# Flux Training Agenda

**InfluxDays 2020 - London**

# Day 1

## Slot -1 (30 min) [8:30-9:00]

- Set up

## Slot 0 (30 min) [9:00-9:30]

- Who is who
- Use cases: what, when, how, pros, cons, ...
- Expectations

## Slot 1 (30 mins) [9:30-10:00]

- Motivation (12 mins)
    - Data-driven decision making
    - Inspiring examples
    - paradigmatic shift from historical analysis to reactive decision making
- Time series (12 mins)
    - example of time series
    - primary use cases
    - three real world examples from Factry
    - What is a time-series database (tsdb)?
- Influxdb 2.0 (6 mins)
    - What is InfluxDB/InfluxData?
    - Improvements from the past
    - Demo Factry + Cloud 2.0 UI presentation

## BREAK FOR Q&A (10 mins)

## Slot 2 (35 mins) [10:10-10:45]

- Data Ingestion (30 mins)
    - Generic data analytics pipeline
    - Conceptual View (Data Models)
        - Time series semantics
        - Bucket semantics
    - Logical View (Implementations)
    - Physical View (Syntaxes)
        - Line Protocol
        - ...
    - Use Case: Continuous Linear Pizza Oven
        - Pictorial presentation of the case
        - Demo: modelling of the temperature for both the sensors
        - Exercise: modelling the temperature and humidity measurements of the two sensors
        - Solution presentation & discussion
        - Loading data in InfluxDB 2.0
        - Run your first query (5 mins)

## BREAK FOR Q&A (15 mins)

## Slot 3 (50 mins) [11:00-11:50]

- Data Analysis
    - Flux query model basics and syntax
        - Table
        - Row processing
            - Window
                - Landmark
                    - range()
            - Filter by tag & value
            - Functions
                - Built-in
                    - mean()
                    - last()
            - Window
                - Sliding
                    - Aggregate Window

## Slot 4a (10 mins) [11:50-12:00]

### BC part 1 - Home-work presentation

- Implement a part of the City Water Tank dashboard using Factry data
  - Case briefing

# Day 2

## Slot 4b (30 mins) [8:30-9:00]

- Individual presentation of the BC part 1 solution
- Group discussion and feedback from the instructors

## BREAK FOR Q&A (10 mins)

## Slot 5 (45 mins) [9:10-9:55]

- Data Analysis (cont.)
  - Advanced Functions
    - map
  - Custom functions
- Join
  - On time assuming synchronised data
  - On time approximating assuming a fixed delta (timeShift)
  - On time approximating assuming a maximum error (trucateTimeColumn)
  - On time exploiting windows

## BREAK FOR Q&A (10 mins)

## Slot 6 (45 mins) [10:05-10:50]

### BC part 2

- Hands-on: complete the implementation of the City Water Tank dashboard using Factry data
  - Work individually on dashboard creation a cell at a time
  - Group discussion and feedback from the instructors

## BREAK FOR Q&A (10 mins)

## Slot 7 (20 mins) [11:00-11:20]

- Simple Alerts
  - What is an alert?
  - How to set up an alert
  - Demo: Sensor temperature out of range

- Tasks
  - What is a Task?
  - Demo: Tasks common use cases - Check the number of peaks in a temperature series

## Slot 8 (30 mins) [11:20-11:50]

- Anomaly detection
  - Demo: Anomaly detection using Linear Pizza Oven data

- Time Series Forecasting
- Time Series Enrichment

## Q&A