

```
C:\Code\IITMandras\IoT\Projects\C03-Project-01-Simple-Smart-Home\venv\Scripts\python.exe
C:\Code\IITMandras\IoT\Projects\C03-Project-01-Simple-Smart-Home\main.py
```

SMART HOME SIMULATION STARTED

EDGE SERVER INITIATION STARTED

EDGE SERVER INITIATION COMPLETED SUCCESSFULLY AND CONNECTED TO BROKER

SECTION 1: STARTING REGISTRATION OF LIGHT DEVICES

REGISTERING LIGHT 1 IN KITCHEN

```
----->>>>>>>>> DEVICE TO EDGE Device:light_1 , Type:LIGHT , Room:Kitchen CMD:REGISTER_ME
```

```
<<<<<<-----EDGE TO DEVICE Device:light_1 , Type:LIGHT , Room:Kitchen CMD:ACK_Registration
```

REGISTERING LIGHT 2 IN BED ROOM 1

```
----->>>>>>>>> DEVICE TO EDGE Device:light_2 , Type:LIGHT , Room:Bed Room1 CMD:REGISTER_ME
```

```
<<<<<<-----EDGE TO DEVICE Device:light_2 , Type:LIGHT , Room:Bed Room1
CMD:ACK_Registration
```

REGISTERING LIGHT 3 IN GARAGE

```
----->>>>>>>>> DEVICE TO EDGE Device:light_3 , Type:LIGHT , Room:Garage CMD:REGISTER_ME
```

```
<<<<<<-----EDGE TO DEVICE Device:light_3 , Type:LIGHT , Room:Garage CMD:ACK_Registration
```

#### REGISTERING LIGHT 4 IN BEDROOM2

----->>>>>>>>> DEVICE TO EDGE Device:light\_4 , Type:LIGHT , Room:Bed Room2 CMD:REGISTER\_ME

<<<<<<-----EDGE TO DEVICE Device:light\_4 , Type:LIGHT , Room:Bed Room2  
CMD:ACK\_Registration

#### REGISTERING LIGHT 5 IN LIVING ROOM

----->>>>>>>>> DEVICE TO EDGE Device:light\_5 , Type:LIGHT , Room:Living Room  
CMD:REGISTER\_ME

<<<<<<-----EDGE TO DEVICE Device:light\_5 , Type:LIGHT , Room:Living Room  
CMD:ACK\_Registration

#### SMART HOME SECTION 1 STARTING REGISTRATION OF AC DEVICES

##### REGISTERING AC1 IN BED ROOM 1

----->>>>>>>>> DEVICE TO EDGE Device:ac\_1 , Type:AC , Room:Bed Room1 CMD:REGISTER\_ME

<<<<<<-----EDGE TO DEVICE Device:ac\_1 , Type:AC , Room:Bed Room1 CMD:ACK\_Registration

##### REGISTERING AC2 IN LIVING ROOM

----->>>>>>>>> DEVICE TO EDGE Device:ac\_2 , Type:AC , Room:Living Room CMD:REGISTER\_ME

<<<<<<-----EDGE TO DEVICE Device:ac\_2 , Type:AC , Room:Living Room CMD:ACK\_Registration

REGISTERING AC3 IN LIVING ROOM

----->>>>>>>>> DEVICE TO EDGE Device:ac\_3 , Type:AC , Room:Living Room CMD:REGISTER\_ME

<<<<<<<-----EDGE TO DEVICE Device:ac\_3 , Type:AC , Room:Living Room CMD:ACK\_Registration

ALL DEVICES REGISTERED SUCCESSFULLY REGISTERED IDS:

['light\_1', 'light\_2', 'light\_3', 'light\_4', 'light\_5', 'ac\_1', 'ac\_2', 'ac\_3']

SECTION 2.A.1 STARTING TO GET ALL DEVICES STATUS BY DEVICE ID

GET STATUS COMMAND SENDING TO LIGHT1

<<<<<<<-----EDGE TO DEVICE Device:light\_1 , Type:LIGHT , Room:Kitchen CMD:GET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE Device:light\_1 , Type:LIGHT , Room:Kitchen CMD:GET\_STATUS  
CALL\_REASON:DEVICE\_ID REPLY

