## Working with the SDS API

This course is a 4 hour introduction to the OCS Sequential Data Store (SDS) API. SDS is an API that provides a Database as a Service (DBaaS). In this course we will explore data ingress and egress scenarios using the API portal. We'll utilize the API to analyze data to detect trends and anomalies, as well as perform interpolations to help us understand the data and make better business decisions.

Learning Objectives

Students will be able to:

* Set up one or more tenants
* Set up namespaces
* Define custom types with both single and compound indices
* Define streams
* Describe POST, PATCH, DELETE and GET calls to communicate with the SDS API
* Use the OCS API Console to make calls to the SDS API
* Perform data ingress operations such as populating and modifying a stream
* Perform data egress operations to retrieve single and bulk events
* Describe how to analyze data to detect trends and anomalies
* Use PATCH and DELETE operations to amend data

Tools and Environment Requirements

Before arriving for class, students will need:

Aceess and credentials to OCS

(Helpful) Visual Studio Community 2019 or above

Course Outline

# Introduction (15 min)

## Introducing the course and instructor

## Significance of SDS in the historical context of OCS (provided by OSI)

## Use cases for SDS

# Setting up the environment(60 min)

## Description of tenants, namespaces, types, uom and streams

## Exercises:

### Create tenants

### Create namespaces

### Define types with single index

### Define types with a compound index

### Define streams

## Q&A

# Accessing the SDS API via the Console Portal

## Discovering tenants, namespaces and streams(10 min)

### Exercise: Querying tenants,namespaces and streams

## Data Ingress: (50 min)

### Working with streams, single-event and bulk entry

### Exercise: Populating streams

### Exercise: Modifying events

### Exercise: Deleting events

## Break (10 min)

## Data Egress (80 min)

### Headers, query parameters, query syntax

### Exercises: Single event queries

### Exercises: Bulk event queries

### Data analysis (trends and anomalies)

### Interpolation and extrapolation

### Exercises: Using PATCH and DELETE to amend data

## Q&A (15 min)

# OCS .Net Tools (Not enough time)

## Authentication

## OCS NuGet packages

## Ingress and egress examples