Project Development Phase
Delivery of Sprint-1

Date	02 NOV 2022
Team ID	PNT2022TMID35028
Project Name	Analytics for Hospitals' Health-Care Data

Project Development Phase:

Sprint-1:

- ➢ Data Collection
- ➢ Data Preparation

Sprint-2:

- ➢ Data Exploration

Sprint-3:

- ➢ Dashboard Creation

Sprint-4:

- ➢ Report Creation
- ➢ Story Creation

SPRINT-1

Data Preprocessing:

Using Jupyter notebook to remove the null values:

jupyter IBM_Project_preprocessing Last Checkpoint: Last Wednesday at 2:13 PM (autosaved)

Logout

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Not Trusted | Python 3 (ipykernel)

Run Code

In [1]:
```
import pandas as pd
import numpy  as np
import matplotlib.pyplot as plt
import seaborn as sns
```

In [5]:
```
train = pd.read_csv(r'C:\Users\mohan\OneDrive\Documents\IBM_Project\Healthcare_Data\train_data.csv')
```

In [7]:
```
train.head()
```

Out[7]:

	case_id	Hospital_code	Hospital_type_code	City_Code_Hospital	Hospital_region_code	Available Extra Rooms in Hospital	Department	Ward_Type	Ward_Facility_Code	Bed Grade	patien
0	1	8	c	3	Z	3	radiotherapy	R	F	2.0	313
1	2	2	c	5	Z	2	radiotherapy	S	F	2.0	313
2	3	10	e	1	X	2	anesthesia	S	E	2.0	313
3	4	26	b	2	Y	2	radiotherapy	R	D	2.0	313
4	5	26	b	2	Y	2	radiotherapy	S	D	2.0	313

In [8]:
```
train.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 318438 entries, 0 to 318437
Data columns (total 18 columns):
 #   Column                             Non-Null Count   Dtype
---  ------                             --------------   -----
 0   case_id                            318438 non-null  int64
 1   Hospital_code                      318438 non-null  int64
 2   Hospital_type_code                 318438 non-null  object
 3   City_Code_Hospital                 318438 non-null  int64
 4   Hospital_region_code               318438 non-null  object
 5   Available Extra Rooms in Hospital  318438 non-null  int64
 6   Department                         318438 non-null  object
```

```
4   5   26   b   2   1   2   Radiotherapy   S   D   2.0   31
```

In [17]:
```
train.isnull().sum()
```

Out[17]:
```
case_id                             0
Hospital_code                       0
Hospital_type_code                  0
City_Code_Hospital                  0
Hospital_region_code                0
Available Extra Rooms in Hospital   0
Department                          0
Ward_Type                           0
Ward_Facility_Code                  0
Bed Grade                           0
patientid                           0
City_Code_Patient                   0
Type of Admission                   0
Severity of Illness                 0
Visitors with Patient               0
Age                                 0
Admission_Deposit                   0
Stay                                0
dtype: int64
```

In [18]:
```
train = train.to_csv('final_train_data.csv', index=False)
```

In [19]:
```
test = pd.read_csv(r'C:\Users\mohan\OneDrive\Documents\IBM_Project\Healthcare_Data\test_data.csv')
```

In [20]:
```
test.head()
```

Out[20]:

	case_id	Hospital_code	Hospital_type_code	City_Code_Hospital	Hospital_region_code	Available Extra Rooms in Hospital	Department	Ward_Type	Ward_Facility_Code	Bed Grade	patien
0	318439	21	c	3	Z	3	gynecology	S	A	2.0	170
1	318440	29	a	4	X	2	gynecology	S	F	2.0	170

```
Stay                                  0
dtype: int64
```

In [11]:
```
train['Bed Grade'].value_counts()
```

Out[11]:
```
2.0    123671
3.0    110583
4.0     57566
1.0     26505
Name: Bed Grade, dtype: int64
```

