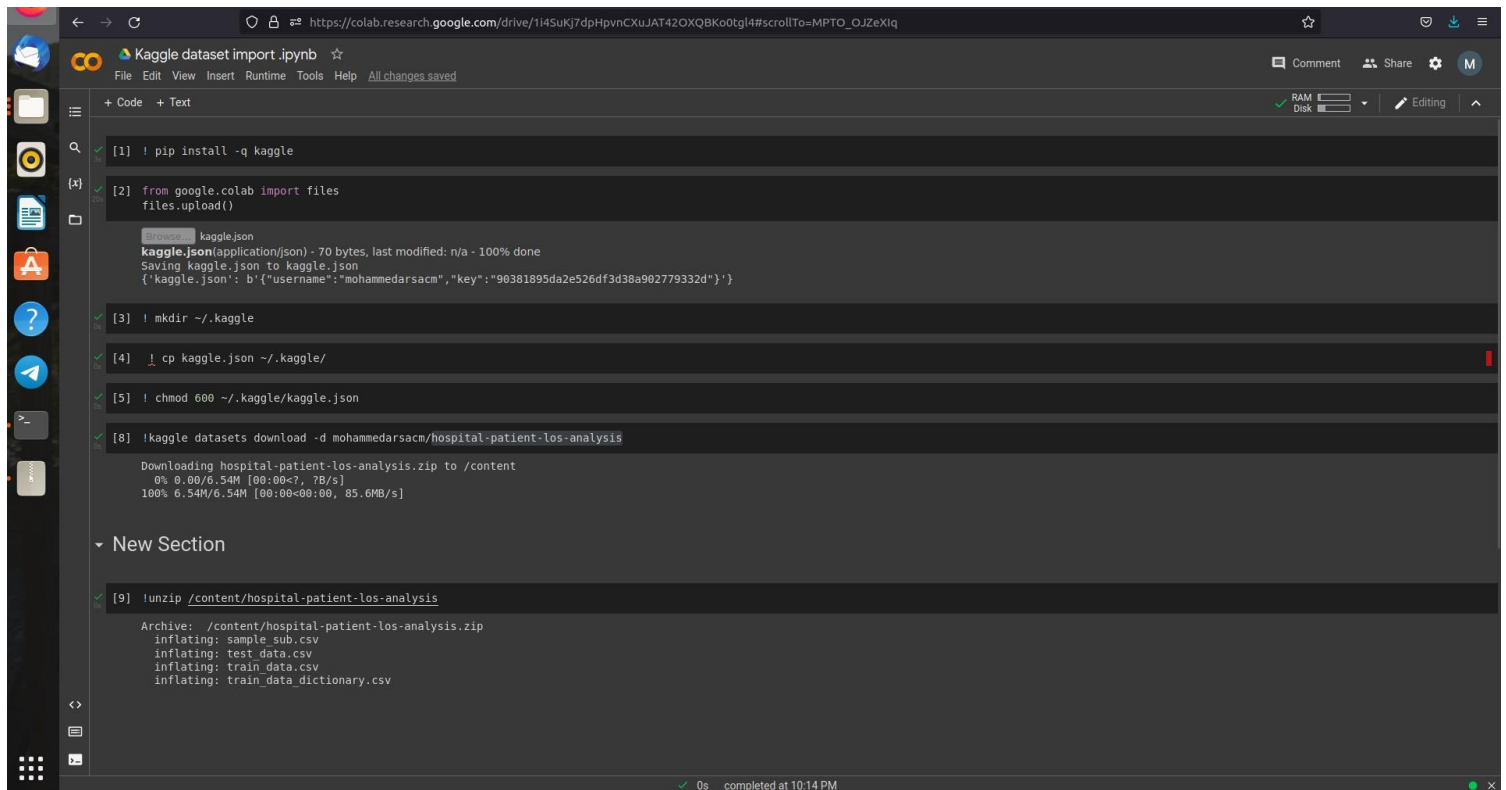


# Sprint Delivery Plan I

Date	28 October 2022
Team ID	PNT2022TMID07365
Project Name	Project – Analytics for Hospitals Health Care Data

**Fetch data from external API (Kaggle API). (Ipynb file):**



```
[1] ! pip install -q kaggle

[2] from google.colab import files
files.upload()

kaggle.json (application/json) - 70 bytes, last modified: n/a - 100% done
Saving kaggle.json to kaggle.json
{'kaggle.json': b'{"username": "mohammedarsacm", "key": "90381895da2e526df3d38a902779332d"}' }

[3] ! mkdir ~/.kaggle

[4] ! cp kaggle.json ~/.kaggle/

[5] ! chmod 600 ~/.kaggle/kaggle.json

[6] ! kaggle datasets download -d mohammedarsacm/hospital-patient-los-analysis

Downloading hospital-patient-los-analysis.zip to /content
0% 0.00/6.54M [00:00<7, 7B/s]
100% 6.54M/6.54M [00:00<00, 85.6MB/s]

New Section

[9] ! unzip /content/hospital-patient-los-analysis

Archive: /content/hospital-patient-los-analysis.zip
  inflating: sample_sub.csv
  inflating: test_data.csv
  inflating: train_data.csv
  inflating: train_data_dictionary.csv
```

0s completed at 10:14 PM

Home

Competitions

Datasets

Code

Discussions

Learn

More

Your Work

RECENTLY VIEWED

Hospital Patient LOS a...

Easiest way to downlo...

Steps to download Ka...

RECENTLY EDITED

View Active Events

Search

MOHAMMED ARSAC M · UPDATED A FEW SECONDS AGO · PRIVATE

0

New Notebook

Download (7 MB)

# Hospital Patient LOS analysis

Add a subtitle [Edit](#)

DataCode (0)Discussion (0)Settings

## Pending Actions

USABILITY SCORE: 2.35

Add a subtitle

Stand out on the listings page with a snappy subtitle

Add a description

Share specifics about the context, sources, and inspiration behind your dataset

Upload an image

Make your dataset pop with an eye-catching cover image and thumbnail

Add file information

Help others navigate your dataset with a description of each file

About Dataset

Add a description

Edit

Usability 2.35

LicenseUnknown [Edit](#)

Home

Competitions

Datasets

Code

Discussions

Learn

More

Your Work

RECENTLY VIEWED

Hospital Patient LOS a...

Easiest way to downlo...

Steps to download Ka...

RECENTLY EDITED

View Active Events

Search

Hospital Patient LOs analysis dataset

0

New Notebook

Download (5 MB)

1318k

11.54 - 12.16

Count: 11,297

a

45%

b

22%

Other (106067)

33%

13

X

42%

Y

38%

Other (62674)

20%

2	2	c	5	Z	2
3	10	e	1	X	2
4	26	b	2	Y	2
5	26	b	2	Y	2
6	23	a	6	X	2
7	32	f	9	Y	1
8	23	a	6	X	4
9	1	d	10	Y	2
10	10	e	1	X	2
11	22	g	9	Y	2
12	26	b	2	Y	4
13	16	c	3	Z	2
14	9	d	5	Z	3
15	6	a	6	X	4

Summary

1 file

18 columns

New Version

## IBM DB2 service creation and DB2 connectivity with Cognos. (Pdf file)

The screenshot shows the IBM Cognos Analytics with Watson interface. The top navigation bar includes the IBM logo, the text 'IBM Cognos Analytics with Watson', a '1 item open' indicator, a search bar, and user profile icons. The main content area is divided into two panels. The left panel, titled 'New data server connection', shows the 'Settings' tab with fields for 'Owner' (Unknown), 'Created:', 'Modified:', and 'Type: Connection'. Below these are tabs for 'General', 'Settings', 'Schemas', and 'Permissions'. The 'Settings' tab is active, showing 'Connection details' and 'Authentication method' options: 'Connect anonymously' (selected), 'Prompt for the user ID and password', 'Use an external namespace', and 'Use the following signon:'. A 'Test' button and 'Not tested' status are visible. A 'Save' button is at the bottom. The right panel, titled 'Edit IBM Db2 connection', shows the 'JDBC URL:' field with the placeholder 'jdbc:db2://<hostname>:<port>/<databasename>'. Below it is the 'Driver class name:' field with the value 'com.ibm.db2.jcc.DB2Driver'. A 'Restore' button is present. The 'Example URL' section is expanded, showing the 'Connection properties:' field. A 'Close' button is at the bottom right.

The screenshot shows the IBM Cloud Catalog page. The top navigation bar includes the IBM logo, the text 'IBM Cloud', a search bar, and user profile icons. The main content area is titled 'Catalog' and features a search bar with the text 'db2'. Below the search bar, a dropdown menu shows search results: 'Db2', 'Db2 Warehouse', and 'SAP NetWeaver(ABAP stack) with DB2 standard system'. The page displays a grid of service cards. The first card is 'Analytics Engine' by IBM, with a description: 'Submit your Apache Spark applications as needed and customize the Spark runtimes to satisfy the requirements of your application.' The second card is 'AnonTech ViziVault Platform' by Anon Technology, Inc., with a description: 'Manage personal information as-a-service safely, securely, and in compliance with data privacy regulations using ViziVault'. The third card is 'API Connect' by IBM, with a description: 'An enterprise-grade platform for securing, managing, and analyzing custom APIs'. The page also includes a sidebar with filters for 'Containers (9)', 'Networking (30)', 'Storage (20)', 'AI / Machine Learning (17)', and 'Analytics (10)'. A 'Sell on IBM Cloud' button and 'Catalog settings' link are visible in the top right corner.

IBM Cloud

Search resources and products...

