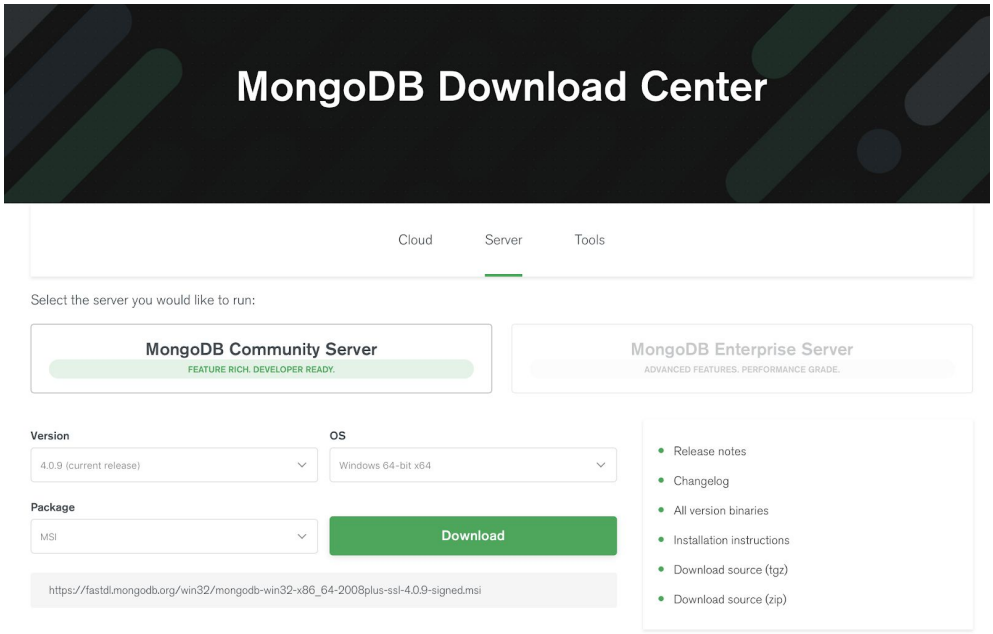
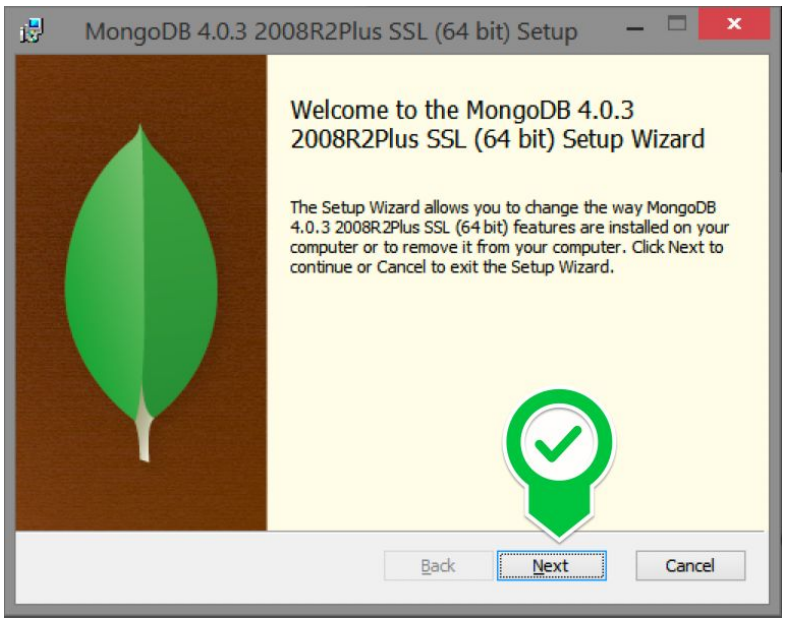
Installation Steps

MongoDb:

