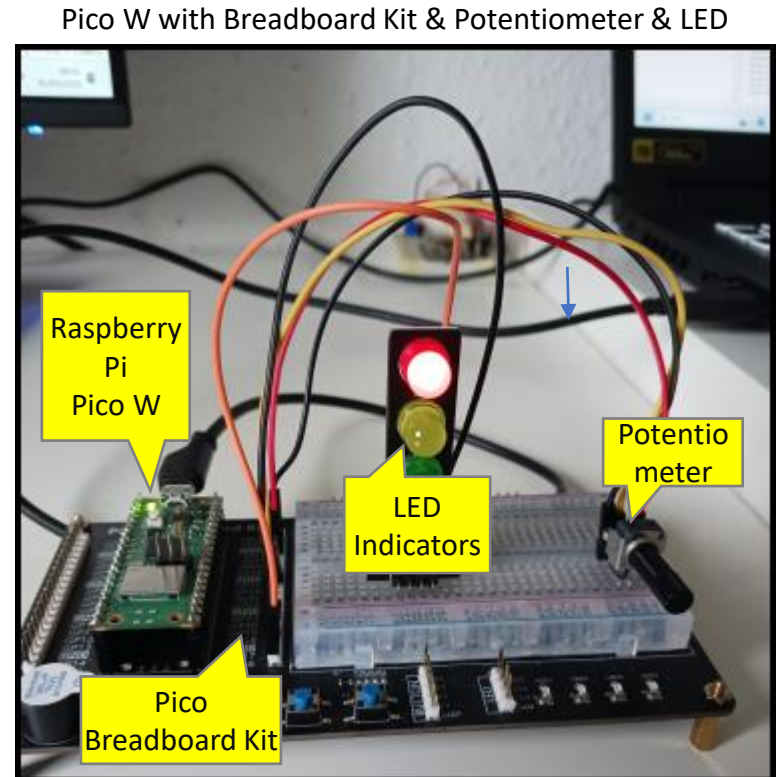
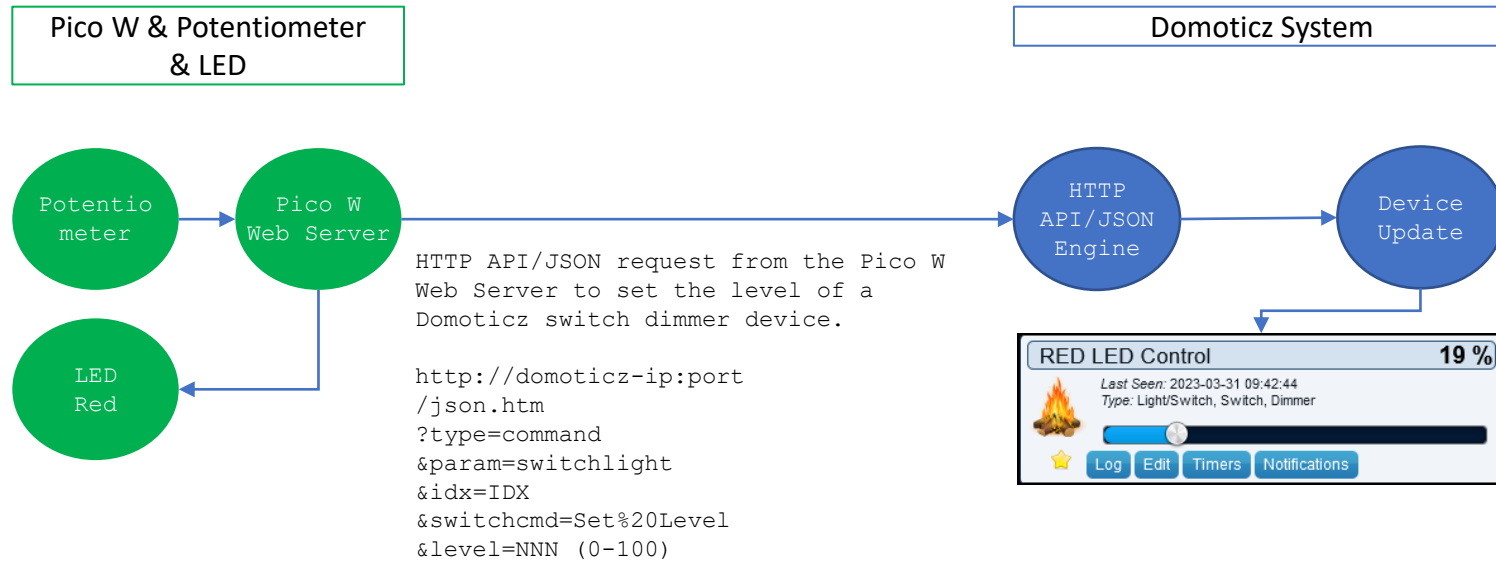
Pico W samples BMP280 sensor data and triggers updating the Domoticz Temp+Baro device.



Note: The green LED is used only from the LED traffic light.

