

Redis / MicroPython

Data Streams Workshop

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<https://redis.io>



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What is Redis?

A key-value data store

Data is kept in memory

Configurable persistence

Accessed via a network

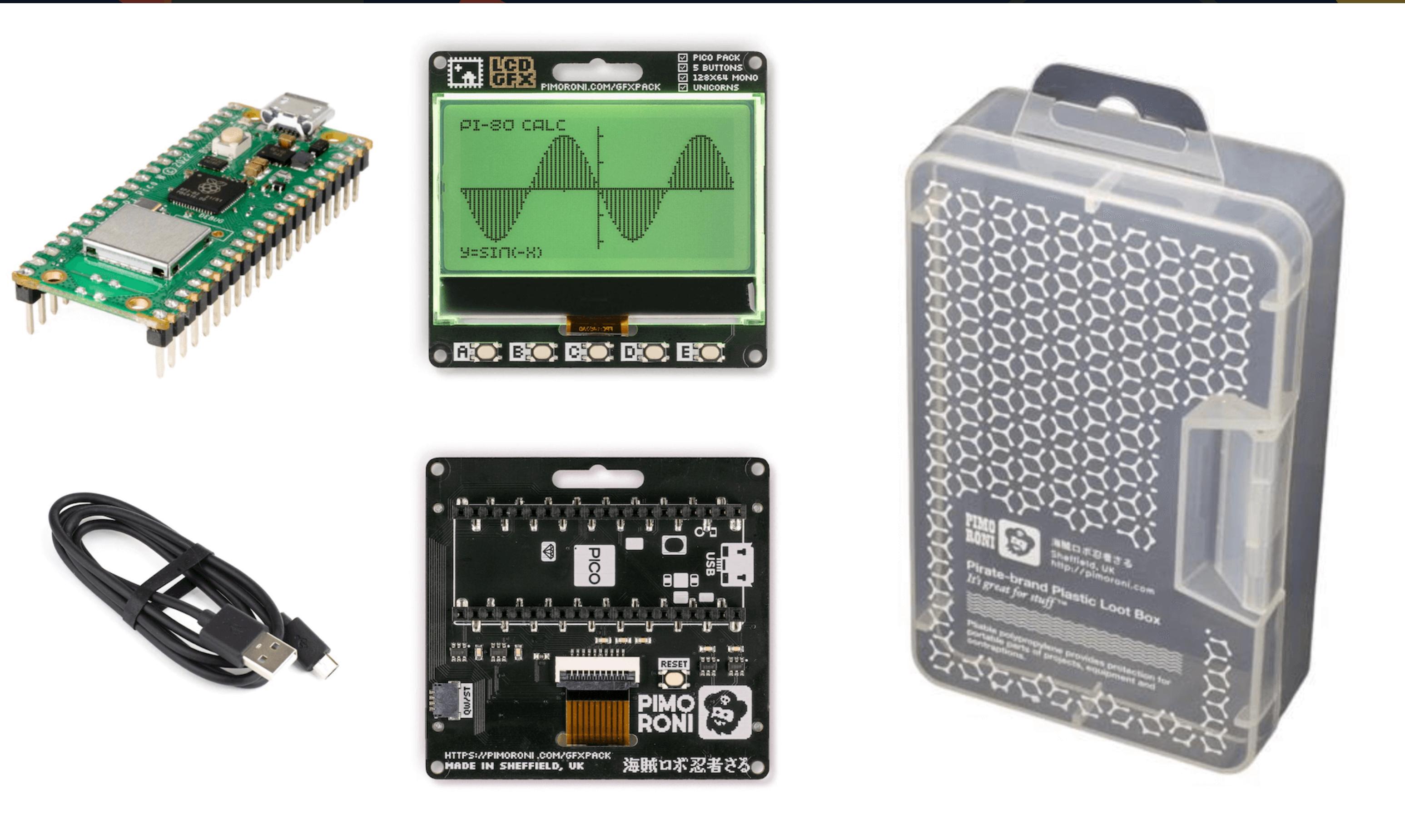