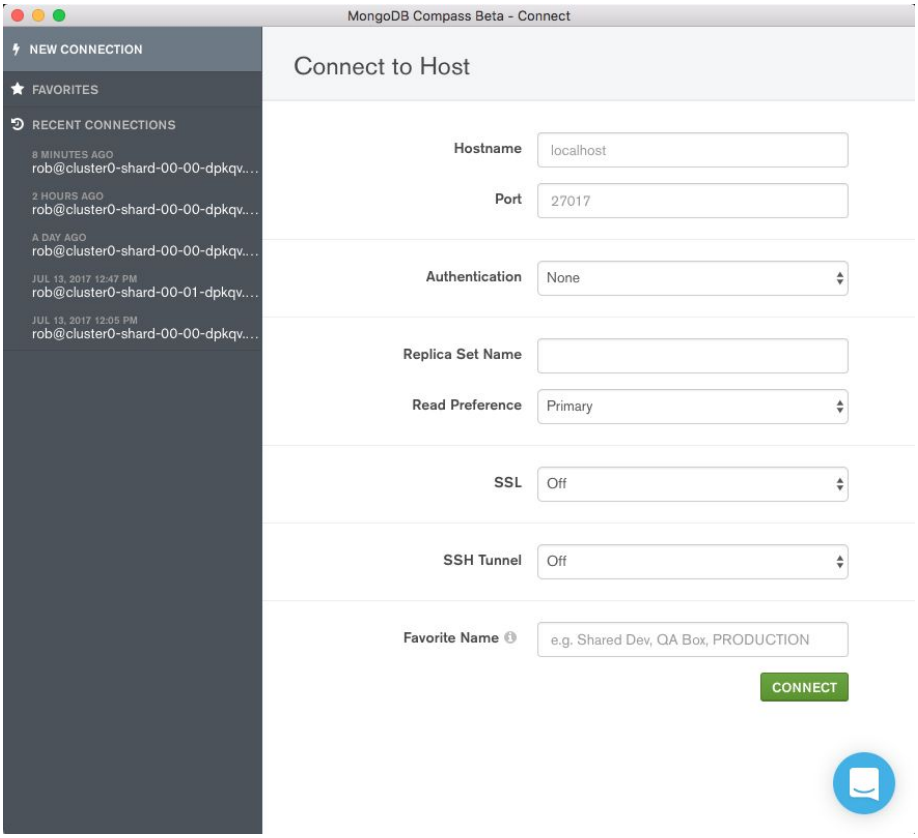
1. Download MongoDB installer from https://www.mongodb.com/download-center/community?jmp=docs



2. Install MongoDB along with MongoDB compass



3. Open MongoDB compass and connect to localhost server or online server (hosted on mLab)



Connecting MongoDB with python:

1. Use pymongo package to connect MongoDB with python.
2. Use MongoClient function to connect to localhost/online hosted MongoDB

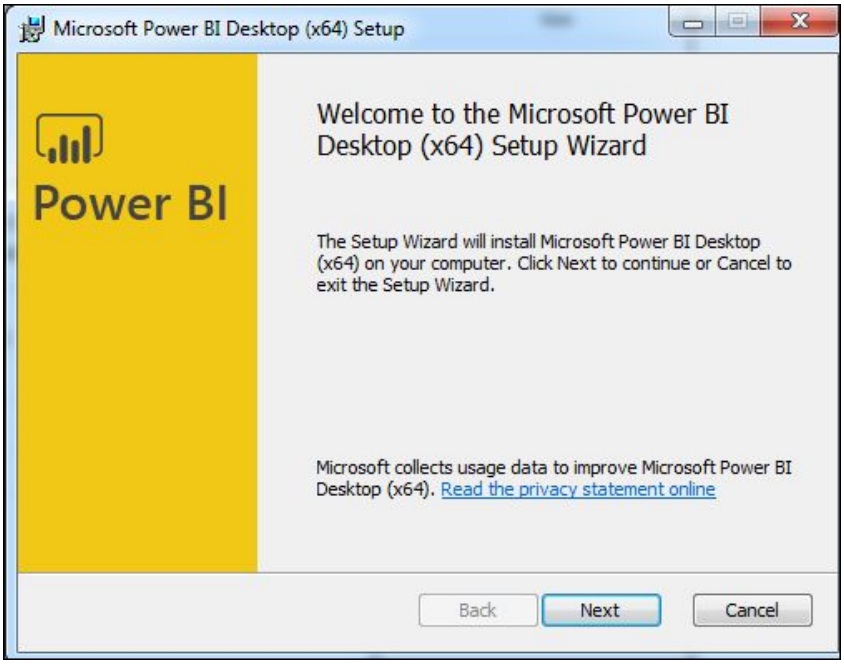
```
import pymongo
client = pymongo.MongoClient('localhost',27017)
db = client.ProjectGov
collection = db.Employee_reviews
```

