

# Project Development Phase

## Delivery of Sprint-1

Date	02 NOV 2022
Team ID	PNT2022TMID34988
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:

```
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	patient
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	a	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
```

```
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	patient
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
dtype: int64
0

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	patient
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

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### Prepare data

Use data modules to clean and connect data from multiple resources.



### Exploration

Quickly find unbiased answers by identifying trends in your data with data exploration.



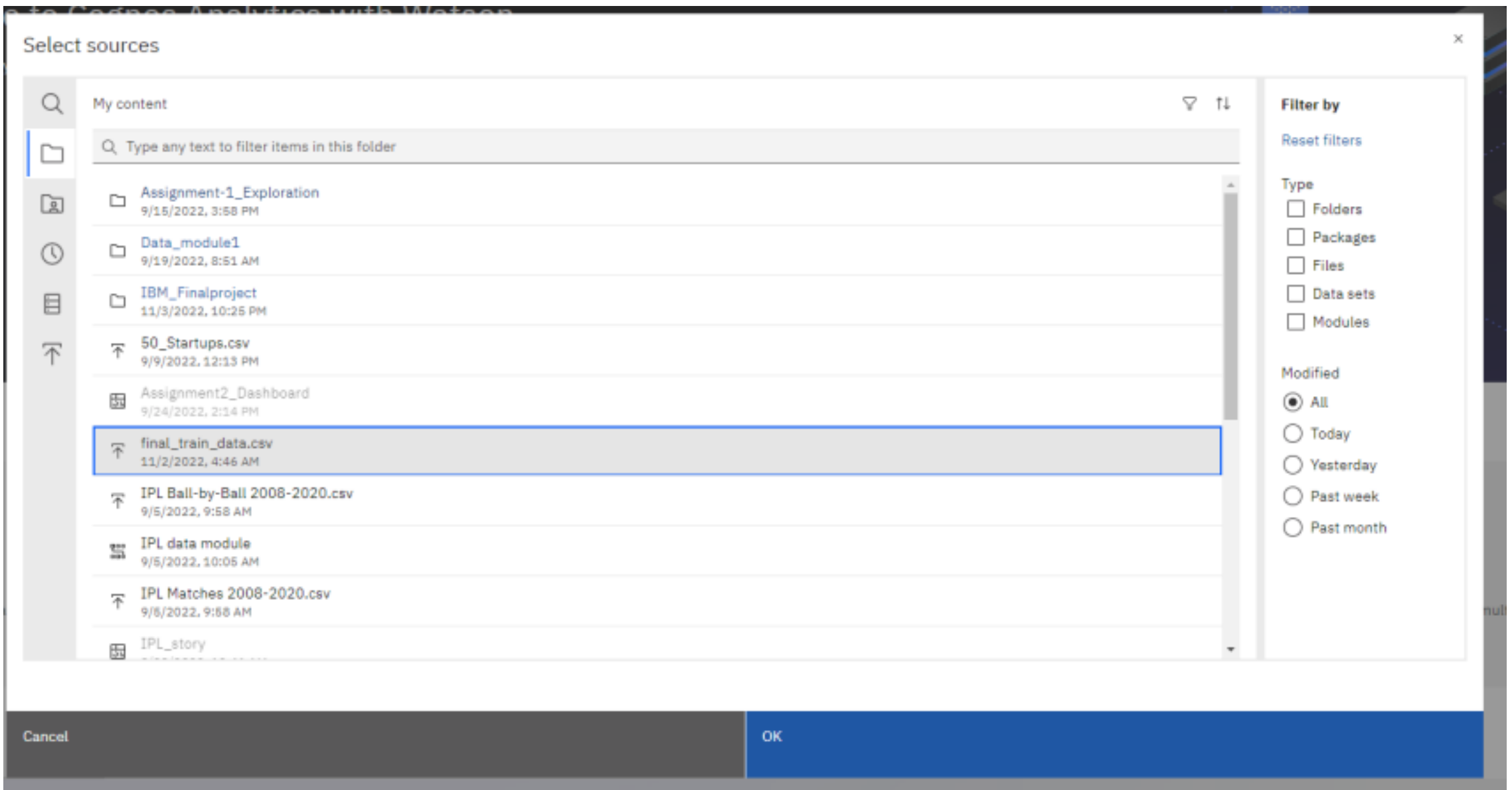
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