Project Potentiometer Dimmer

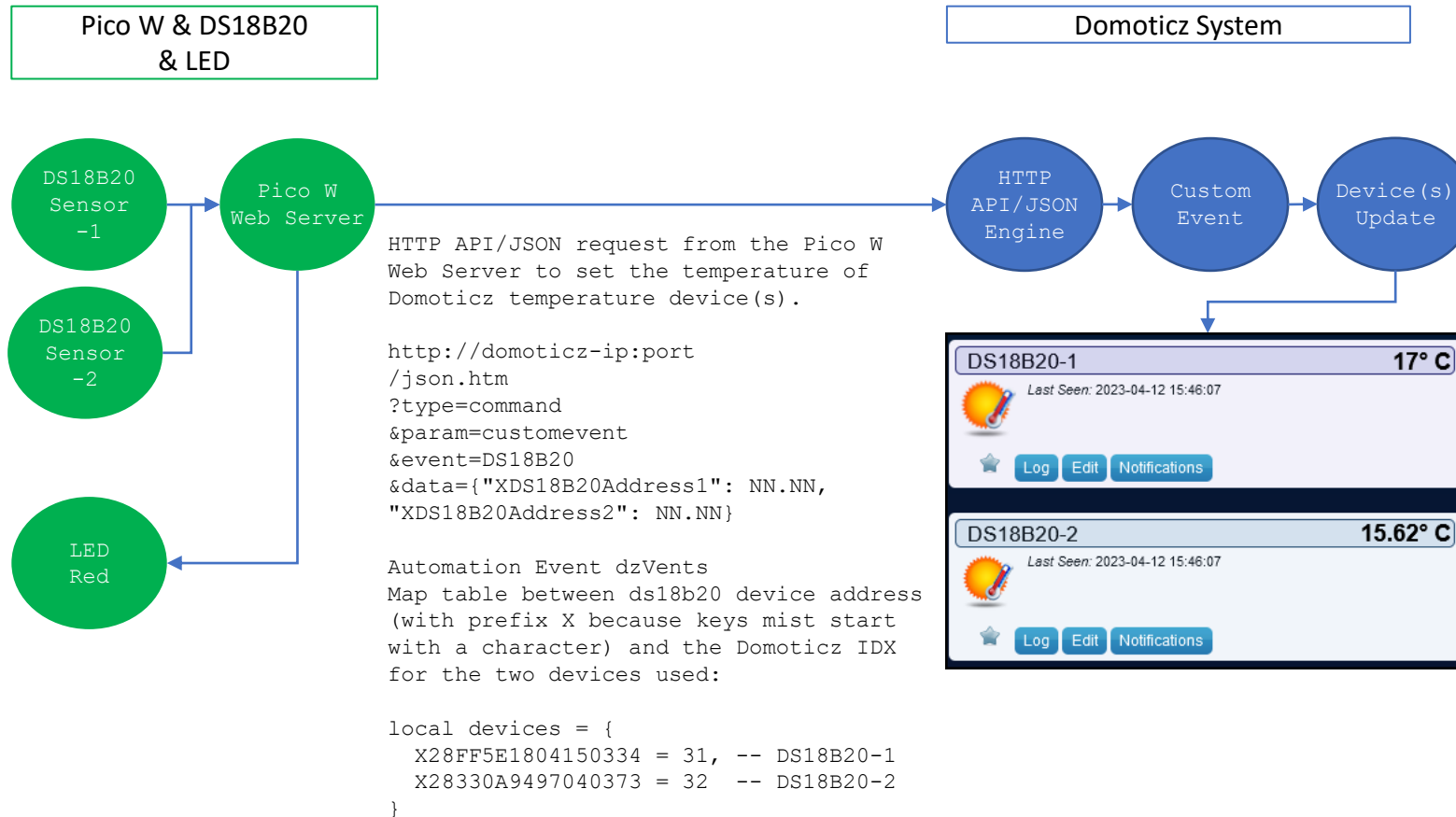
Pico W to set the level of a Domoticz Switch Dimmer device via Potentiometer.



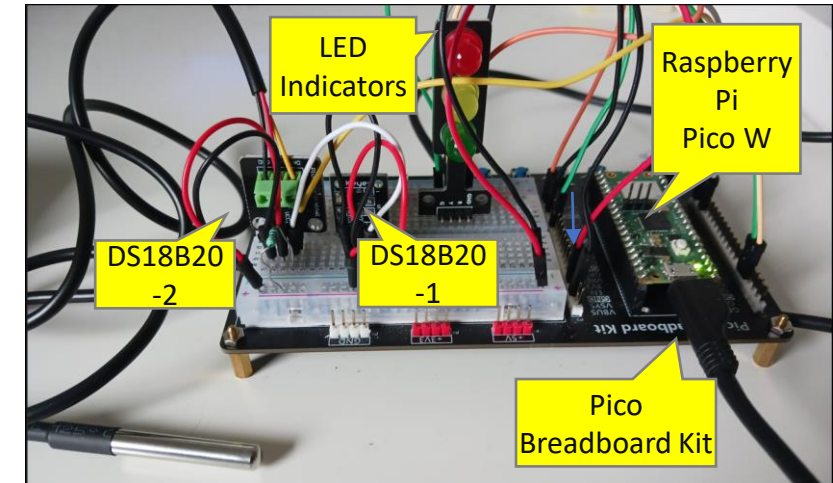
Note: The red LED is used only from the LED traffic light.