3. Use pandas to json converter to convert Pandas data into JSON document to export it to MongoDB

```
mongo = df1.to_json(orient='records')
mongo1 = json.loads(mongo)
for i in range(0,len(mongo1)):
    collection.insert_one(mongo1[i])
```

PowerBI:

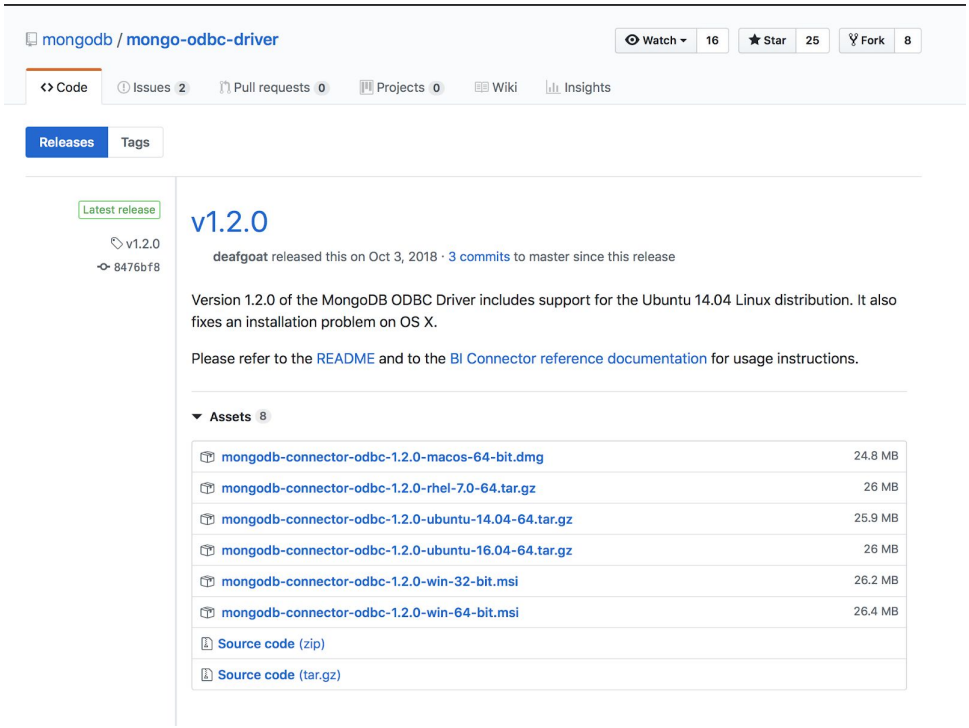
1. Download PowerBI from [PowerBI download page]
2. Install PowerBI using the installer