redis.com/try-free

MicroPython

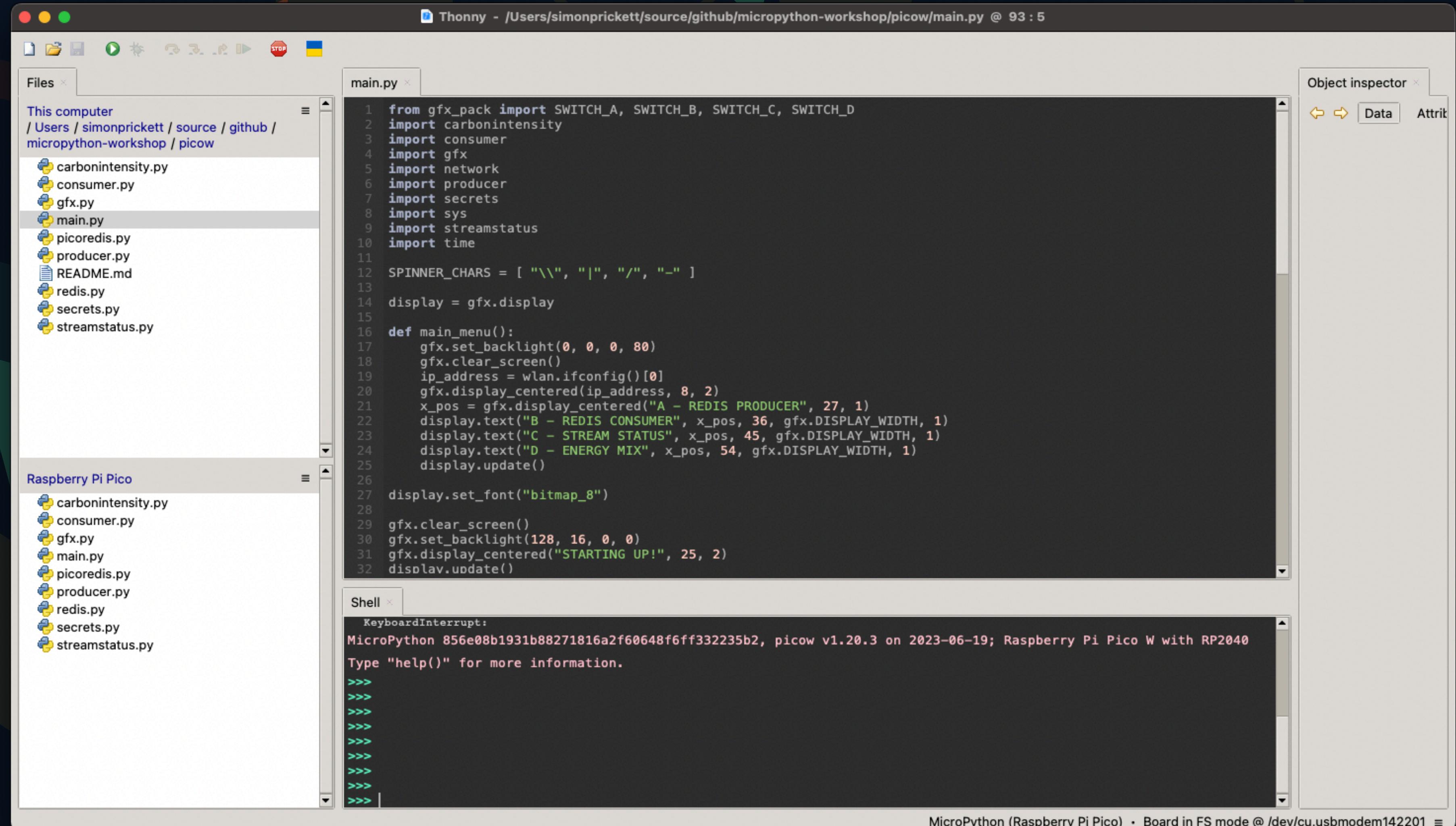
"MicroPython is a lean and efficient implementation of the Python 3 programming language that includes a small subset of the Python standard library and is optimised to run on **microcontrollers** and in constrained environments."



Hardware!