Q

Catalog

Manage

KAMALESH R's Account

?

Resource list

Create resource +

Name	Group	Location	Product	Status	Tags
Filter by name or IP address...	Filter by group or org...	Filter...	Filter...	Filter...	Filter...
Compute (0)					
Containers (0)					
Networking (0)					
Storage (0)					
AI / Machine Learning (0)					
Analytics (0)					
Blockchain (0)					
Databases (1)					
Db2-h6	Default	Dallas	Db2	Active	
Developer tools (0)					
Logging and monitoring (0)					

IBM Cloud

Search resources and products...

Q

Catalog

Manage

KAMALESH R's Account

?

Resource list /

Db2-h6

Active

Add tags

Details

Actions...

Manage

Getting started

Service credentials

Connections

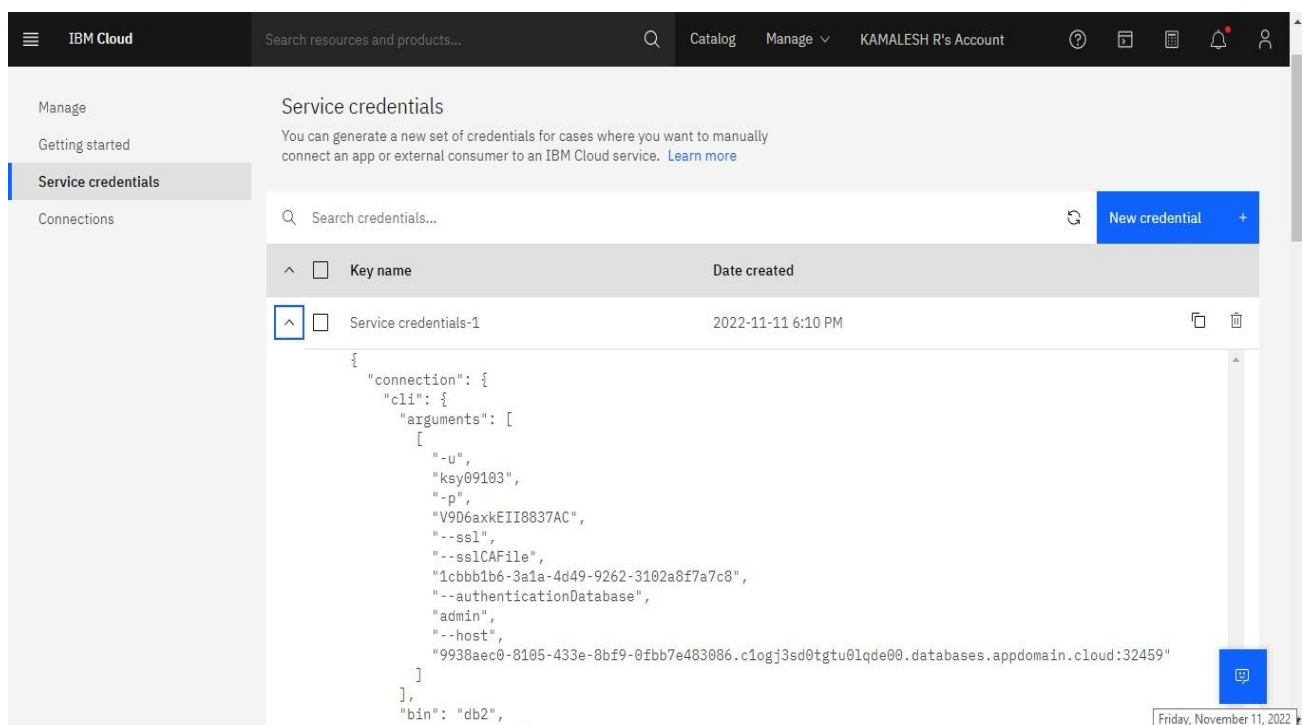
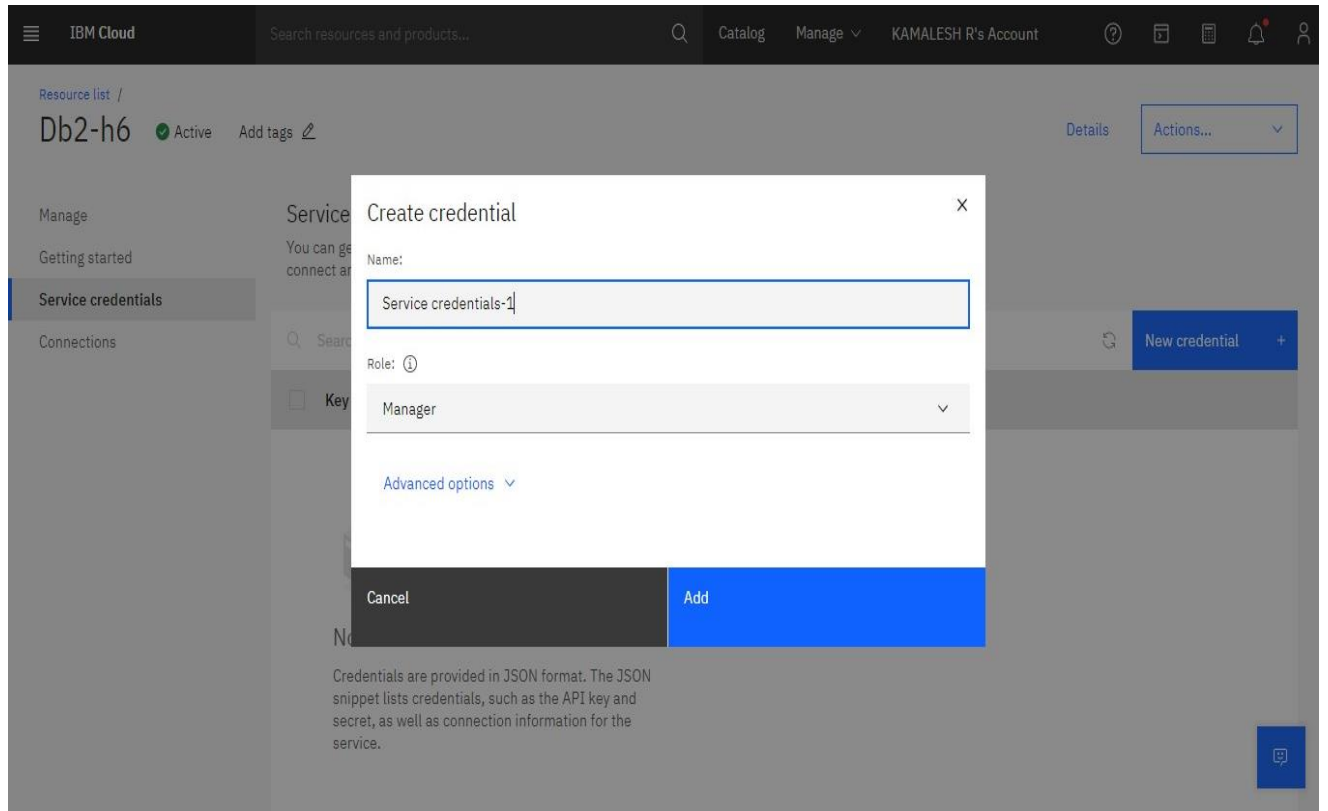
Service credentials

You can generate a new set of credentials for cases where you want to manually connect an app or external consumer to an IBM Cloud service. [Learn more](#)

Search credentials...

New credential +

Key name	Date created
<div><div></div><div>No service credentials</div><div>Credentials are provided in JSON format. The JSON snippet lists credentials, such as the API key and secret, as well as connection information for the service.</div></div>	



IBM Cognos Analytics with Watson

1 item open

30

Search content

?

1

New data server connection

Owner: Unknown

Created: Modified: Type: Connection

General Settings Schemas Permissions

Connection details

Edit

Authentication method

☒ Connect anonymously
 ☐ Prompt for the user ID and password
 ☐ Use an external namespace
 ☐ Use the following signon:

Test

Not tested

Save

Edit IBM Db2 connection

JDBC URL:

jdbc:db2://9938aec0-8105-433e-8bf9-0fbb7e483086.c1ogj3sd0tgu0lqde00.databases.appdomain.cloud:32459/bludb:user=ksy09103;password=V9D6axkEI18837AC;sslConnection=true

Driver class name:

com.ibm.db2.jcc.DB2Driver

Restore

Example URL

Connection properties: ?

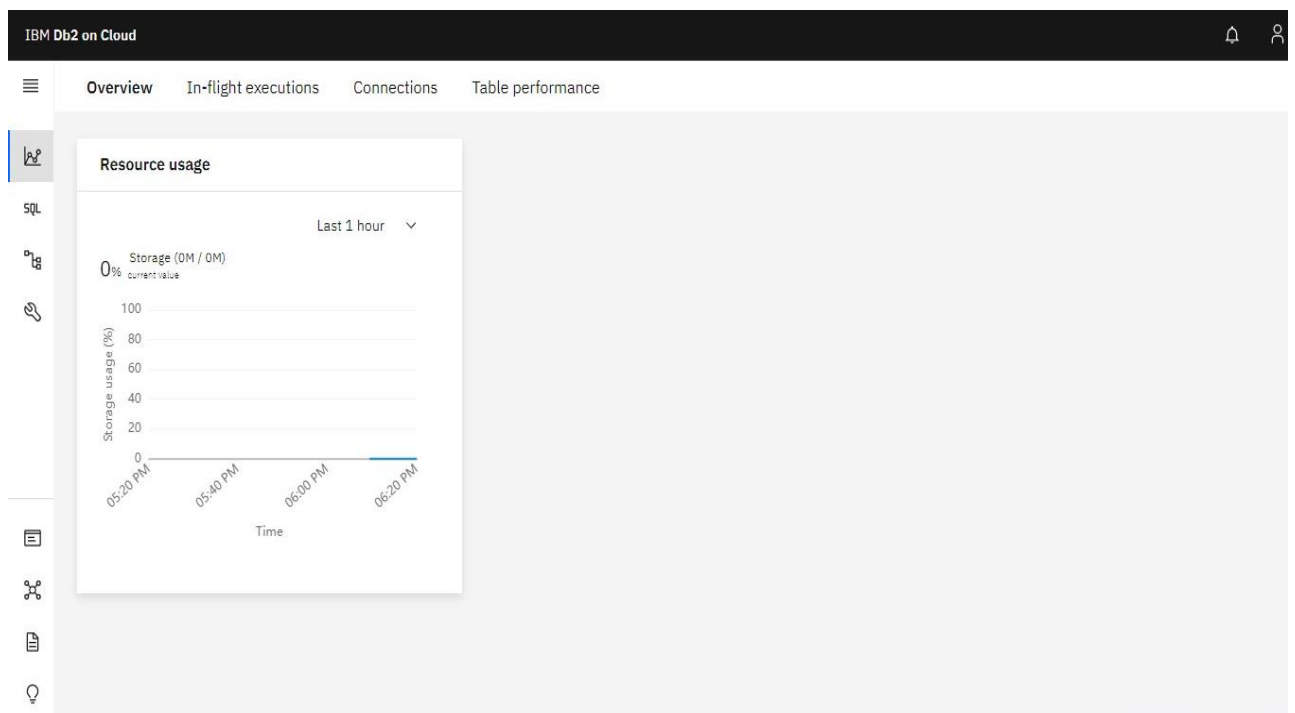
Cloud certificate details ?

Close

ta

icated,

ulti-query



IBM Cognos Analytics with Watson

1 item open

60%

Search content

?

1

?

Analytics for Hospi ... H ... Care data test

Owner  
KAMAL ... 12602

Created: 11/11/2022, 6:47 AM  
Modified: 11/11/2022, 6:47 AM  
Type: Data Server

General

Connections

Permissions

Name

Modified

Analytics for H ... data test

11/11/2022  
6:59 AM

Analytics for Hospitals Health Care data test

Owner  
KAMAL ... 12602

Created: 11/11/2022, 6:47 AM  
Modified: 11/11/2022, 6:59 AM  
Type: Connection

General

Settings

Schemas

Permissions

Connection details

Edit >

Authentication method

☒ Connect anonymously

☐ Prompt for the user ID and password

☐ Use an external namespace

☐ Use the following signon:

Test

Success

Save

Present data

Create sophisticated,  
multi-page, multi-query

IBM Db2 on Cloud

Load Data

Load History

Tables

Views

Indexes

Aliases

MQTs

Sequences

Application objects

Source

Target

Define

Finalize

You are loading the file **train\_data.csv**

My Computer

A single delimited text file (CSV) without header row.

Amazon S3

Cloud Object Storage

File selection

+

Drag a file here or browse files

Selected file

train\_data.csv

Next





### Application objects

Finalize

Begin Load

☐

Create sophisticated,  
multi-page, multi-query

## Importing Data Sets of Analytics for Hospitals Health Care Data Using Cognos Analysis:

### USN-1:

- As a User I can enter the details of the patients working in our organization of the details.
- Uploading the dataset of test\_data.csv and train\_data.csv file to IBM Cognos Analytics.

The screenshot displays the IBM Cognos Analytics user interface. At the top, the header bar includes the text 'IBM Cognos Analytics with Watson', a 'Content' dropdown menu, a search bar labeled 'Search content', and user profile icons. Below the header, the main area shows a folder named 'Hospitals health care'. Underneath this folder, there are three tabs: 'My content', 'Team content', and 'Samples'. The 'My content' tab is selected, showing a list of items. The list has columns for 'Name', 'Type', and 'Last Accessed'. The items listed are 'Test\_data module' (Data module), 'test\_data.csv' (Uploaded file), and 'train\_data.csv' (Uploaded file). Each item has a checkbox on the left and a three-dot menu on the right.

