

# PROJECT DEVELOPMENT PHASE

## DELIVERY OF SPRINT 1

TEAM ID	PNT2022TMID20389
DATE	29/10/2022
PROJECT NAME	Analytics for Hospital's Health Care Data

### **Project Development Phase :**

#### **Sprint 1 :**

- Data Collection
- Data Preparation

#### **Sprint 2 :**

- Data Exploration

#### **Sprint 3 :**

- DashBoard Creation

#### **Sprint 4:**

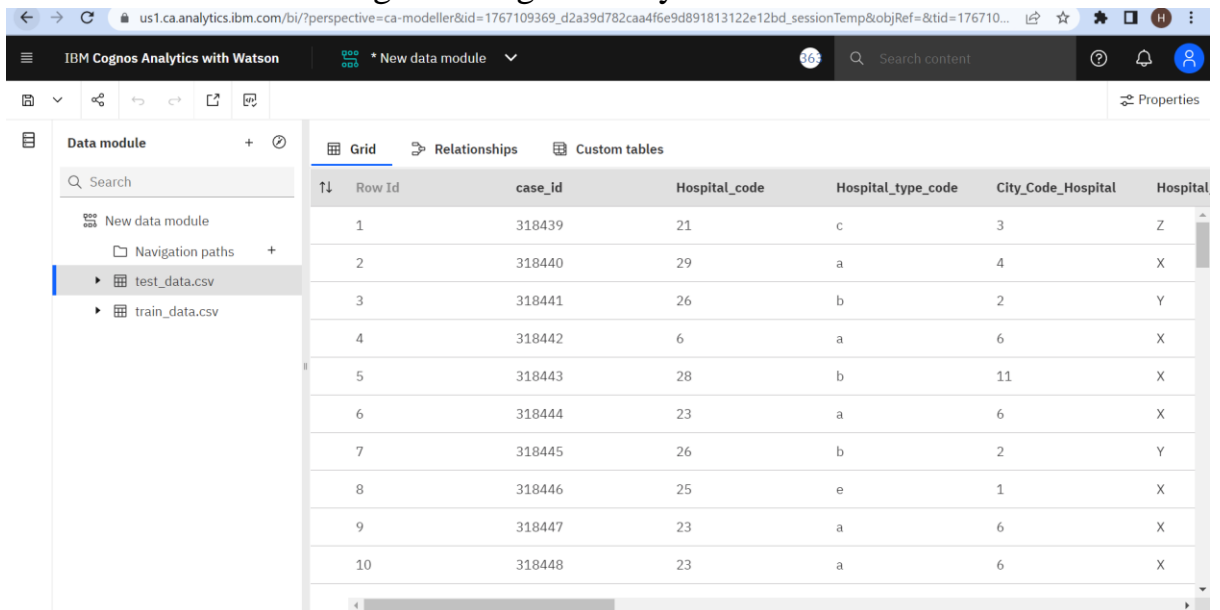
- Report creation
  - Story creation
- 

### **SPRINT 1 :**

**Data Collection :** The data set used is shared in this drive link

[https://drive.google.com/file/d/1slC0MhsJHeuODVkhIXrdNOX\\_aBDySSBh/view](https://drive.google.com/file/d/1slC0MhsJHeuODVkhIXrdNOX_aBDySSBh/view)

## 1. Load the dataset : Using IBM cognos analytics

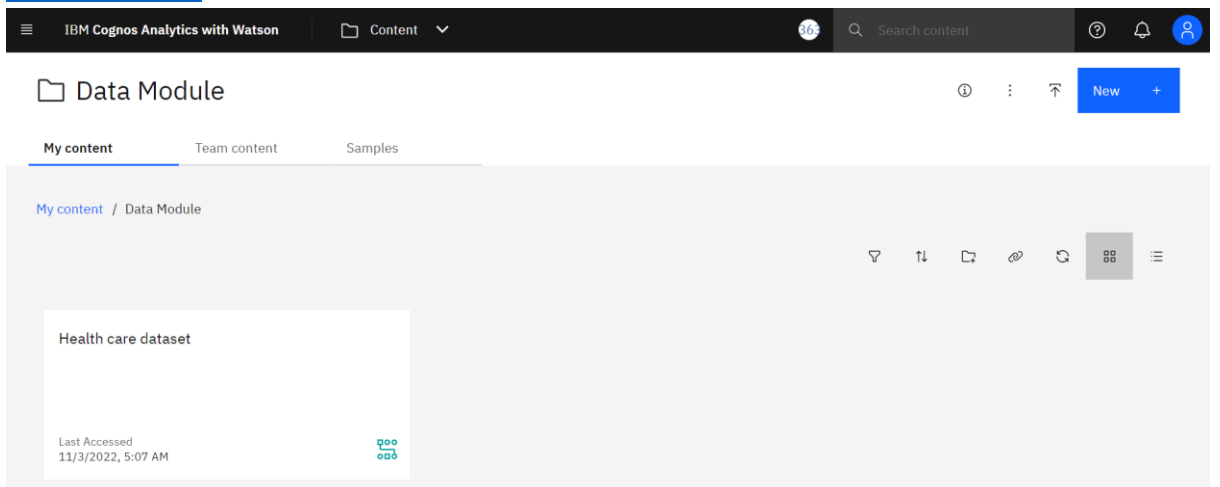


The screenshot shows the IBM Cognos Analytics interface. On the left, the 'Data module' sidebar is open, showing a search bar and a list of navigation paths: 'New data module', 'test\_data.csv', and 'train\_data.csv'. The main area displays a table with the following columns: 'Row Id', 'case\_id', 'Hospital\_code', 'Hospital\_type\_code', 'City\_Code\_Hospital', and 'Hospital'. The table contains 10 rows of data.

Row Id	case_id	Hospital_code	Hospital_type_code	City_Code_Hospital	Hospital
1	318439	21	c	3	Z
2	318440	29	a	4	X
3	318441	26	b	2	Y
4	318442	6	a	6	X
5	318443	28	b	11	X
6	318444	23	a	6	X
7	318445	26	b	2	Y
8	318446	25	e	1	X
9	318447	23	a	6	X
10	318448	23	a	6	X

## 2. Save the datasets inside a Data Module

[https://us1.ca.analytics.ibm.com/bi/?perspective=ca-modeller&pathRef=.my\\_folders%2FData%2BModule%2FHealth%2Bcare%2Bdataset](https://us1.ca.analytics.ibm.com/bi/?perspective=ca-modeller&pathRef=.my_folders%2FData%2BModule%2FHealth%2Bcare%2Bdataset)



### 3. Data Preparation ( includes data cleaning ) :

Prepare the dataset in the aim to find right insights

IBM Cognos Analytics with Watson \* Health care dataset

Grid Relationships Custom tables

Search

Health care dataset

test\_data.csv

train\_data.csv

# Row Id

# case\_id

# Hospital\_code

Hospital\_type\_code

City\_Code\_Patient

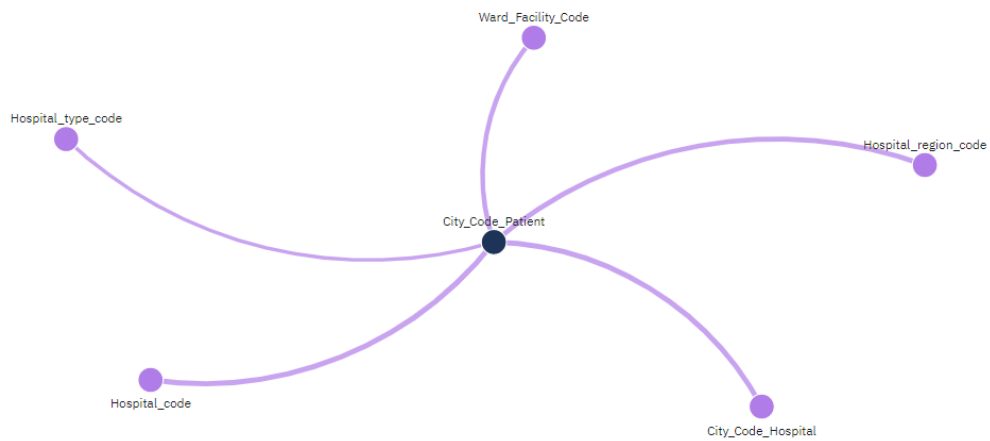
City\_Code\_Hospital

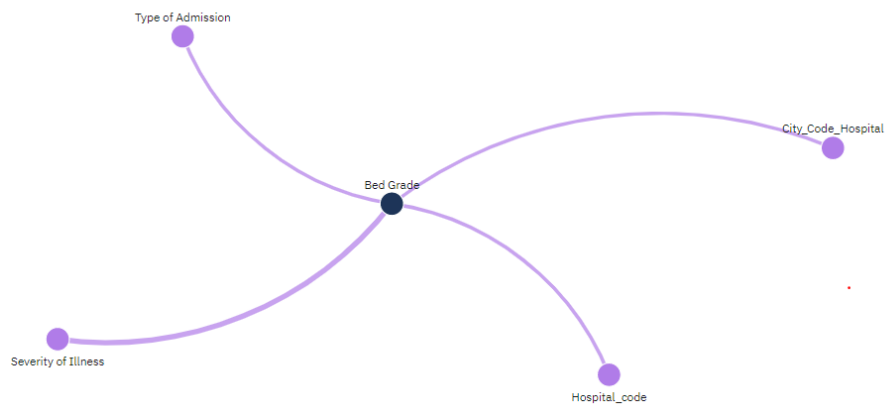
Hospital\_region\_code

Available E...in Hospital

Department

Row Id	case_id	Hospital_code	Hospital_type_code	City_Code_Hospital	Hospital_region_code	Available E...in Hospital	Department
1	1	8	c	3	Z	3	radiotherapy
2	2	2	c	5	Z	2	radiotherapy
3	3	10	e	1	X	2	anesthesia
4	4	26	b	2	Y	2	radiotherapy
5	5	26	b	2	Y	2	radiotherapy
6	6	23	a	6	X	2	anesthesia
7	7	32	f	9	Y	1	radiotherapy
8	8	23	a	6	X	4	radiotherapy
9	9	1	d	10	Y	2	gynecology
10	10	10	e	1	X	2	gynecology
11	11	22	g	9	Y	2	radiotherapy
12	12	26	b	2	Y	4	radiotherapy
13	13	16	c	3	Z	2	radiotherapy
14	14	9	d	5	Z	3	radiotherapy
15	15	6	a	6	X	4	gynecology





Relationship diagram ⓘ

## 1.Null values cleaning process :

Edit calculation

Name City\_Code\_Patient

Components

Expression

14

Search

train\_data.csv

- # Row Id
- # case\_id
- # Hospital\_code
- abc Hospit...\_code
- City\_Co...spital
- Hospit...\_code
- Availabl...Hospital
- abc Department
- abc Ward\_Type
- abc Ward\_...\_Code

```
1 if(City_Code_Patient is missing)
2 then(median (City_Code_Patient ))
3 else(City_Code_Patient)
```

Validation Results

✓ The expression is valid.

us1.ca.analytics.ibm.com/bi/?perspective=ca-modeller&id=i848EB8CF59434CC49F8BA69791347F10&objRef=i848EB8CF59434CC49F8BA69...

IBM Cognos Analytics with Watson \* Health care dataset

Search content

Properties

Data module

Grid Relationships Custom tables

Search

train\_data.csv

- # Row Id
- # case\_id
- # Hospital\_code
- Hospital\_code
- City\_C...spital
- Hospital\_code
- Availab...spital
- Department
- Ward\_Type
- Ward\_...Code
- Bed Grade
- patientid
- City\_C...atient
- Type o...ission
- Severi... illness
- Visitor...atient
- Age
- Admiss...posit

Bed Grade	patientid	City_Code_Patient	Type of Admission	Severity of Illness	Visitors with Patient	Age	Admission_Deposit
2	31397	7	Emergency	Extreme	2	51-60	4911
2	31397	7	Trauma	Extreme	2	51-60	5954
2	31397	7	Trauma	Extreme	2	51-60	4745
2	31397	7	Trauma	Extreme	2	51-60	7272
2	31397	7	Trauma	Extreme	2	51-60	5558
2	31397	7	Trauma	Extreme	2	51-60	4449
3	31397	7	Emergency	Extreme	2	51-60	6167
3	31397	7	Trauma	Extreme	2	51-60	5571
4	31397	7	Trauma	Extreme	2	51-60	7223
3	31397	7	Trauma	Extreme	2	51-60	6056
2	31397	7	Urgent	Extreme	2	51-60	5797
1	31397	7	Urgent	Extreme	2	51-60	5993
3	31397	7	Emergency	Extreme	2	51-60	5141
3	31397	7	Urgent	Extreme	2	51-60	8477
3	63418	8	Emergency	Extreme	2	71-80	2685

# Edit calculation

Name Bed Grade

Components

train\_data.csv

- # Row Id
- # case\_id
- # Hospital\_code
- Hospital\_code
- City\_C...spital
- Hospital\_code
- Availab...spital
- Department
- Ward\_Type
- Ward\_...Code
- Bed Grade
- patientid

Expression

```
1 if(Bed_Grade is missing)
2 then(median (Bed_Grade ))
3 else(Bed_Grade)
```

Validation Results

The expression is valid.

Cancel OK

IBM Cognos Analytics with Watson

\* Health care dataset

Search content

Properties

Data module

Grid Relationships Custom tables

Search

Health care dataset

Navigat... paths

test\_data.csv

train\_data.csv

# Row Id

# case\_id

# Hospital\_code

Hospital\_code

City\_C...spital

Hospital\_code

Availab...spital

Department

Ward\_Type

Ward\_...Code

Bed Grade

patientid

City\_C...atient

Type o...ission

Severi...Illness

T1	pital_type_code	City_Code_Hospital	Hospital_region_code	Available E...in Hospital	Department	Ward_Type	Ward_Facility_Code	Bed Grade
	3	Z	3	radiotherapy	R	F	2	
	5	Z	2	radiotherapy	S	F	2	
	1	X	2	anesthesia	S	E	2	
	2	Y	2	radiotherapy	R	D	2	
	2	Y	2	radiotherapy	S	D	2	
	6	X	2	anesthesia	S	F	2	
	9	Y	1	radiotherapy	S	B	3	
	6	X	4	radiotherapy	Q	F	3	
	10	Y	2	gynecology	R	B	4	
	1	X	2	gynecology	S	E	3	
	9	Y	2	radiotherapy	S	B	2	
	2	Y	4	radiotherapy	R	D	1	
	3	Z	2	radiotherapy	R	A	3	
	5	Z	3	radiotherapy	S	F	3	
	6	X	4	gynecology	Q	F	3	

# Hospital Health Care Data :

IBM Cognos Analytics with Watson Health care dataset

Search content

Properties

Data module

Grid Relationships Custom tables

Search

Health care dataset

Navigat... paths

test\_data.csv

train\_data.csv

# Row Id

# case\_id

# Hospital\_code

Hospit...\_code

City\_C...spital

Hospit...\_code

Availab...spital

Department

Ward\_Type

Ward...\_Code

Bed Grade

patientid

City\_C...atient

Type o...ission

Severi...Illness

Visitor...atient

Row Id	case_id	Hospital_code	Hospital_type_code	City_Code_Hospital	Hospital_region_code	Available E...in Hospital	Department
1	1	8	c	3	Z	3	radiotherapy
2	2	2	c	5	Z	2	radiotherapy
3	3	10	e	1	X	2	anesthesia
4	4	26	b	2	Y	2	radiotherapy
5	5	26	b	2	Y	2	radiotherapy
6	6	23	a	6	X	2	anesthesia
7	7	32	f	9	Y	1	radiotherapy
8	8	23	a	6	X	4	radiotherapy
9	9	1	d	10	Y	2	gynecology
10	10	10	e	1	X	2	gynecology
11	11	22	g	9	Y	2	radiotherapy
12	12	26	b	2	Y	4	radiotherapy
13	13	16	c	3	Z	2	radiotherapy
14	14	9	d	5	Z	3	radiotherapy
15	15	6	a	6	X	4	gynecology
16	16	6	a	6	X	3	gynecology