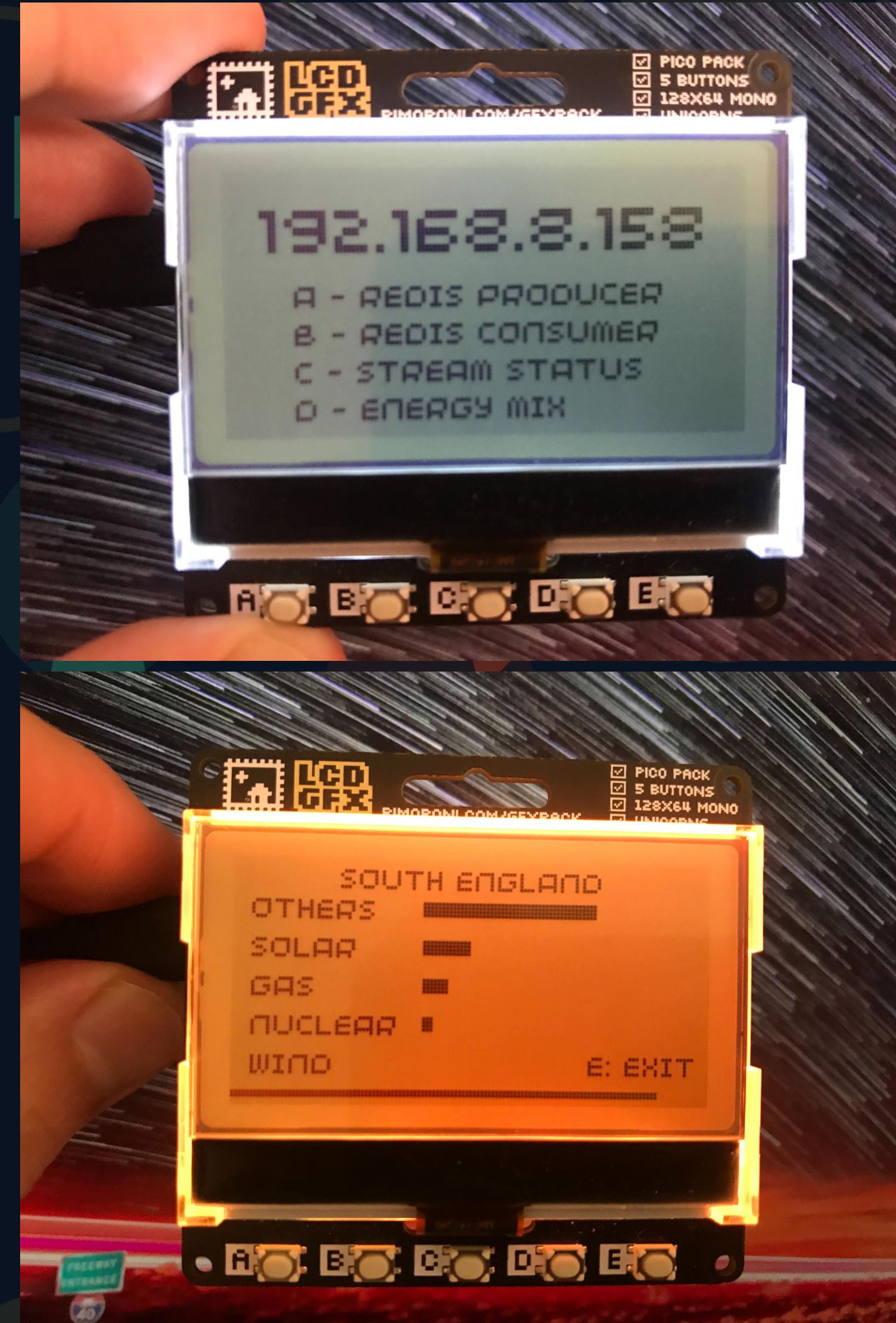


Thonny IDE



Up and Running...

