Module: EGT206 Data Management

Practical 10: Hands on MinIO

Activity1: MinIO Installation

1. Download Prac10.ipynb from brightspace and upload to XpanAI workspace.

2. Run the following command to install minIO on your machine:

```
!pip install minio
```

Activity2: Connection to MinIO

1. Import the necessary libraries

```
from minio import Minio
from minio.error import S3Error
import warnings
warnings.filterwarnings('ignore')
```

Exercise

2. Create a connection to MinIO with following url and credentials

```
client = Minio(
        "20.198.128.228",
        access_key="minio",
        secret_key="minio123",
        secure=False
    )
```

Activity3: Bucket Operations

Exercise

1. Check if the bucket named “asiatrip” exists or not.

```
client.bucket_exists("asiatrip")
```

```
True
```

2. Create a bucket with your adminNo as the bucket name.

```
client.make_bucket("123")
```

3. List the information of all accessible buckets.

```
client.list_buckets()
```

```
[Bucket('123'), Bucket('asiatrip'), Bucket('prac10-123456')]
```

Activity4: Object Operations

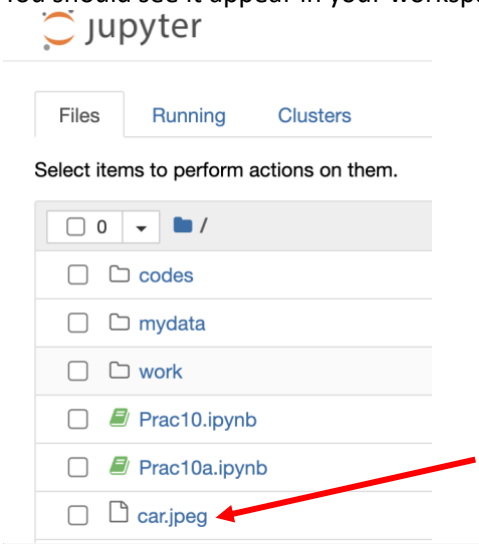
Exercise

1. Get object information of object “car” in bucket “asiatrip”.

To print out the information, you can use following code:

```
result = client.stat_object("asiatrip", "car")
print(
    "last-modified: {0}, size: {1}".format(
        result.last_modified, result.size,
    ),
)
```

2. Download object “car” from bucket “asiatrip” to a file named “car.jpeg”. You should see it appear in your workspace directory.




```
client.fget_object(
        "asiatrip", "car", "car.jpeg",
    )
```

Activity5: File Uploader

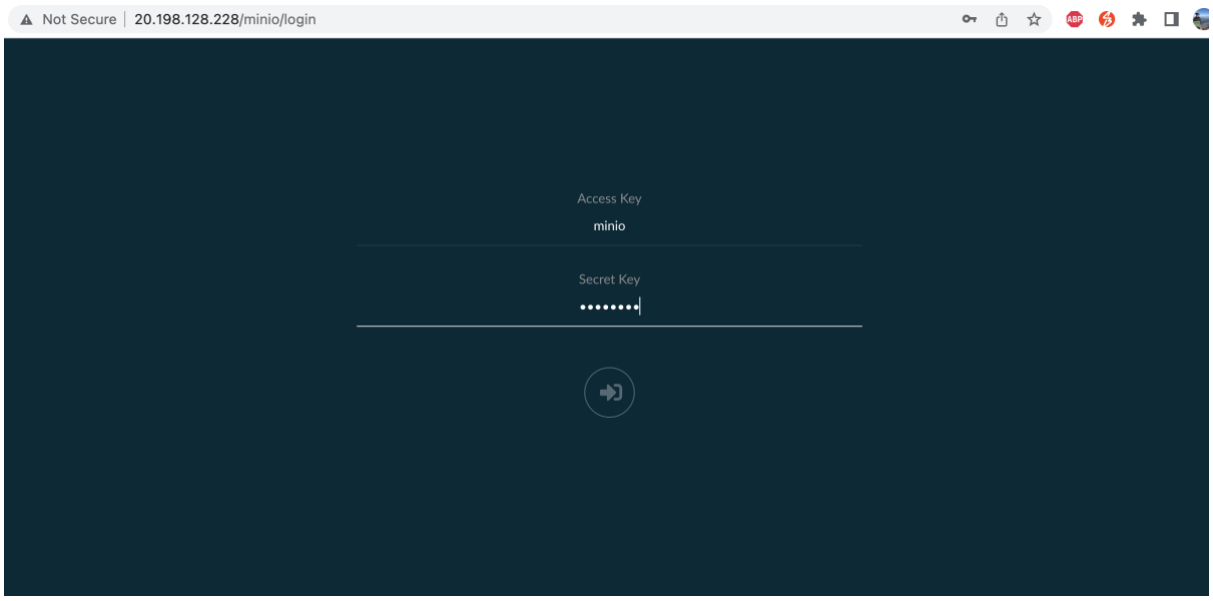
Exercise

Write a program to connect to an object storage server, make a bucket on that server, and upload a file to the bucket.

Server Url: 20.198.128.228
access_key: minio
secret_key: minio123

```
from minio import Minio
from minio.error import S3Error


def main():
    # Step 1. Create a client with the given URL, its access key and secret key.
    client = Minio(
        "20.198.128.228",
        access_key="minio",
        secret_key="minio123",
        secure=False
    )

    # Step 2. Check if bucket named "prac10-adminNo" exists or not. Replace the adminNo with your admin number.
    found = client.bucket_exists("prac10-220910")

    # Step 3. If bucket exists, print a message ("Bucket already exists.").
    #         Else create a bucket named "prac10-adminNo". Replace the adminNo with your admin number.
    if found:
        print("Bucket already exists")
    else:
        client.make_bucket("prac10-220910")

    # Step 4. Upload 'prac10.ipynb' to bucket 'prac10-adminNo', using 'prac10' as object name
    client.fput_object("prac10-220910", "prac10", "Prac10a.ipynb")

if __name__ == "__main__":
    try:
        main()
    except S3Error as exc:
        print("error occurred.", exc)
```

To check if your file has been successfully uploaded to the object storage server, you can visit the url and log in.



You should be able to see your bucket on the bucket list (at the left). Click on your bucket name and you should see the file on the right, if it is uploaded successfully.