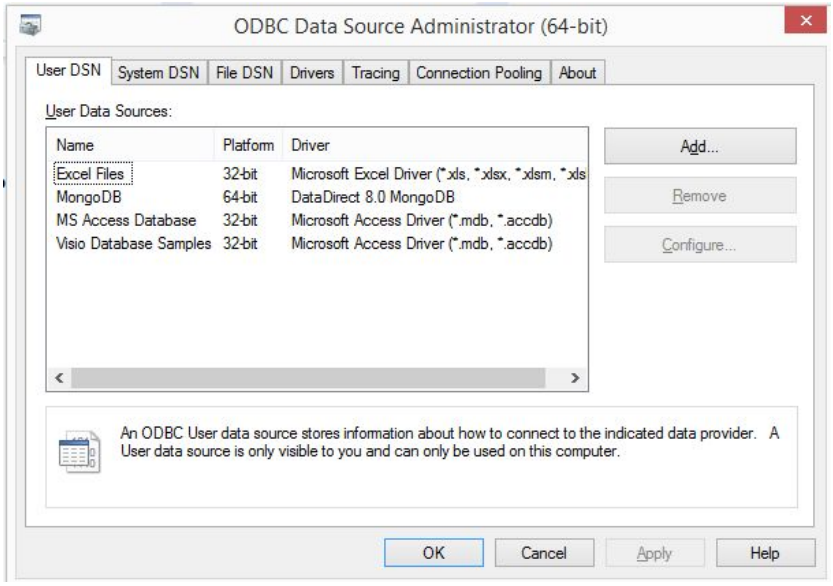
3. Sign-in using Office365 account offered for free for Northeastern Students.

ODBC connector:

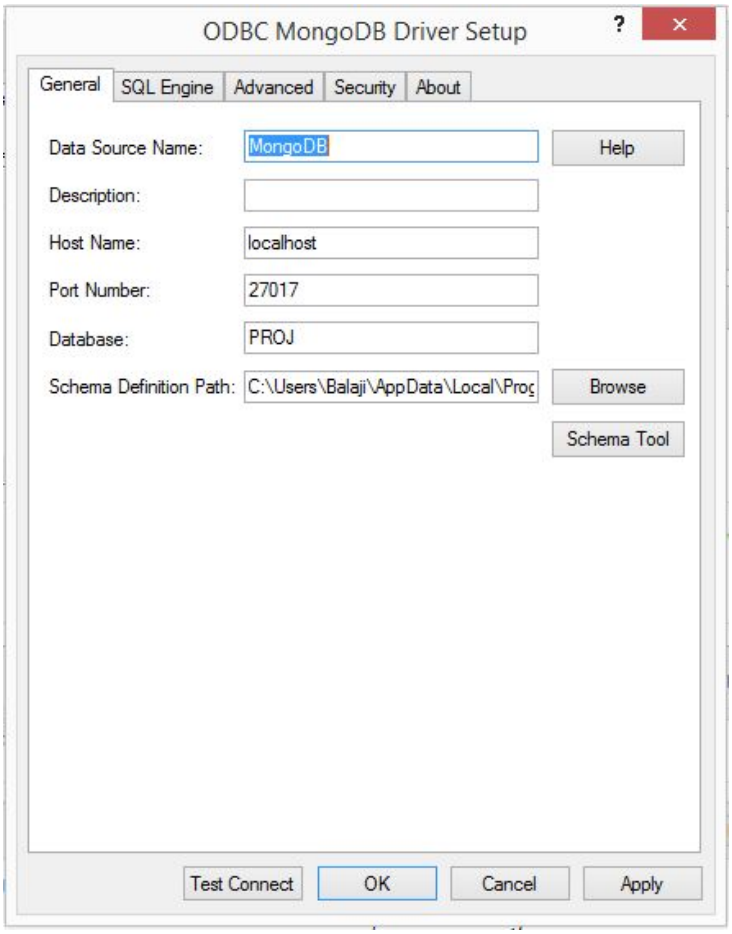
1. Download MongoDB ODBC connector from https://github.com/mongodb/mongo-odbc-driver/releases/