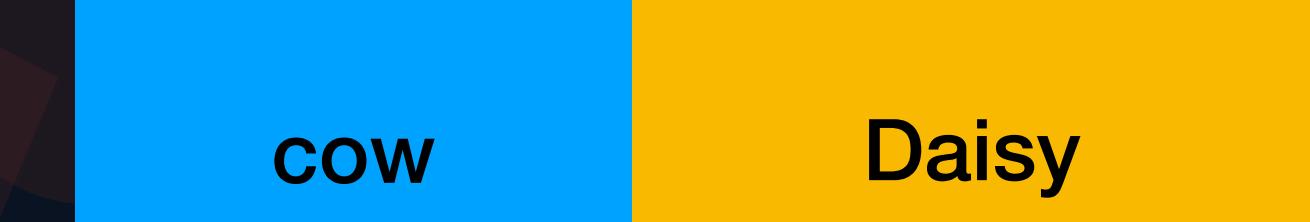
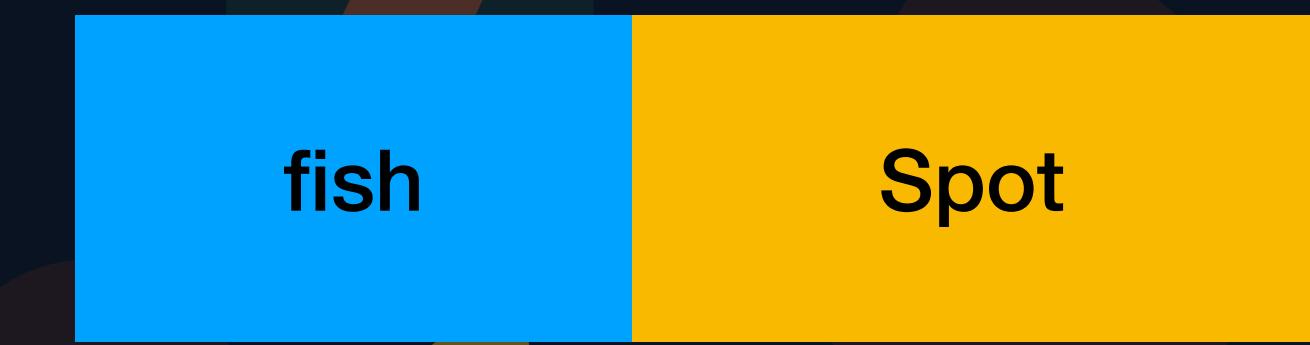
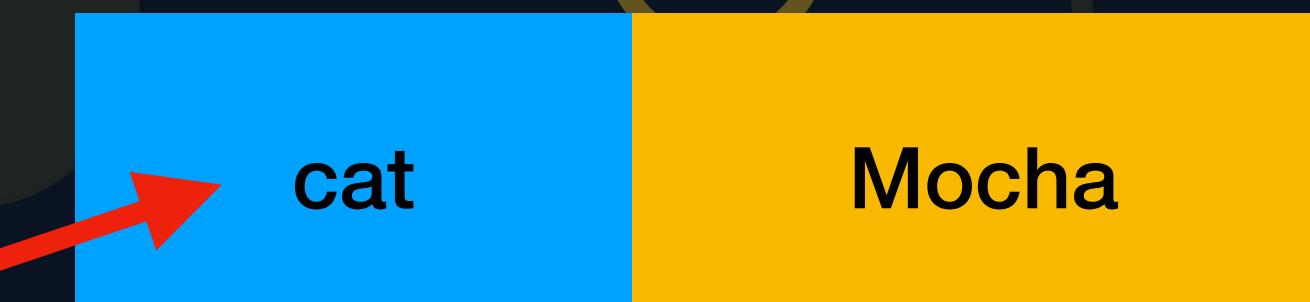
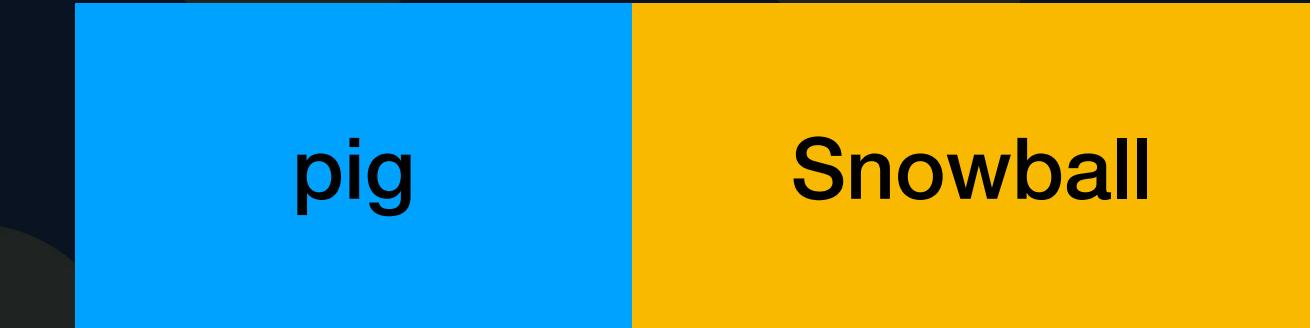
- Attach Micro USB cable to the Pi Pico W
- Attach USB A cable to your laptop
- Device should boot and connect to the wifi, then present a menu
- Press the D button for the energy mix demo
- We'll then connect Thonny to the Pi Pico W