In [12]:
```
train['Bed Grade'].unique()
```

Out[12]:
```
array([ 2.,  3.,  4.,  1., nan])
```

In [13]:
```
train.shape
```

Out[13]:
```
(318438, 18)
```

In [14]:
```
train.dropna(inplace=True)
```

In [15]:
```
train.shape
```

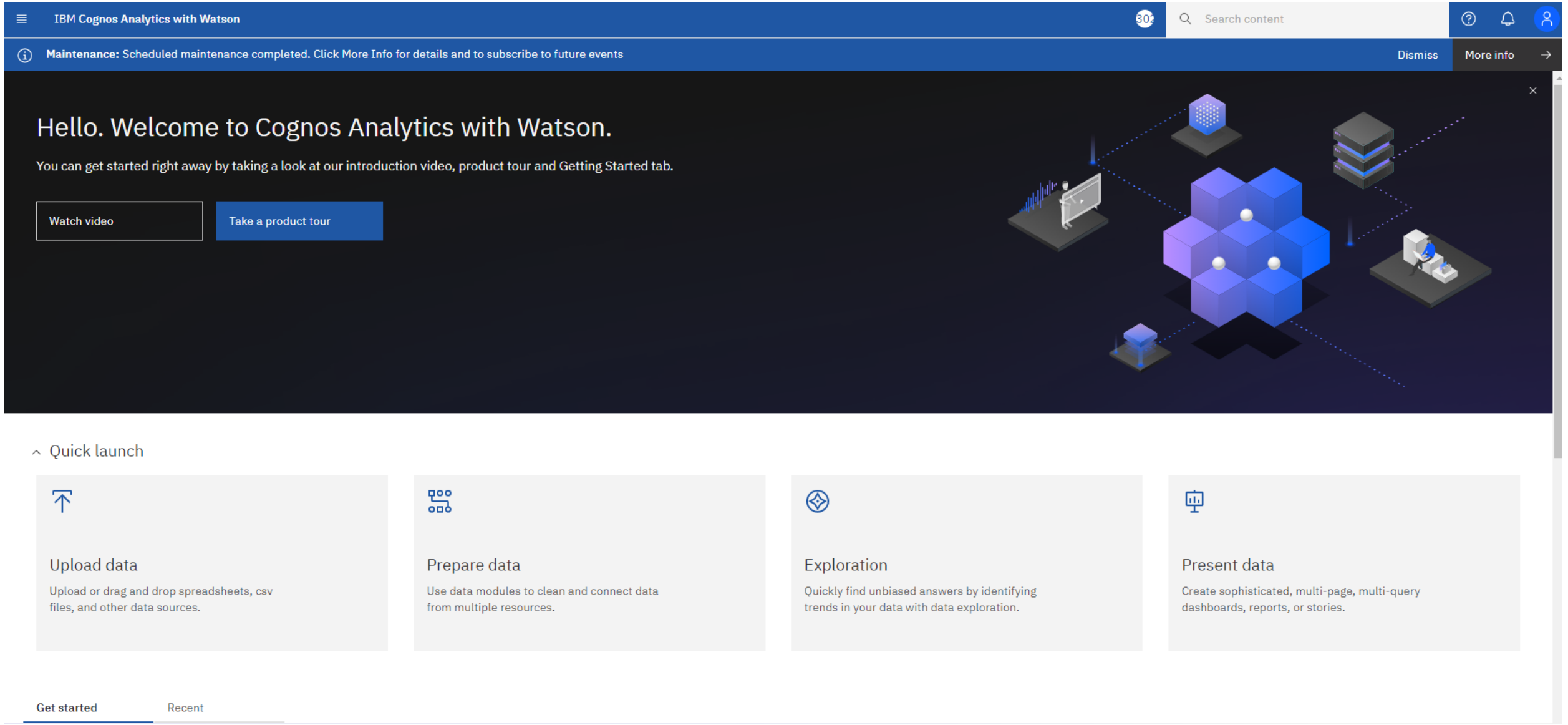
Out[15]:
```
(313793, 18)
```

In [16]:
```
train.head()
```

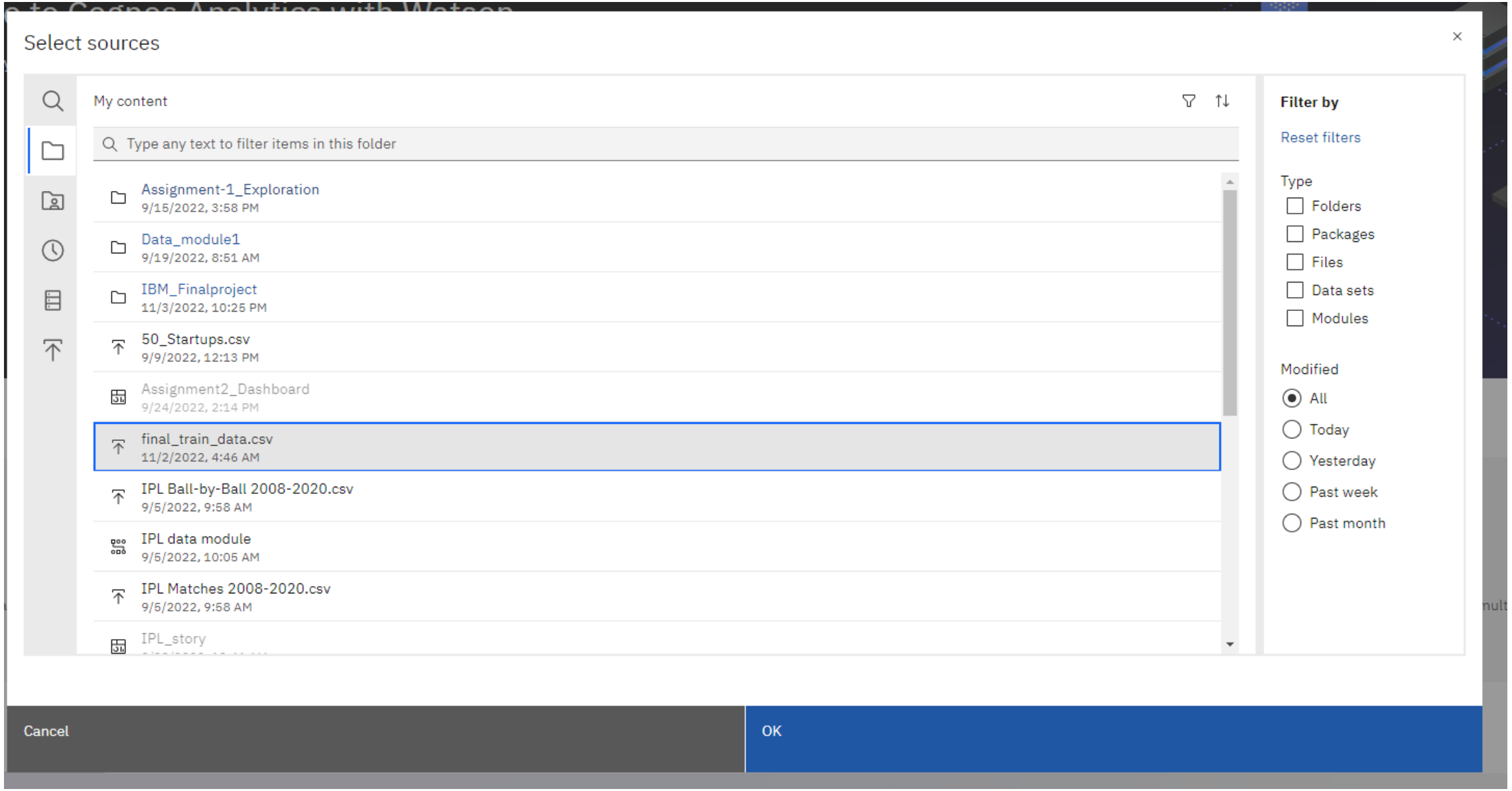
Out[16]:

	case_id	Hospital_code	Hospital_type_code	City_Code_Hospital	Hospital_region_code	Available Extra Rooms in Hospital	Department	Ward_Type	Ward_Facility_Code	Bed Grade	patien
0	1	8	c	3	Z	3	radiotherapy	R	F	2.0	313
1	2	2	c	5	Z	2	radiotherapy	S	F	2.0	313
2	3	10	e	1	X	2	anesthesia	S	E	2.0	313
3	4	26	b	2	Y	2	radiotherapy	R	D	2.0	313

Signing in to the IBM Cognos tool:



Selecting the dataset to upload into the Cognos:



Uploading the dataset to perform the preparation and visualization: