Flux Training Agenda

Cisco - Virtual

Day 1

Slot 0 (30 min) [14:00-14:30] [8:00-8:30]

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

Slot 1 (30 mins) [14:30-15:00] [8:30-9:00]

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

BREAK FOR Q&A (10 mins)

Slot 2 (40 mins) [15:10-15:50] [9:10-9:50]

- Data Ingestion
    - 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 (10 mins)

Slot 3 (50 mins) [16:00-16:50] [10:00-10:50]

- 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

BREAK FOR Q&A (10 mins)

Slot 4 (10 mins) [17:00-18:00] [11:00-12:00]

Bootcamp part I

- Implement a part of the City Water Tank dashboard using Factry data
    - Case briefing
    - Work individually on dashboard creation a cell at a time
    - Coaching by the instructors

Day 2

Slot 5 (20 mins) [14:00-14:20] [8:00-8:20]

- Group discussion on Bootcamp part I and feedbacks from the instructors

Slot 6 (20 mins) [14:20-14:40] [8:20-8:40]

- Data Analysis (cont.)

    - Advanced Functions
        - map
    - Custom functions

BREAK FOR Q&A (10 mins)

Slot 6 (40 mins) [14:50-15:30] [8:50-9:30]

- Data Analysis (cont.)
    - 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 (50 mins) [15:40-16:30] [9:40-10:30]

Bootcamp part II

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

BREAK FOR Q&A (10 mins)

Slot 7 (30 mins) [16:40-17:10] [10:40-11:10]

- 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

BREAK FOR Q&A (10 mins)

Slot 8 (40 mins) [17:20-18:00] [11:20-12:00]

- Anomaly detection
    - Demo: Anomaly detection using Linear Pizza Oven data
- Time Series Forecasting
- Time Series Enrichment

Q&A