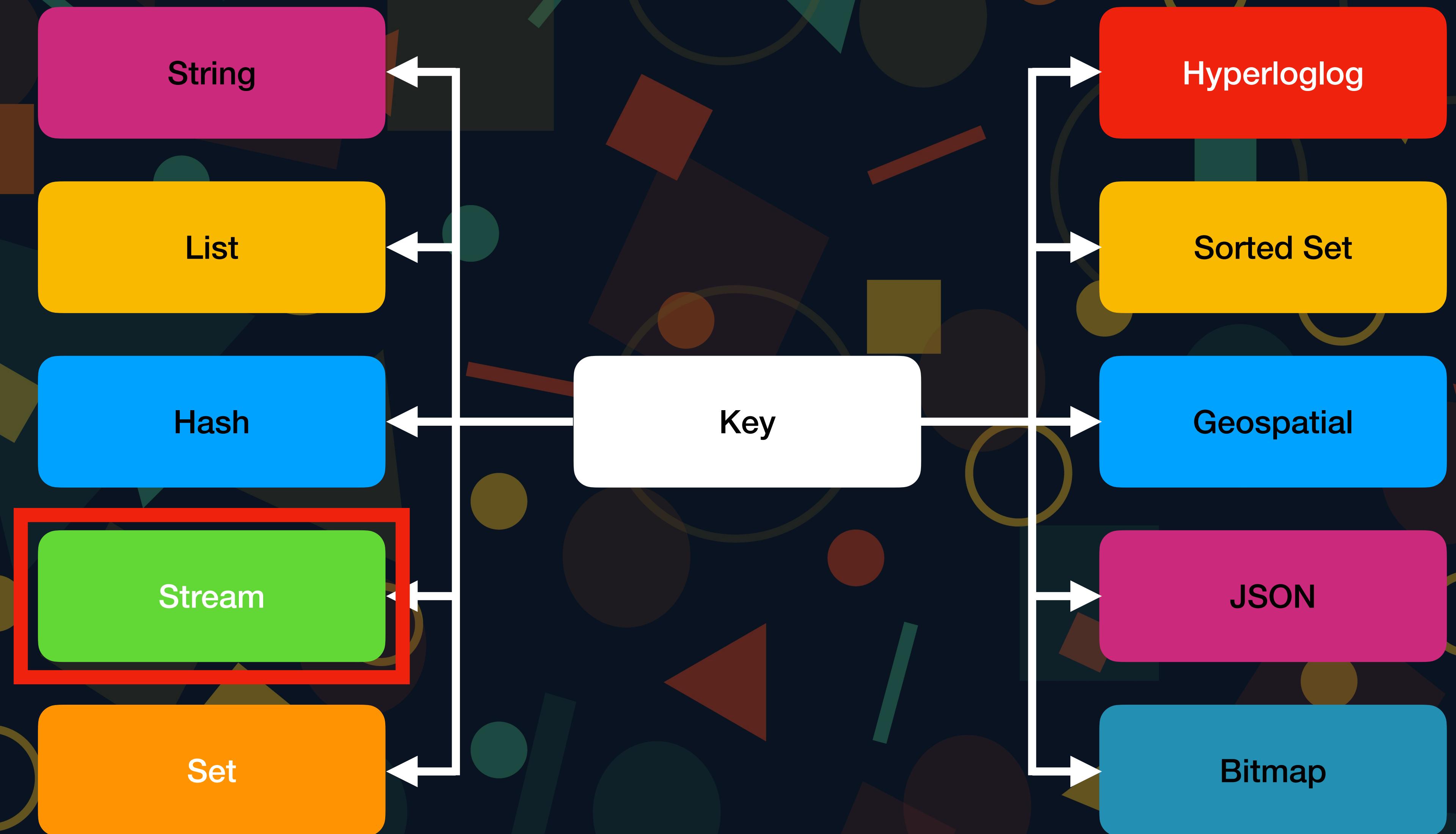
Key/Value Data Storage



```
● ● ●  
127.0.0.1:6379> set cat Mocha  
OK  
127.0.0.1:6379> set dog Latte  
OK  
127.0.0.1:6379> get cat  
"Mocha"  
127.0.0.1:6379>
```



Data Structures / Data Types



Use Case: Streams

Producer

1532556560197-0
room: "199"
job: "taxi"

1532556560195-1
room: "238"
job: "extra_towels"

1532556560195-0
room: "324"
job: "cleaning"

Key: jobs, Type: Stream

Consumer

Streams: Adding new Entries

Producer

XADD jobs * room 199 job taxi

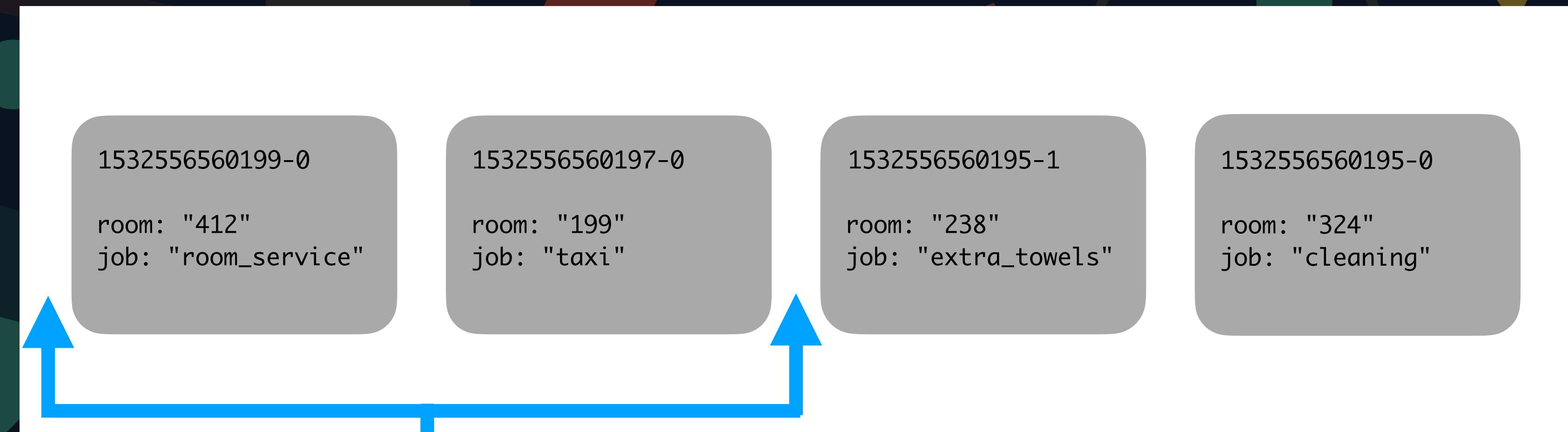
1532556560197-0

room: "199"
job: "taxi"