STATUS Device:light\_1 , Type:LIGHT , Room:Kitchen ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS REPLY

GET STATUS COMMAND SENDING TO LIGHT2

<<<<<<<-----EDGE TO DEVICE Device:light\_2 , Type:LIGHT , Room:Bed Room1 CMD:GET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE Device:light\_2 , Type:LIGHT , Room:Bed Room1 CMD:GET\_STATUS  
CALL\_REASON:DEVICE\_ID REPLY

STATUS Device:light\_2 , Type:LIGHT , Room:Bed Room1 ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS REPLY

GET STATUS COMMAND SENDING TO LIGHT3

<<<<<<-----EDGE TO DEVICE Device:light\_3 , Type:LIGHT , Room:Garage CMD:GET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE Device:light\_3 , Type:LIGHT , Room:Garage CMD:GET\_STATUS  
CALL\_REASON:DEVICE\_ID REPLY

STATUS Device:light\_3 , Type:LIGHT , Room:Garage ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS REPLY

GET STATUS COMMAND SENDING TO LIGHT4

<<<<<<-----EDGE TO DEVICE Device:light\_4 , Type:LIGHT , Room:Bed Room2 CMD:GET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE Device:light\_4 , Type:LIGHT , Room:Bed Room2 CMD:GET\_STATUS  
CALL\_REASON:DEVICE\_ID REPLY

STATUS Device:light\_4 , Type:LIGHT , Room:Bed Room2 ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS REPLY

GET STATUS COMMAND SENDING TO LIGHT5

<<<<<<-----EDGE TO DEVICE Device:light\_5 , Type:LIGHT , Room:Living Room CMD:GET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE Device:light\_5 , Type:LIGHT , Room:Living Room CMD:GET\_STATUS  
CALL\_REASON:DEVICE\_ID REPLY

STATUS Device:light\_5 , Type:LIGHT , Room:Living Room ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS REPLY

GET STATUS COMMAND SENDING TO AC1

<<<<<<-----EDGE TO DEVICE Device:ac\_1 , Type:AC , Room:Bed Room1 CMD:GET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE Device:ac\_1 , Type:AC , Room:Bed Room1 CMD:GET\_STATUS REPLY

STATUS Device:ac\_1 , Type:AC , Room:Bed Room1 ,SwitchState:OFF Device Temperature:22  
CMD:GET\_STATUS CALL\_REASON:DEVICE\_ID REPLY

GET STATUS COMMAND SENDING TO AC2

<<<<<<-----EDGE TO DEVICE Device:ac\_2 , Type:AC , Room:Living Room CMD:GET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE Device:ac\_2 , Type:AC , Room:Living Room CMD:GET\_STATUS REPLY

STATUS Device:ac\_2 , Type:AC , Room:Living Room ,SwitchState:OFF Device Temperature:22  
CMD:GET\_STATUS CALL\_REASON:DEVICE\_ID REPLY

GET STATUS COMMAND SENDING TO AC3

<<<<<<-----EDGE TO DEVICE Device:ac\_3 , Type:AC , Room:Living Room CMD:GET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE Device:ac\_3 , Type:AC , Room:Living Room CMD:GET\_STATUS REPLY

STATUS Device:ac\_3 , Type:AC , Room:Living Room ,SwitchState:OFF Device Temperature:22  
CMD:GET\_STATUS CALL\_REASON:DEVICE\_ID REPLY

#### SECTION 2.A.2 STARTING TO GET ALL DEVICES STATUS BY DEVICE TYPE AS LIGHT

STATUS Device:light\_3 , Type:LIGHT , Room:Garage ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS CALL\_REASON:DEVICE\_TYPE

STATUS Device:light\_4 , Type:LIGHT , Room:Bed Room2 ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS CALL\_REASON:DEVICE\_TYPE

STATUS Device:light\_2 , Type:LIGHT , Room:Bed Room1 ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS CALL\_REASON:DEVICE\_TYPE

STATUS Device:light\_1 , Type:LIGHT , Room:Kitchen ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS CALL\_REASON:DEVICE\_TYPE

STATUS Device:light\_5 , Type:LIGHT , Room:Living Room ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS CALL\_REASON:DEVICE\_TYPE

#### SECTION 2.A.2 STARTING TO GET ALL DEVICES STATUS BY DEVICE TYPE AS AC

STATUS Device:ac\_2 , Type:AC , Room:Living Room ,SwitchState:OFF Device Temperature:22  
CMD:GET\_STATUS

STATUS Device:ac\_1 , Type:AC , Room:Bed Room1 ,SwitchState:OFF Device Temperature:22  
CMD:GET\_STATUS

STATUS Device:ac\_3 , Type:AC , Room:Living Room ,SwitchState:OFF Device Temperature:22  
CMD:GET\_STATUS

## SECTION 2.A.2 STARTING TO GET ALL DEVICES STATUS BY ROOM AS LIVING ROOM

STATUS Device:ac\_3 , Type:AC , Room:Living Room ,SwitchState:OFF Device Temperature:22  
CMD:GET\_STATUS CALL\_REASON:ROOM

STATUS Device:ac\_2 , Type:AC , Room:Living Room ,SwitchState:OFF Device Temperature:22  
CMD:GET\_STATUS CALL\_REASON:ROOM

STATUS Device:light\_5 , Type:LIGHT , Room:Living Room ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS CALL\_REASON:ROOM

## SECTION 2.A.2 STARTING TO GET ALL DEVICES STATUS BY HOME

STATUS Device:light\_1 , Type:LIGHT , Room:Kitchen ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS CALL\_REASON:HOME

STATUS Device:light\_3 , Type:LIGHT , Room:Garage ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS CALL\_REASON:HOME

STATUS Device:light\_5 , Type:LIGHT , Room:Living Room ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS CALL\_REASON:HOME

STATUS Device:ac\_1 , Type:AC , Room:Bed Room1 ,SwitchState:OFF Device Temperature:22  
CMD:GET\_STATUS CALL\_REASON:HOME

STATUS Device:ac\_2 , Type:AC , Room:Living Room ,SwitchState:OFF Device Temperature:22  
CMD:GET\_STATUS CALL\_REASON:HOME

STATUS Device:ac\_3 , Type:AC , Room:Living Room ,SwitchState:OFF Device Temperature:22  
CMD:GET\_STATUS CALL\_REASON:HOME

STATUS Device:light\_2 , Type:LIGHT , Room:Bed Room1 ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS CALL\_REASON:HOME

STATUS Device:light\_4 , Type:LIGHT , Room:Bed Room2 ,SwitchState:OFF Device Intensity:LOW  
CMD:GET\_STATUS CALL\_REASON:HOME

## SECTION 2.B STARTING TO SET ALL DEVICES SWITCH STATUS ON BY DEVICE ID

COMMAND SENDING TO LIGHT 1 TO SWITCH STATE:ON INTENSITY:MEDIUM

<<<<<<-----EDGE TO DEVICE Device:light\_1 , Type:LIGHT , Room:Kitchen CMD:SET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE Device:light\_1 , Type:LIGHT , Room:Kitchen CMD:SET\_STATUS  
REPLY

STATUS Device:light\_1 , Type:LIGHT , Room:Kitchen ,SwitchState:ON Device Intensity:MEDIUM  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_ID REPLY

SET COMMAND SENDING TO LIGHT 2 TO SWITCH STATE:ON INTENSITY:HIG

<<<<<<-----EDGE TO DEVICE Device:light\_2 , Type:LIGHT , Room:Bed Room1 CMD:SET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE Device:light\_2 , Type:LIGHT , Room:Bed Room1 CMD:SET\_STATUS  
REPLY

STATUS Device:light\_2 , Type:LIGHT , Room:Bed Room1 ,SwitchState:ON Device Intensity:HIG  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_ID REPLY

SET COMMAND SENDING TO LIGHT 3 TO SWITCH STATE:ON INTENSITY:HIG

<<<<<<-----EDGE TO DEVICE Device:light\_3 , Type:LIGHT , Room:Garage CMD:SET\_STATUS  
CALL\_REASON:DEVICE\_ID



----->>>>>>>>> DEVICE TO EDGE Device:light\_3 , Type:LIGHT , Room:Garage CMD:SET\_STATUS REPLY

STATUS Device:light\_3 , Type:LIGHT , Room:Garage ,SwitchState:ON Device Intensity:HIGH  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_ID REPLY

SET COMMAND SENDING TO LIGHT 4 TO SWITCH STATE:ON INTENSITY:MEDIUM

<<<<<<-----EDGE TO DEVICE Device:light\_4 , Type:LIGHT , Room:Bed Room2 CMD:SET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE Device:light\_4 , Type:LIGHT , Room:Bed Room2 CMD:SET\_STATUS  
REPLY

STATUS Device:light\_4 , Type:LIGHT , Room:Bed Room2 ,SwitchState:ON Device Intensity:MEDIUM  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_ID REPLY

SET COMMAND SENDING TO LIGHT 5 TO SWITCH STATE:ON INTENSITY:HIG

<<<<<<-----EDGE TO DEVICE Device:light\_5 , Type:LIGHT , Room:Living Room CMD:SET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE Device:light\_5 , Type:LIGHT , Room:Living Room CMD:SET\_STATUS  
REPLY

STATUS Device:light\_5 , Type:LIGHT , Room:Living Room ,SwitchState:ON Device Intensity:HIGH  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_ID REPLY

SET COMMAND SENDING TO AC 1 TO SWITCH STATE:ON TEMP:29

<<<<<<-----EDGE TO DEVICE Device:ac\_1 , Type:AC , Room:Bed Room1 CMD:SET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE Device:ac\_1 , Type:AC , Room:Bed Room1 CMD:SET\_STATUS REPLY

STATUS Device:ac\_1 , Type:AC , Room:Bed Room1 ,SwitchState:ON Device Temperature:29  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_ID REPLY

SET COMMAND SENDING TO AC 2 TO SWITCH STATE:ON TEMP:18

<<<<<<-----EDGE TO DEVICE Device:ac\_2 , Type:AC , Room:Living Room CMD:SET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE Device:ac\_2 , Type:AC , Room:Living Room CMD:SET\_STATUS REPLY

STATUS Device:ac\_2 , Type:AC , Room:Living Room ,SwitchState:ON Device Temperature:18  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_ID REPLY

SET COMMAND SENDING TO AC 3 TO SWITCH STATE:ON TEMP:27

<<<<<<-----EDGE TO DEVICE Device:ac\_3 , Type:AC , Room:Living Room CMD:SET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE Device:ac\_3 , Type:AC , Room:Living Room CMD:SET\_STATUS REPLY

STATUS Device:ac\_3 , Type:AC , Room:Living Room ,SwitchState:ON Device Temperature:27  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_ID REPLY

SECTION 3.A.1 STARTING TO SEND COMMAND TO ALL LIGHTS BY DEVICE TYPE CRITERIA

SET STATUS BY DEVICE ID: STARTING TO SEND COMMAND ALL LIGHT DEVICES TO SET INTENSITY TO  
HIGH BY DEVICE TYPE AS LIGHT

STATUS Device:light\_1 , Type:LIGHT , Room:Kitchen ,SwitchState:ON Device Intensity:HIGH  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_TYPE

STATUS Device:light\_3 , Type:LIGHT , Room:Garage ,SwitchState:ON Device Intensity:HIGH  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_TYPE

STATUS Device:light\_5 , Type:LIGHT , Room:Living Room ,SwitchState:ON Device Intensity:HIGH  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_TYPE

STATUS Device:light\_4 , Type:LIGHT , Room:Bed Room2 ,SwitchState:ON Device Intensity:HIGH  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_TYPE

