Microsoft

Azure Functions

15 Feb 2018

JeffConf, Hamburg

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Schedule

9 – 10h: Introduction & setup

- Introduction to Azure Functions
- Notebook prep & questions

10-11h: Level 1

- Flight Scheduler Controller
- DeliveryStatus Controller
- Flight Endpoint

Schedule

11-12h: Level 2

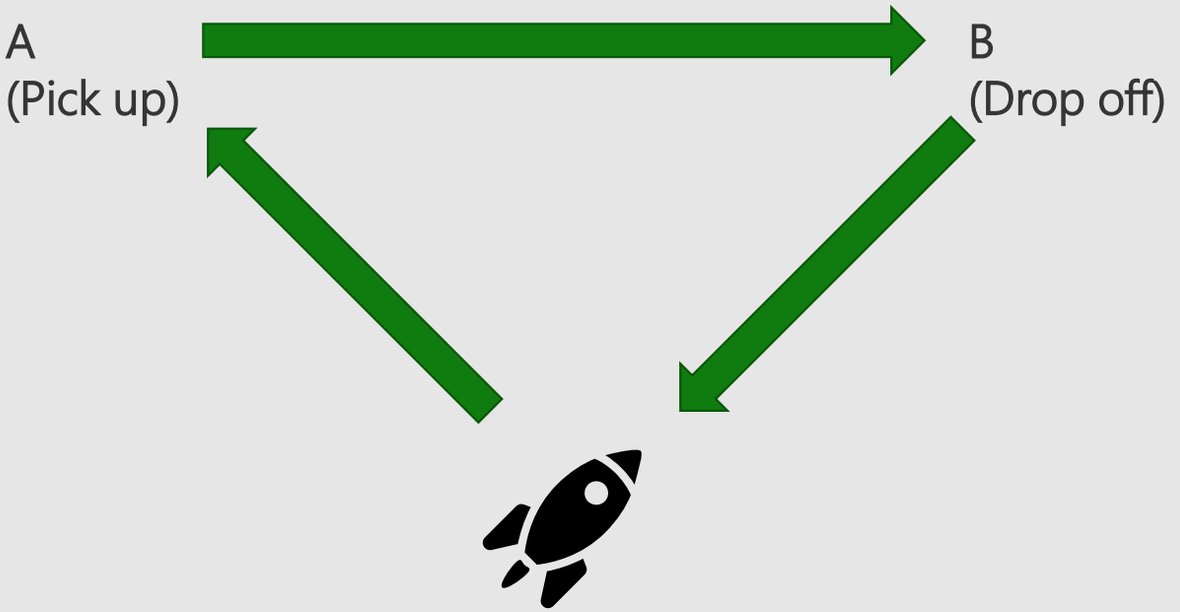
- Connecting Functions
- Create a workflow

12-13h: Level 3

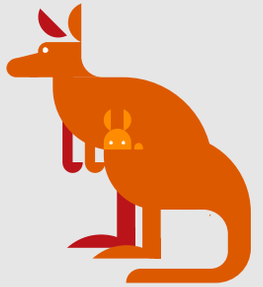
- Scale up!
- Tweak

A Game of Drones

Fabrikam, Inc. is starting a drone delivery service. The company manages a fleet of drone aircraft. Businesses register with the service, and users can request a drone to pick up goods for delivery. When a customer schedules a pickup, a backend system assigns a drone and notifies the user with an estimated delivery time. While the delivery is in progress, the customer can track the location of the drone, with a continuously updated ETA.



Constraints



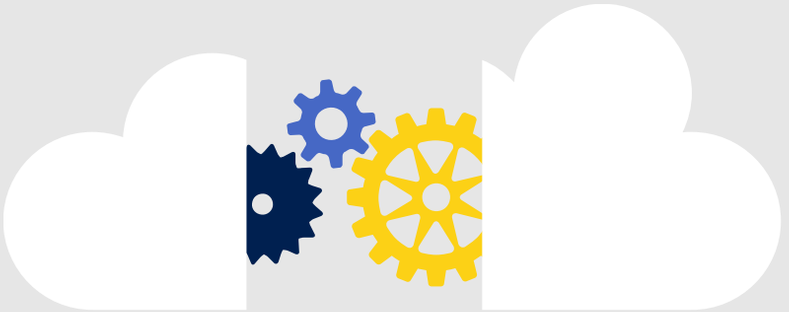
- There are only a limited number of drones available
- Deliveries are always from point A to point B. Remember to also think about how the drone gets from the HQ to point A and back home from point B!
- The status log needs to be available at real time (+/- a few seconds ;))
- The drones are in perfect conditions and don't break down or have other malfunctions
- A delivery can always have a fixed payload - like a simple string :)
- A drone can only do one delivery at a time, it's only available after it has returned

Hints

- Levels increase in difficulty
- Explore different solutions
- Register a flight at https://dronebiz.azurewebsites.net/api/RegisterFlight
- Pass GET parameters id, flightTime, url
- Ask questions

Have fun.