Key: jobs, Type: Stream

Streams: Range Queries

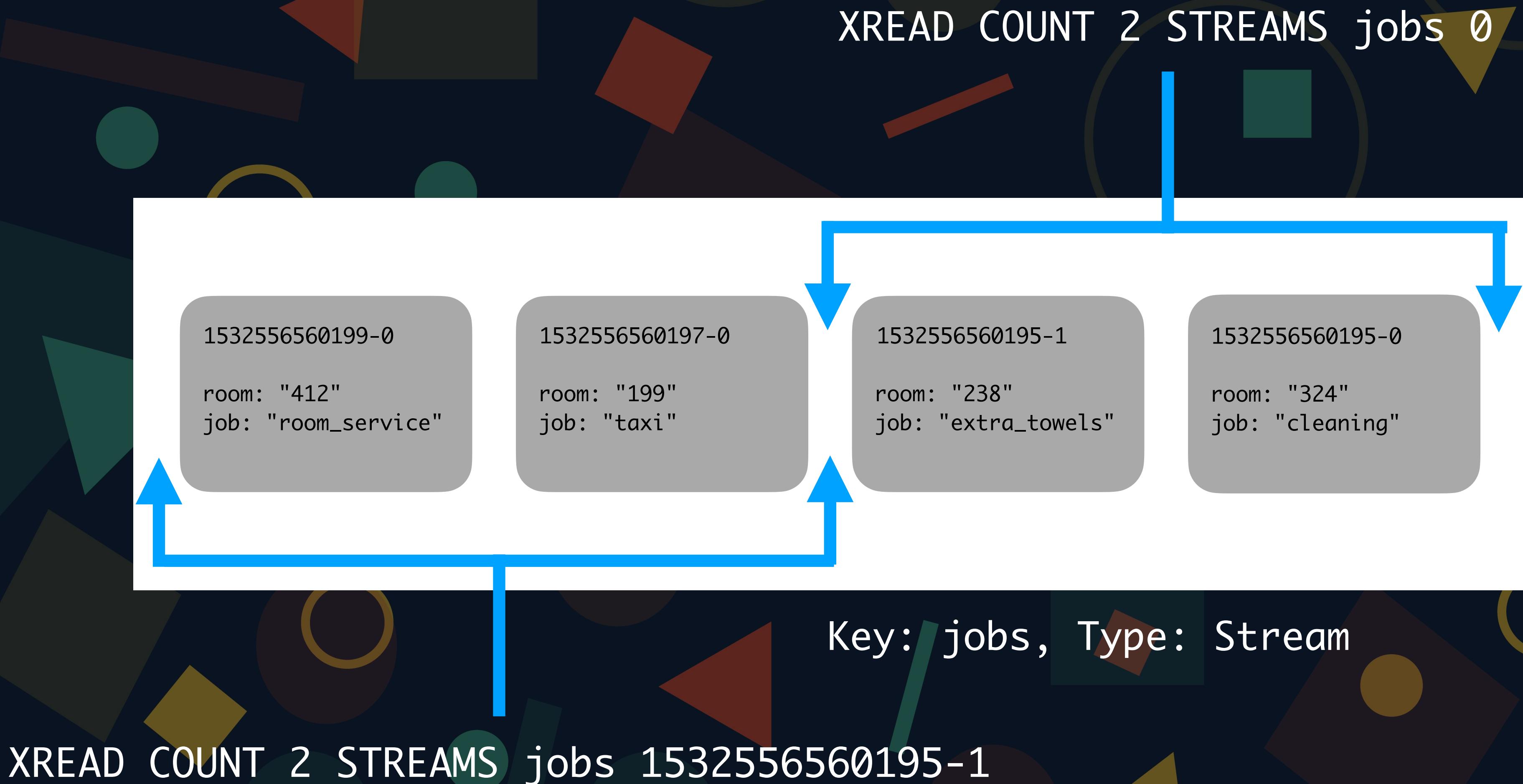
Key: jobs, Type: Stream



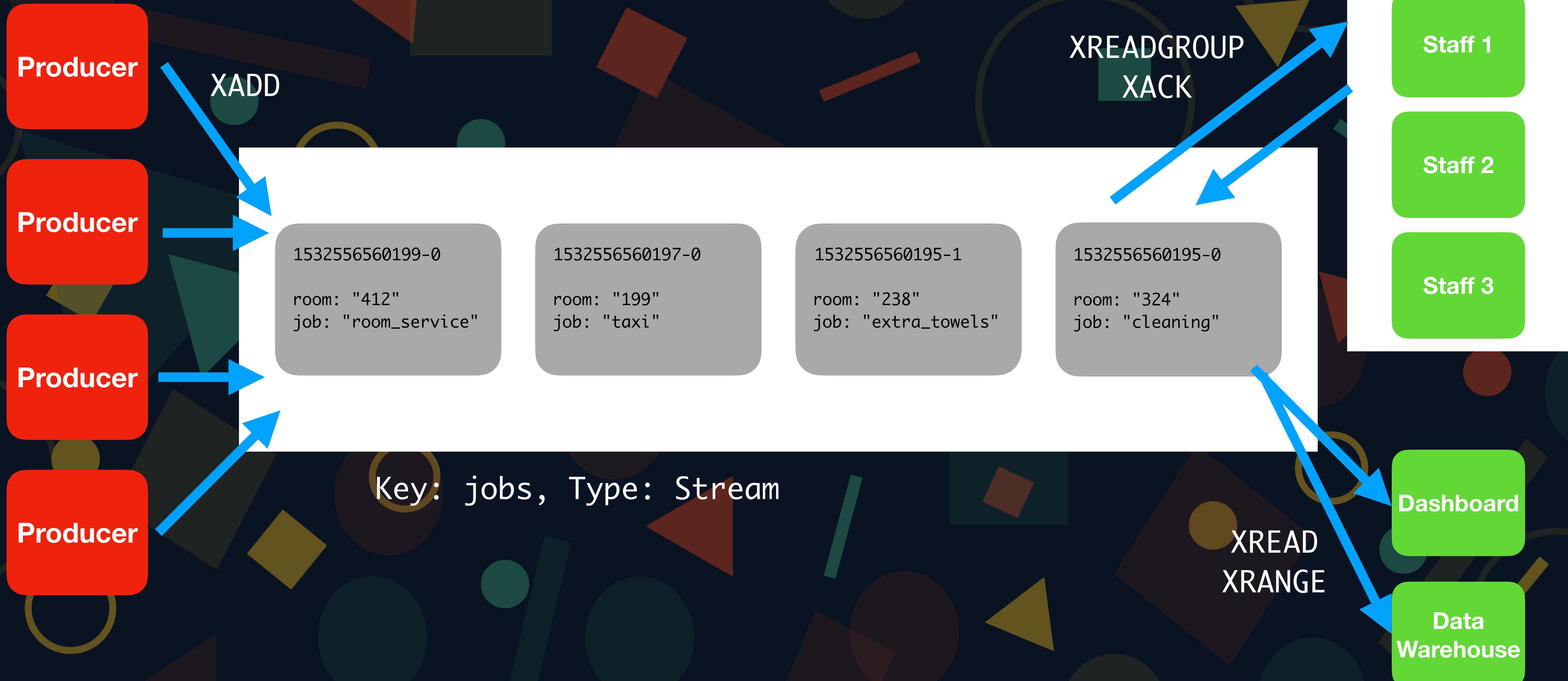
X RANGE jobs 1532556560197 1532556560199