Project DS18B20 - Custom Event

Pico W samples DS18B20 sensor data and triggers Automation Event to update the Domoticz Temperature devices.



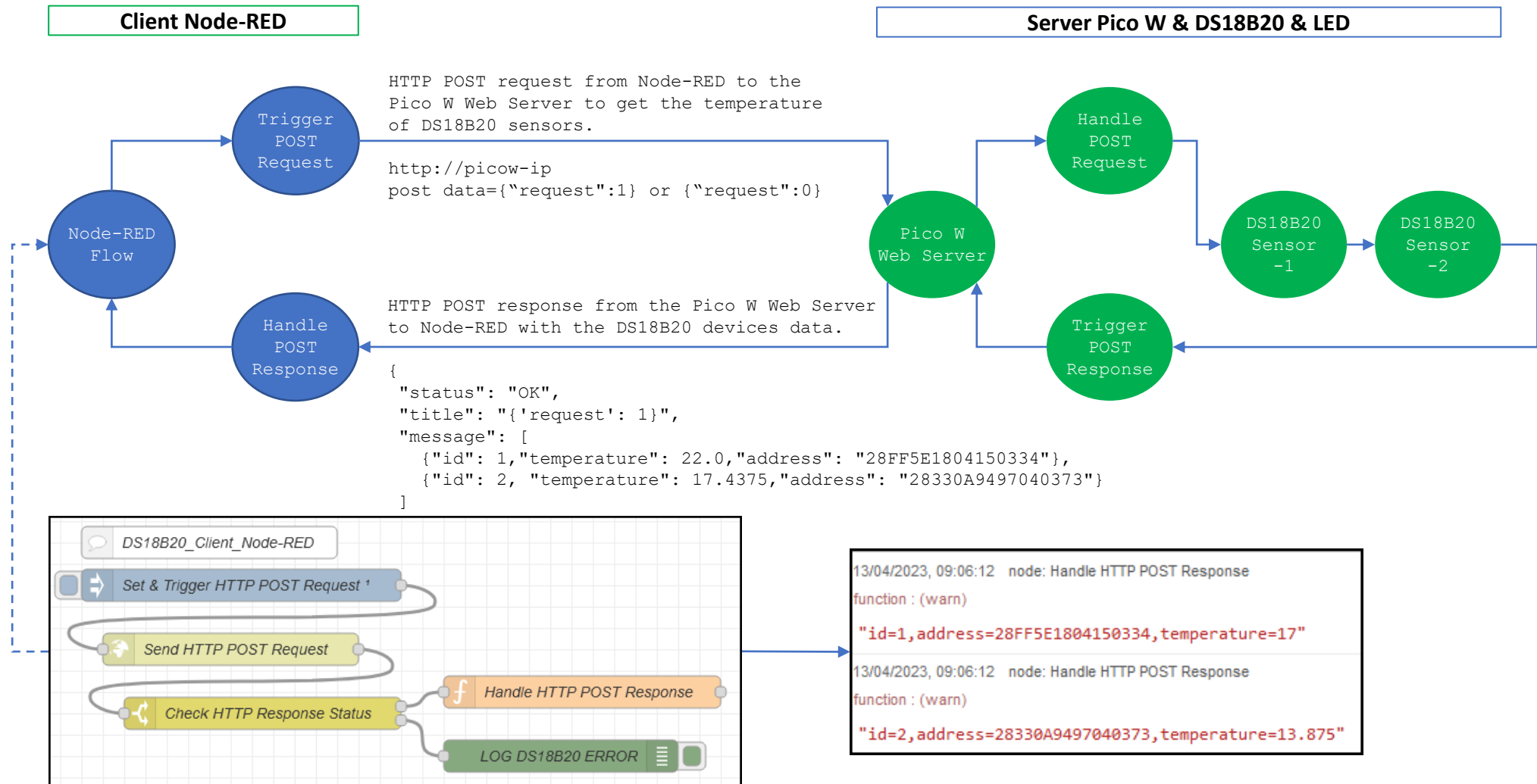
Pico W with Breadboard Kit & DS18B20 & LED



Note: There are two DS18B20 connected (DS18B20-1, DS18B20-2).
From the LED traffic light, the red LED is used only.

Project DS18B20 - Node-RED (PULL)

Pico W Web Server listens to HTTP POST request from Node-RED and sends response with DS18B20 sensor data.



Project DS18B20 - Domoticz (PULL)

Pico W Web Server listens to HTTP POST request from Domoticz and sends response with DS18B20 sensor data.