STATUS Device:light\_2 , Type:LIGHT , Room:Bed Room1 ,SwitchState:ON Device Intensity:HIGH  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_TYPE

SECTION 3.A.2 WRONG COMMAND CHECK SET STATUS FOR DEVICE ID:LIGHT\_1 WRONG MESSAGE  
DETECTION

<<<<<<-----EDGE TO DEVICE Device:light\_1 , Type:LIGHT , Room:Kitchen CMD:SET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE ERROR Device:light\_1 , Type:LIGHT , Room:Kitchen  
CMD:SET\_STATUS REPLY

STATUS ERROR WRONG COMMAND TO LIGHT Device:light\_1 , Type:LIGHT , Room:Kitchen  
,SwitchState:ON Device Intensity:HIGH CMD:SET\_STATUS CALL\_REASON:DEVICE\_ID REPLY

SECTION 3.B.1 STARTING TO SEND COMMAND TO ALL AC DEVICES TO SET TEMPERATURE:29 BY DEVICE  
TYPE CRITERIA

SET STATUS BY DEVICE TYPE:STARTING TO SET ALL AC DEVICES TEMP TO 29 BY DEVICE TYPE AS AC

STATUS Device:ac\_1 , Type:AC , Room:Bed Room1 ,SwitchState:ON Device Temperature:29  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_TYPE

STATUS Device:ac\_2 , Type:AC , Room:Living Room ,SwitchState:ON Device Temperature:29  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_TYPE

STATUS Device:ac\_3 , Type:AC , Room:Living Room ,SwitchState:ON Device Temperature:29  
CMD:SET\_STATUS CALL\_REASON:DEVICE\_TYPE

SECTION 3.B.2 WRONG COMMAND CHECK SET STATUS FOR DEVICE ID:AC\_3 WRONG MESSAGE  
DETECTION

<<<<<<-----EDGE TO DEVICE Device:ac\_3 , Type:AC , Room:Living Room CMD:SET\_STATUS  
CALL\_REASON:DEVICE\_ID

----->>>>>>>>> DEVICE TO EDGE ERROR Device:ac\_3 , Type:AC , Room:Living Room  
CMD:SET\_STATUS REPLY

STATUS ERROR WRONG COMMAND TO AC Device:ac\_3 , Type:AC , Room:Living Room ,SwitchState:ON  
Device Intensity:29 CMD:SET\_STATUS CALL\_REASON:DEVICE\_ID REPLY

PROJECT CONCLUSION ALL DEVICES STATUS IN HOME

SEND COMMAND TO GET ALL DEVICES IN HOME

STATUS Device:light\_1 , Type:LIGHT , Room:Kitchen ,SwitchState:ON Device Intensity:HIGH  
CMD:GET\_STATUS CALL\_REASON:HOME

STATUS Device:light\_5 , Type:LIGHT , Room:Living Room ,SwitchState:ON Device Intensity:HIGH  
CMD:GET\_STATUS CALL\_REASON:HOME

STATUS Device:light\_3 , Type:LIGHT , Room:Garage ,SwitchState:ON Device Intensity:HIGH  
CMD:GET\_STATUS CALL\_REASON:HOME

STATUS Device:light\_4 , Type:LIGHT , Room:Bed Room2 ,SwitchState:ON Device Intensity:HIGH  
CMD:GET\_STATUS CALL\_REASON:HOME

STATUS Device:ac\_1 , Type:AC , Room:Bed Room1 ,SwitchState:ON Device Temperature:29  
CMD:GET\_STATUS CALL\_REASON:HOME

STATUS Device:ac\_3 , Type:AC , Room:Living Room ,SwitchState:ON Device Temperature:29  
CMD:GET\_STATUS CALL\_REASON:HOME

STATUS Device:ac\_2 , Type:AC , Room:Living Room ,SwitchState:ON Device Temperature:29  
CMD:GET\_STATUS CALL\_REASON:HOME

STATUS Device:light\_2 , Type:LIGHT , Room:Bed Room1 ,SwitchState:ON Device Intensity:HIGH  
CMD:GET\_STATUS CALL\_REASON:HOME