Level 1



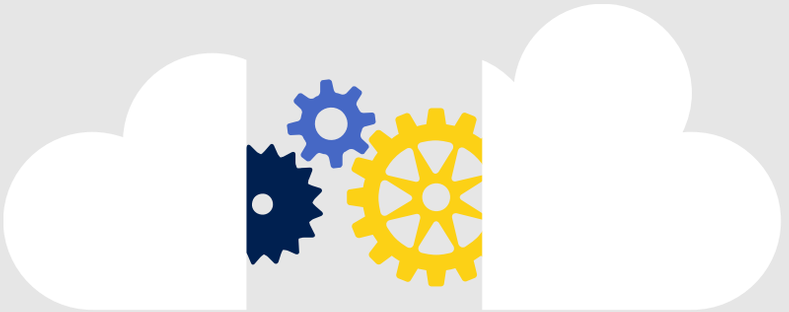
Create 3 functions:

- Request a delivery from somewhere to somewhere
- Check the status of a given delivery
- An endpoint for receiving flight data

Goal:

- A request a delivery
- Check on its status
- Receive flight data

Level 1: Interfaces



```
/request?from=A&to=B
-> returns order id

/status
-> returns [{“<timestamp>”: {“type”: “RequestEvent”},…]

/flight?id=1234-ffff&remainingFlightTime=5 (if you registered first)
-> returns status 200
```

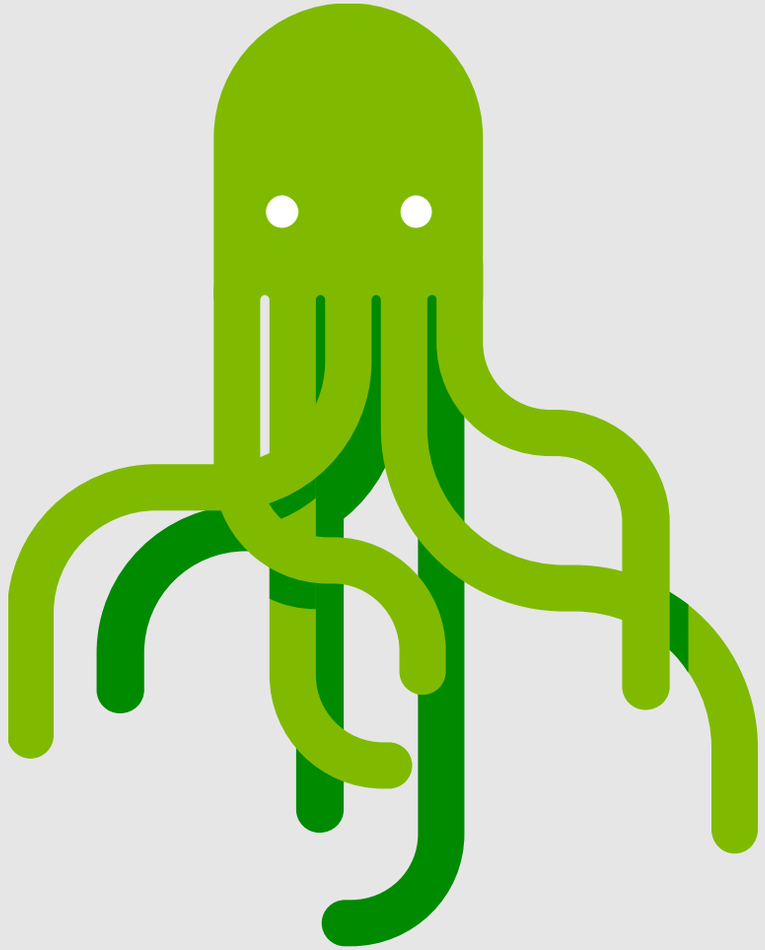
Level 2

Create *N* functions:

- Connect request, status, and flight functions
- Store data
- Provide live updates at /status

Goal:

- Request a delivery
- Obtain live status during & after the delivery
- Show the workflow: HQ -> A -> B -> HQ



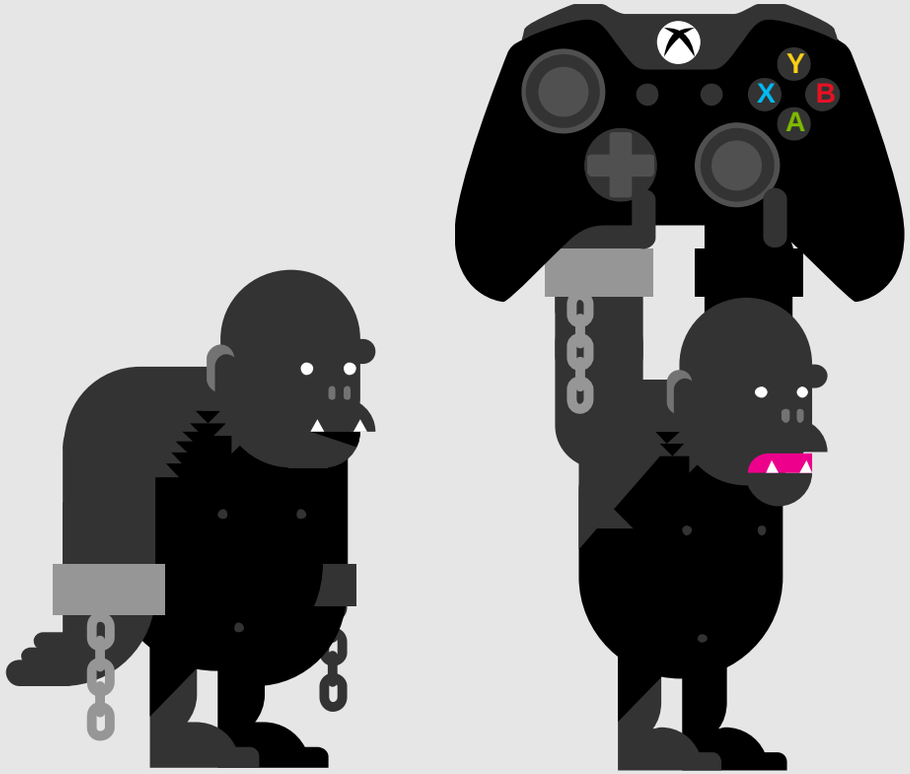
Level 3

Scale!

- Do 100 delivery requests
- Observe concurrency, latency, locking, etc.
- Handle errors

Goal:

- Explore the solution you built
- Tweak Function parameters
- Set up a drone delivery business



Hack away.

Wrapping up

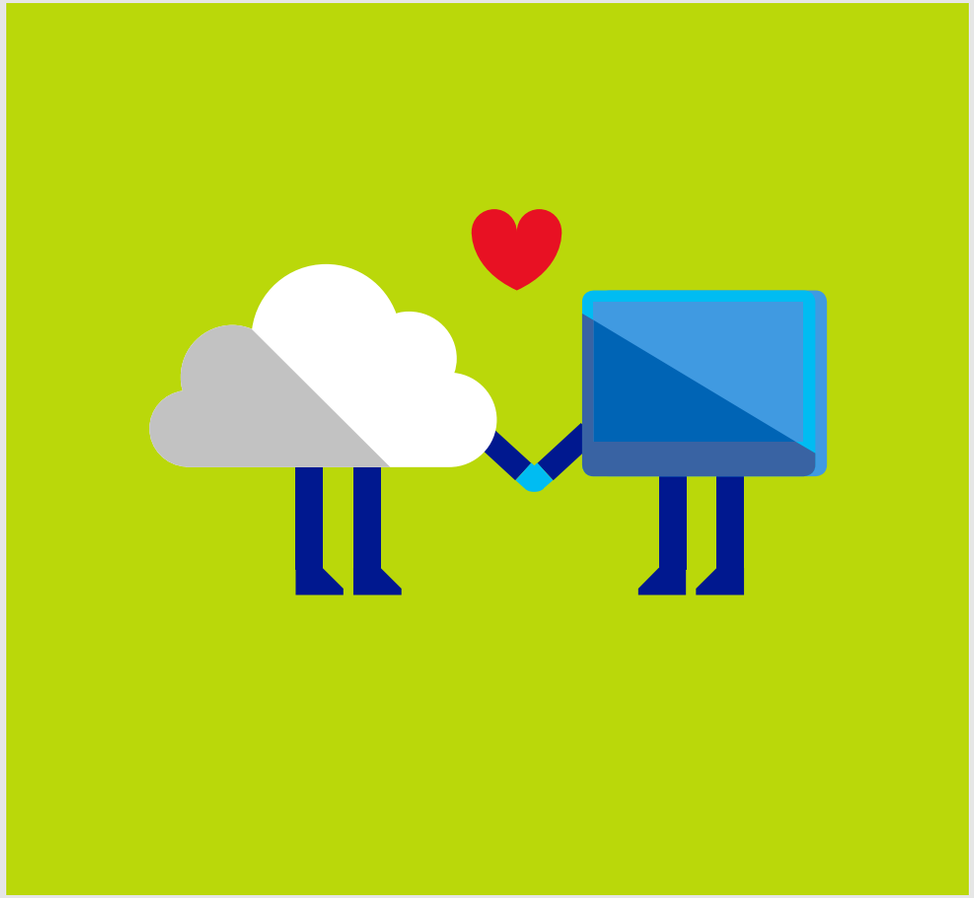
- Azure Functions for quick & easy APIs
- Logic Apps to create workflows
- Integrate with Azure Services

Possible scenarios

- API proxies
- Data transformation
- cron jobs
- Online data analysis
- Breakout detection
- Business workflows

Questions? Feedback? More?

- Let us know what you thought
- Questions now or later on twitter



Tomorrow 10:50: You shall not FaaS!

By Manu Rink (@codeprincess)

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- Free

Contact us for engagements!

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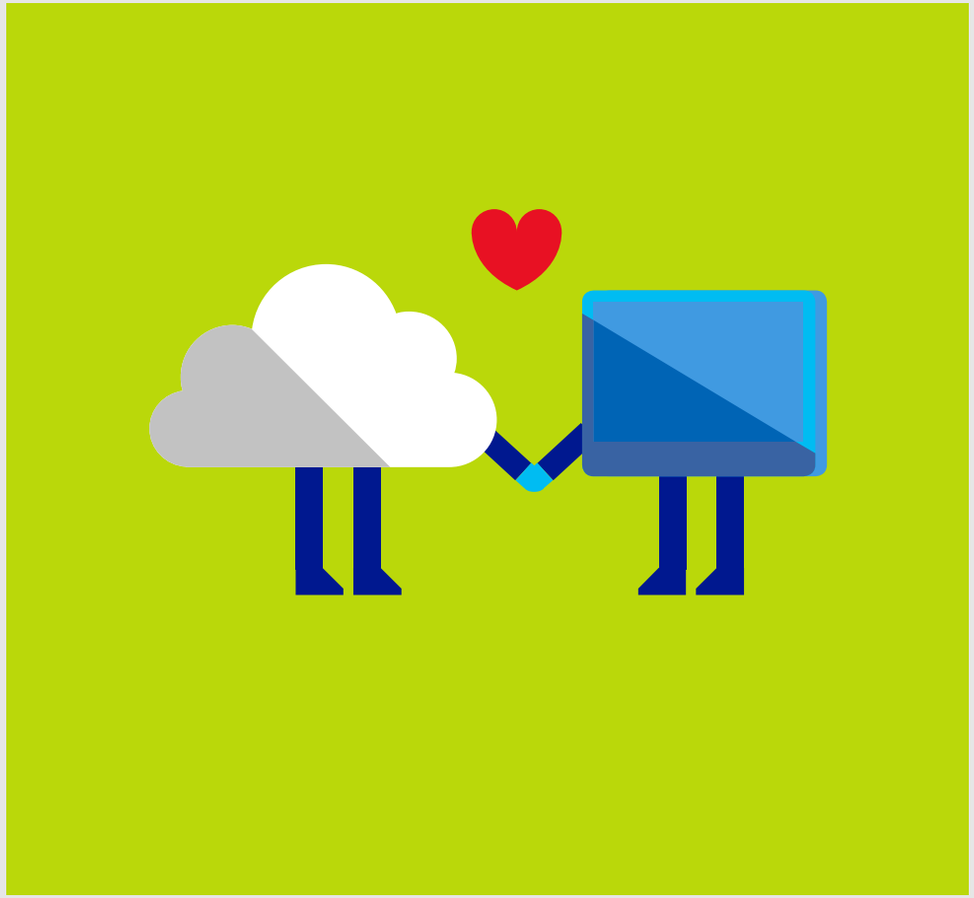

Thank you!

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