IBM Cognos Analytics with Watson Health care dataset

Search content

Properties

Data module

Grid Relationships Custom tables

Search

Health care dataset

Navigat... paths

test\_data.csv

train\_data.csv

# Row Id

# case\_id

# Hospital\_code

Hospit...\_code

City\_C...spital

Hospit...\_code

Availab...spital

Department

Ward\_Type

Ward...\_Code

Bed Grade

patientid

City\_C...atient

Type o...ission

Severi...Illness

Visitor...atient

Ward_Type	Ward_Facility_Code	Bed Grade	patientid	City_Code_Patient	Type of Admission	Severity of Illness	Visitors with Patient
R	F	2	31397	7	Emergency	Extreme	2
S	F	2	31397	7	Trauma	Extreme	2
S	E	2	31397	7	Trauma	Extreme	2
R	D	2	31397	7	Trauma	Extreme	2
S	D	2	31397	7	Trauma	Extreme	2
S	F	2	31397	7	Trauma	Extreme	2
S	B	3	31397	7	Emergency	Extreme	2
Q	F	3	31397	7	Trauma	Extreme	2
R	B	4	31397	7	Trauma	Extreme	2
S	E	3	31397	7	Trauma	Extreme	2
S	B	2	31397	7	Urgent	Extreme	2
R	D	1	31397	7	Urgent	Extreme	2
R	A	3	31397	7	Emergency	Extreme	2
S	F	3	31397	7	Urgent	Extreme	2
Q	F	3	63418	8	Emergency	Extreme	2
O	F	3	63418	8	Emergency	Extreme	2

IBM Cognos Analytics with Watson Health care dataset

Search content

Properties

Data module

Grid Relationships Custom tables

Search

Health care dataset

Navigat... paths

test\_data.csv

train\_data.csv

# Row Id

# case\_id

# Hospital\_code

Hospit...\_code

City\_C...spital

Hospit...\_code

Availab...spital

Department

Ward\_Type

Ward...\_Code

Bed Grade

patientid

City\_C...atient

Type o...ission

Severi...Illness

Visitor...atient

entid	City_Code_Patient	Type of Admission	Severity of Illness	Visitors with Patient	Age	Admission_Deposit	Stay
7	7	Emergency	Extreme	2	51-60	4911	0-10
7	7	Trauma	Extreme	2	51-60	5954	41-50
7	7	Trauma	Extreme	2	51-60	4745	31-40
7	7	Trauma	Extreme	2	51-60	7272	41-50
7	7	Trauma	Extreme	2	51-60	5558	41-50
7	7	Trauma	Extreme	2	51-60	4449	11-20
7	7	Emergency	Extreme	2	51-60	6167	0-10
7	7	Trauma	Extreme	2	51-60	5571	41-50
7	7	Trauma	Extreme	2	51-60	7223	51-60
7	7	Trauma	Extreme	2	51-60	6056	31-40
7	7	Urgent	Extreme	2	51-60	5797	21-30
7	7	Urgent	Extreme	2	51-60	5993	11-20
7	7	Emergency	Extreme	2	51-60	5141	0-10
7	7	Urgent	Extreme	2	51-60	8477	21-30
8	8	Emergency	Extreme	2	71-80	2685	0-10
8	8	Emergency	Extreme	2	71-80	9398	0-10

Prepared Data Set Link :

[https://us1.ca.analytics.ibm.com/bi/?perspective=ca-modeller&pathRef=.my\\_folders%2FData%2BModule%2FHealth%2Bcare%2Bdataset](https://us1.ca.analytics.ibm.com/bi/?perspective=ca-modeller&pathRef=.my_folders%2FData%2BModule%2FHealth%2Bcare%2Bdataset)