Consumer

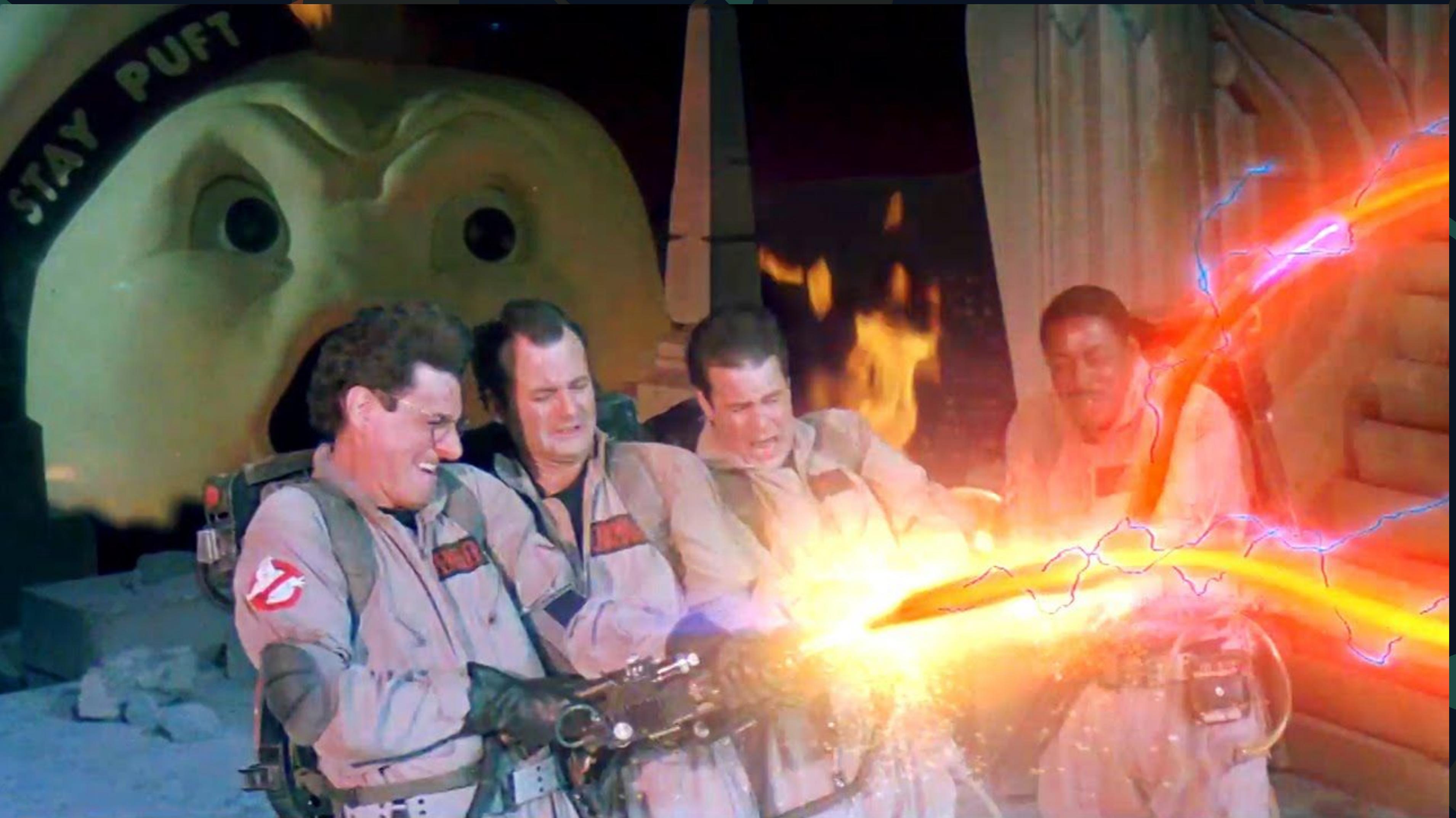
Streams: Read Queries



Streams: Consumer Groups



Streams: X?



Streams Demo...

- Attach Micro USB cable to the Pi Pico W
- Attach USB A cable to your laptop
- Device should boot and connect to the wifi, then present a menu
- Press the A, B or C buttons to assume each role in the hotel front desk jobs workflow





github.com/simonprickett/micropython-workshop



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