2. Install MongoDB ODBC connector and create a connection for MongoDB

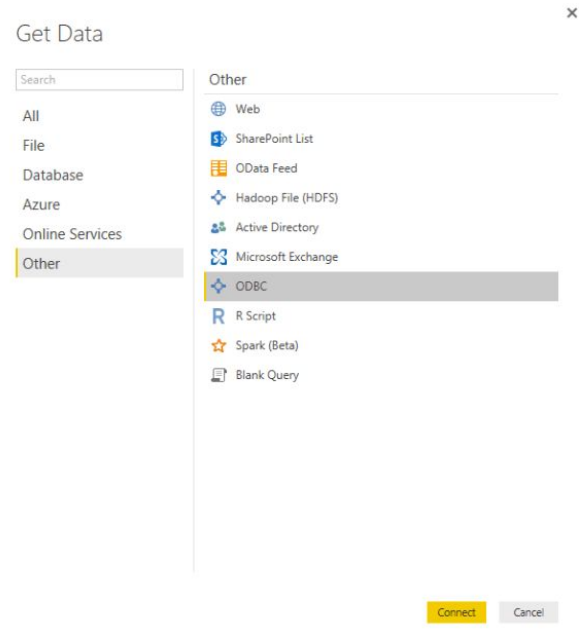


3. Use the following settings:
    a. Host as “localhost” for a locally hosted MongoDB database
    b. Port as “27017”
    c. And the path for Schema Definition



Connecting MongoDB with PowerBI using ODBC :

1. Select ODBC from ‘Get Data’ tab



2. From dropdown, select MongoDB as Data Source Name

3. You can now see your selected tables in PowerBI on the right hand side of the screen under “Fields”

Business Term Dictionary

- **Company (Object)**: Name of the Companies
- **Date(datetime):** Date when the employee review was given to the company.
- **Summary (Object):** Summary given by the employees of the company.
- **Pros (Object):** Positive reviews given by employees for their company
- **Cons (Object):** Negative reviews given by employees for their company.
- **Advice-to-mgmt (Object):** Employee reviews to the management department of each company.
- **Overall-Ratings (Float):** Overall ratings given by employees their company out of 5.
- **Work-balance-stars (Object):** Ratings given by employees on their work-life-balance with 5 being the highest.
- **Culture-value-stars (Object):** Ratings given by employees based on their Company culture values out of 5.
- **Career-opportunities-stars (Object):** Rating given by employees on the possible career opportunities within the company.
- **Comp-benefit-stars (Object):** Rating given by employees with respect to the benefits provided by the company.
- **Senior-management-stars (Object):** Ratings given by employers to the senior management of the company.
- **Helpful Count (Int):** Total count of how helpful the employee review is for the company.
- **Links (Object):** Employee review links of their company from glassdoor.
- **Employement_status (Object):** Status of the employee as Current or Former employee of the company.
- **City (Object):** City where the employee is working.
- **State (Object):** State where the employee is working.
- **Summary_sentiment (Float)**: Polarity value calculated for each summary for sentiment analysis with -1 being the least happy and 1 being the most happy
- **Pros_Sentiment (Float):** Polarity value calculated for positive reviews given by the employees for their company.
- **Cons_Sentiment (Float):** Polarity value calculated for negative reviews by the employees for their company.

Dashboards:
Employee Reviews and Best Employer

Visualizations	Explanation
Company Reviews	Bar graph representing total no reviews given by employees for each company.
Employee Status	Graph representing the percentage of former and current employee status of all the companies.
Company's Annual Positive Sentiment	Line graph representing the polarity value of positive reviews given by the employees annually of each company.
Yearly Average Rating	Representing average overall rating given by all the employees of each company
Employee Review Summary Sentiment	Graph Representing value of sentiment analysis based on the summary provided by employees of each company annually.
Positive Review Sentiment	Line graph representing the positive reviews of all the employees of each company.
Helpful Count	Graph representing how helpful the reviews were given by employees of each company to others over the years.