Using Cognite Python SDK to read/write new datasets to CDF - Deployment Plan

**CoE Analysis**

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| --- | --- | --- | --- | --- |
| Version Control | | | | |
| Version | Date | Change | Responsible | Approver |
| 1.0 | 08.09.23 | Initial version | Vetle Nevland |  |
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***Roles and Responsabilites***

|  |  |
| --- | --- |
| Tech Lead 1 | Name |
| Tech Lead 2 | Name |

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# Deployment Scope

*Describe briefly the scope of the installation*

Create new dataset. Run Cognite Functions through the Python SDK to transform data, and deploy to test environment. Eventually, deploy to production environment and provide company-wide access to the dataset, particularly the DEOS team for root-cause analysis.

The scope of the demonstration projected to be cross-functional, applicable for Aker BP employees internally in DataOps and externally in other units.

# Premisses

*Describe premisses for the deployment*

Prerequisites for deployment of new dataset to CDF project *akerbp*:

* Create a new dataset to store time series data (responsibility: CDF Operations team)
* Create/sign into your account at Cognite Hub to connect with Azure AD tenant
* Authenticate with Python SDK to connect to a Cognite Client
* Approval of access request for read/write access (see procedure in 2 – DataIntegrationArchitecture)
* Create an Owner group and a Read group in Azure AD
* Create the following groups in CDF and link them to your Azure AD groups:
  + Owner:
    - Capabilities:
  + Read:
    - Capabilities:

# Relationship/Dependencies to Other Existing or New Integrations

No existing relationships or dependencies are impacted by the new dataset. It only adds a new relationship to the same asset that the extracted dataset is related to. The contextualization for this asset is thus expanded.

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| **Integration** | **Impact** | **Date** | **Contact** |
|  |  |  |  |

# Depolyment Timeline

| **#** | **Activity/ Requirements** | **System** | **Executer** | | | | **Participant** | **Dependency** | | **Objects** | | **Obs** | **Date/TIme Begin** | | | **Date/TIme End** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Pre-Deployment** | | | | | | | | | | | | | | | | |
| 0 | Install Python SDK | Terminal/Anaconda | |  | |  | |  | |  | |  | | 04.09.23 | 04.09.23 | |
| 1 | Create user account at Cognite Hub to get an Azure AD tenant | CDF/ | | - | | - | |  | |  | | Aker BP employees already signed in through their work account | | 04.09.23 | 04.09.23 | |
| 2 | Request read/write access to CDF | CDF | |  | |  | |  | |  | |  | | 06.09.23 | 06.09.23 | |
| 3 | Create CDF and Azure AD groups for reading/writing data to CDF. | CDF | |  | |  | |  | |  | |  | |  |  | |
| 4 | Authentication with Cognite Client | Cognite Python SDK | |  | |  | |  | |  | |  | | 08.09.23 | 08.09.23 | |
| 5 | Create new dataset | CDF | |  | |  | |  | |  | |  | |  |  | |
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| **Deployment** | | | | | | | | | | | | | | | | |
| 6 | Extract time series | Cognite Python SDK | Vetle Nevland | | | | Vetle Nevland | Python SDK | | run\_functions.ipynb | |  |  | | |  |
| 7 | Filter signal and calculate drainage rate | Python: statsmodels and numpy |  | | | |  |  | |  | |  |  | | | 6 |
| 8 | Insert data of drainage rate into TimeSeries object | Cognite Python SDK |  | | | |  |  | |  | |  |  | | |  |
| 9 | Create instance of handle function | Cognite Python SDK |  | | | |  |  | |  | |  |  | | |  |
| 10 | Call handle function | Cognite Python SDK |  | | | |  |  | |  | |  |  | | |  |
| 11 | Publish the dataset to Cognite Fusion Dev | CDF | CDF Ops team ? | | | |  |  | |  | |  |  | | |  |
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| **Post-Deployment** | | | | | | | | |
| 12 | Unit tests | Python: pytest |  |  |  |  |  |  |
| 13 | UaT plan and scenarios | CDF/Python |  |  |  |  |  |  |
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# Contingency Plan

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| --- | --- | --- |
| **Risk** | **Impacted Area** | **Contingency** |
| Low | None |  |
|  |  |  |

# Rollback Plan

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| --- | --- | --- |
| **Risk** | **Action** | **Impacted Areas** |
| Low | *Remove dataset. Remove Cognite Functions* | CDF Data Catalogue. Transformations. |
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# Contact List

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| --- | --- | --- | --- |
| **Name** | **Team** | **Phone** | **E-mail** |
| Vetle Nevland | DataOps – Data Science, Analytics & Improvements – Enabling Team |  | vetle.nevland@akerbp.com |
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# Guidelines for Configuration

# Configurations

# Other info