<input type="checkbox"/>	Name	Type	Last Accessed	
<input type="checkbox"/>	Test_data module	Data module	30/10/2022, 8:59 AM	⋮
<input type="checkbox"/>	test_data.csv CSV	Uploaded file	30/10/2022, 3:39 AM	⋮
<input type="checkbox"/>	train_data.csv CSV	Uploaded file	30/10/2022, 3:12 AM	⋮

IBM Cognos Analytics with Watson

Content

11

Search content

1

Hospitals health care

New

+

My content

Team content

Samples

My content / Hospitals health care

	Name	Type	Last Accessed
	<div><div></div>train_data.csv</div> CSV	Uploaded file	30/10/2022, 3:12 AM

IBM Cognos Analytics with Watson

\* New data module

11

Search content

1

Properties

Data module

Search

New data module

Navigation paths

train\_data.csv

# Row Id

# case\_id

# Hospital\_code

abc Hospital...ype\_code

City\_Code\_Hospital

Hospital...ion\_code

Available...Hospital

abc Department

abc Ward\_Type

abc Ward\_Facility\_Code

Grid

Relationships

Custom tables

	case_id	Hospital_code	Hospital_type_code	City_Code_Hospital	Hospital_region_code	Av
	1	8	c	3	Z	3
	2	2	c	5	Z	2
	3	10	e	1	X	2
	4	26	b	2	Y	2
	5	26	b	2	Y	2
	6	23	a	6	X	2
	7	32	f	9	Y	1
	8	23	a	6	X	4
	9	1	d	10	Y	2
	10	10	e	1	X	2

## Data Cleaning and Data Processing using Cognos Analytics:

### USN-2:

- As an Analyst, I will check the data set and clean the dataset to create an efficient model.
- To Data cleaning the null values in test\_data.csv dataset first.

The screenshot shows the IBM Cognos Analytics interface. On the left, the 'Data module' pane lists various fields: Hospital...ion\_code, Available...Hospital, abc Department, abc Ward\_Type, abc Ward\_Facility\_Code, Bed Grade, patientid, City\_Code\_Patient (highlighted), abc Type of Admission, abc Severity of Illness, Visitors ...h Patient, abc Age, and Admission\_Deposit. The main grid view displays a table with the following columns: Ward\_Facility\_Code, Bed Grade, patientid, City\_Code\_Patient, Type of Admission, and Severity of Illness. The data rows show various patient records, with some 'City\_Code\_Patient' values being NULL.

Ward_Facility_Code	Bed Grade	patientid	City_Code_Patient	Type of Admission	Severity of Illness
D	4	17006	2	Emergency	Mo
F	2	17006	2	Trauma	Mo
F	2	17006	2	Trauma	Mo
F	2	17006	2	Trauma	Mo
D	2	17006	2	Trauma	Mo
E	3	95946	Null	Emergency	Mo
F	3	95946	Null	Trauma	Mo
F	4	95946	Null	Urgent	Mo
E	2	95946	Null	Trauma	Mo
F	3	95946	Null	Emergency	Mo

The screenshot shows the same IBM Cognos Analytics interface, but with a 'Clean - City\_Code\_Patient' dialog box open. The dialog box has a 'NULL values' section with two options: 'Replace this value with NULL' (unchecked) and 'Replace NULL values with' (checked). The 'Replace NULL values with' option has a dropdown menu showing the value '4'. The 'Clean' button is highlighted in blue.

Ward_Facility_Code	Bed Grade	patientid	City_Code_Patient	Type of Admission	Severity of Illness
S		17006	2	Emergency	
S		17006	2	Trauma	
Q		17006	2	Emergency	
Q		17006	2	Trauma	
R		17006	2	Trauma	
Q		17006	2	Trauma	
Q		17006	2	Trauma	
S	E	95946	Null	Emergency	
Q	F	95946	Null	Trauma	
Q	F	95946	Null	Urgent	

IBM Cognos Analytics with Watson

New data module

Search content

Grid Relationships Custom tables

Data module

Search

- Hospital...ion\_code
- Available...Hospital
- abc Department
- abc Ward\_Type
- abc Ward\_Facility\_Code
- Bed Grade
- patientid
- City\_Code\_Patient
- abc Type of Admission
- abc Severity of Illness
- Visitors ...h Patient
- abc Age
- Admission Deposit

patientid	Ward_Type	Ward_Facility_Code	Bed Grade	City_Code_Patient
17006	Q	F	2	2
17006	R	F	2	2
17006	Q	F	2	2
17006	Q	D	2	2
95946	S	E	3	4
95946	Q	F	3	4
95946	Q	F	4	4
95946	Q	E	2	4
95946	R	F	3	4
95946	R	A	3	4

- To Data cleaning the null values in train\_data.csv dataset.

