***Project Plan***

By: Matthew Lake (2716928)

1. **Introduction**

For my software quality assurance course project, I will be testing the OpenSearch client Python library called opensearch-py. OpenSearch is a document-based NoSQL database. OpenSearch databases are mainly used for search and analytics purposes. The opensearch-py library is used to set up and manage an OpenSearch cluster and carry out document queries. In addition, the library also provides a DSL (Domain Specific Language) interface for writing search queries.

1. **Functions to Test**

For this project I am going to test a wide variety of the opensearch-py library’s key functionalities. I am going to test various functions related to setting up and managing an OpenSearch cluster, document CRUD (Create, Read, Update, Delete) operations, searching, and aggregating documents.

* 1. **OpenSearch Cluster Functions**
* Initializing and configuring a cluster client
* Creating, modifying, and deleting an index including its settings and mappings
* Reindexing an index
* Creating, updating, and deleting an index alias
  1. **Document Functions**
* Creating and indexing a document using the DSL interface
* Bulk indexing documents
* Retrieving documents by their identifier, updating, bulk updating, and deleting documents
  1. **Search Functionality**

For document search, I am going to use and test the DSL interface.

* Full text queries
* Term-Level queries
* Boolean queries
* Geo queries
  1. **Aggregation Functionality**

For document aggregation, I am going to use and test the DSL interface.

* Bucket aggregations
* Metrics aggregations

**3.0 Tasks**

There are several tasks that need to be completed during the project. The first task is to research how to do the outlined OpenSearch functions with opensearch-py. The second task is to research how to create a testing environment with Python, Docker and setting up a testing OpenSearch cluster. The next task is to plan out test cases for a test suite. The fourth task is to write test cases for the opensearch-py functions.

**4.0 Schedule**

**A black and white diagram

AI-generated content may be incorrect.**