IBM Cognos Analytics with Watson

New data module

Search content

Grid Relationships Custom tables

Data module

Search

- Available...Hospital
- abc Department
- abc Ward\_Type
- abc Ward\_Facility\_Code
- Bed Grade
- patientid
- City\_Code\_Patient
- abc Type of Admission
- abc Severity of Illness
- Visitors ...h Patient
- abc Age
- Admission Deposit
- abc Stay

Clean - City\_Code\_Patient

NULL values

☐ Replace this value with NULL

☒ Replace NULL values with 7

Cancel Clean

Type of Admission	Severity of Illness	Visitors w
Emergency	Extreme	2
Trauma	Extreme	2
Trauma	Extreme	2
Trauma	Extreme	2
Trauma	Extreme	2
Trauma	Extreme	2
Emergency	Extreme	2
Trauma	Extreme	2
Trauma	Extreme	2
Trauma	Extreme	2

IBM Cognos Analytics with Watson

Whitespace

☐ Trim leading and trailing whitespace

Convert case to

☐ UPPERCASE ☐ lowercase ☒ Do not change

Return a substring of characters

Start  Length

Preview

This is a preview

NULL values

☐ Replace this value with NULL

☒ Replace NULL values with

Cancel Clean

Age	Admission_Deposit
51-60	4911
51-60	5954
51-60	4745
51-60	7272
51-60	5558
51-60	4449
51-60	6167
51-60	5571
51-60	7223
51-60	6056

IBM Cognos Analytics with Watson

\* New data module

Search content

Properties

Data module

Grid Relationships Custom tables

Search

New data module

Navigation paths

train\_data.csv

# Row Id

# case\_id

# Hospital\_code

abc Hospital...ype\_code

City\_Code\_Hospital

Hospital...ion\_code

Available...Hospital

abc Department

abc Ward\_Type

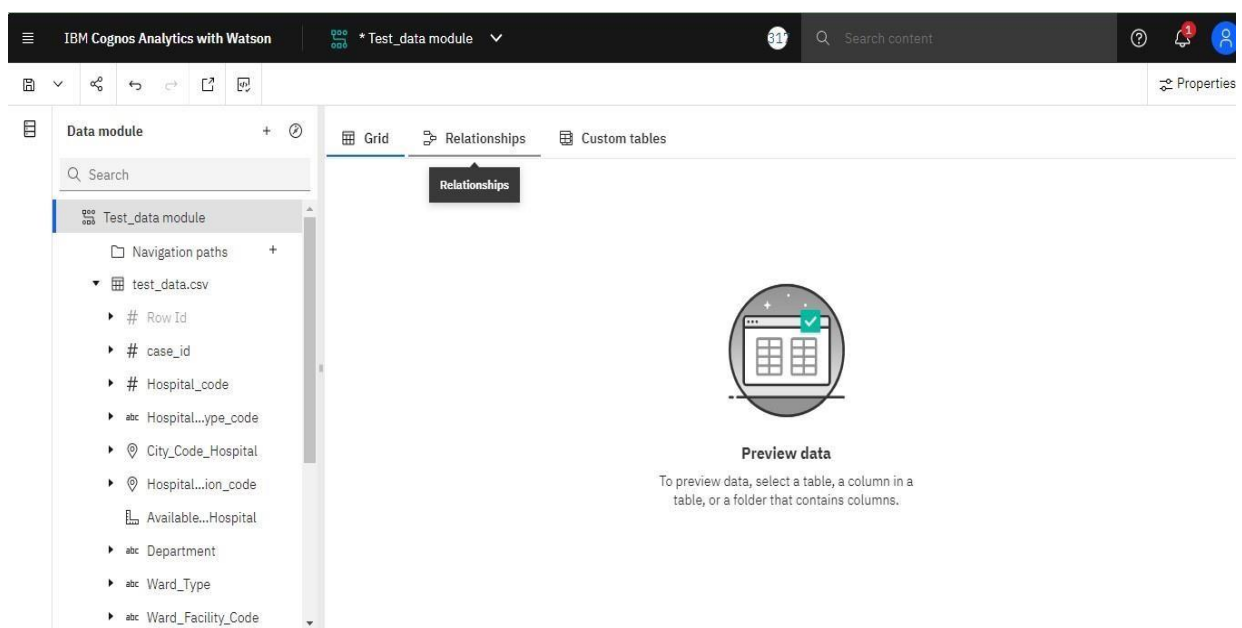
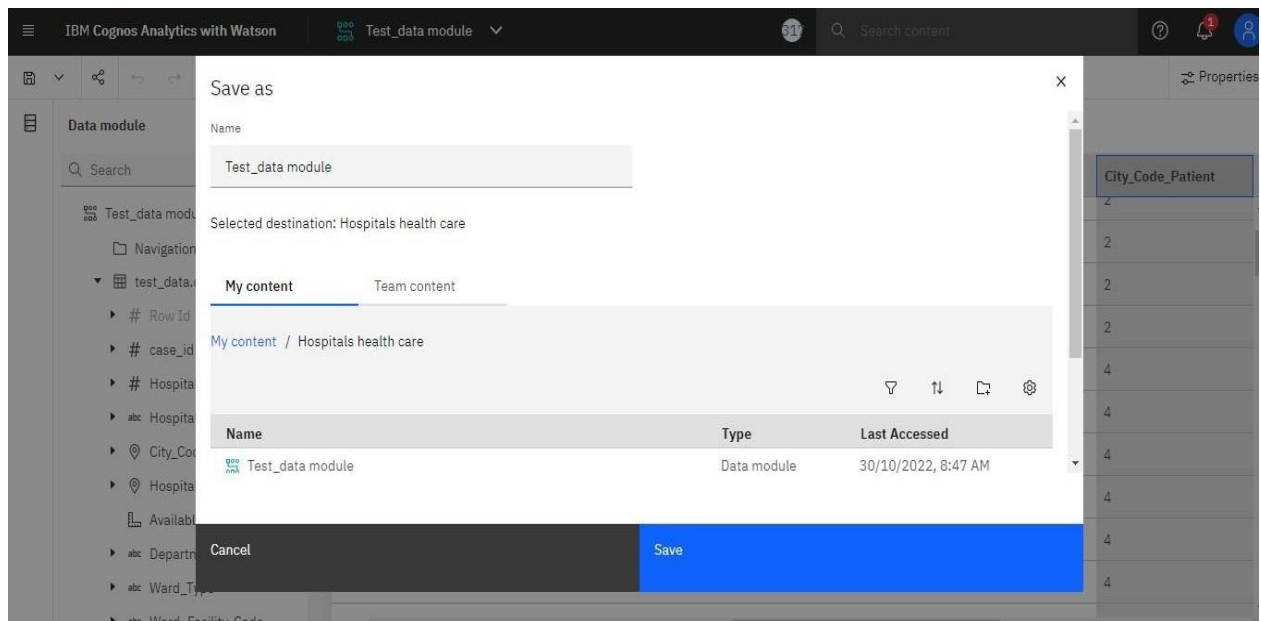
abc Ward\_Facility\_Code

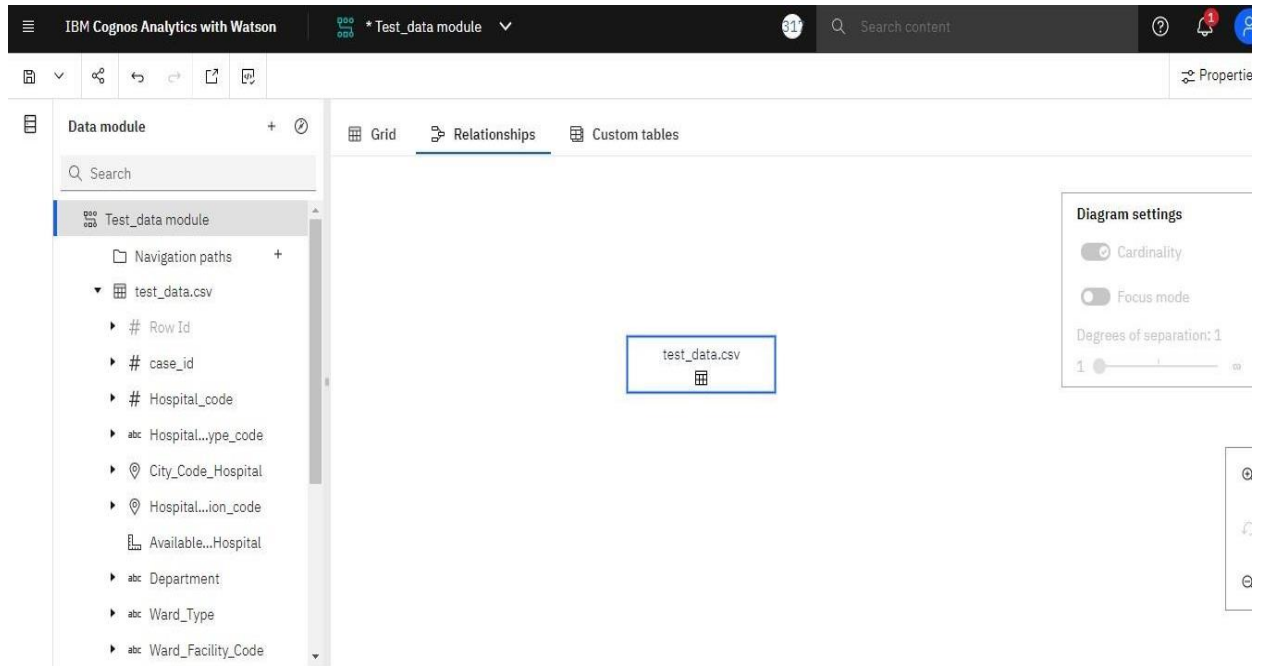
case_id	Hospital_code	Hospital_type_code	City_Code_Hospital	Hospital_region_code	Av
1	8	c	3	Z	3
2	2	c	5	Z	2
3	10	e	1	X	2
4	26	b	2	Y	2
5	26	b	2	Y	2
6	23	a	6	X	2
7	32	f	9	Y	1
8	23	a	6	X	4
9	1	d	10	Y	2
10	10	e	1	X	2

## Creating The Data Module using Cognos Analytics:

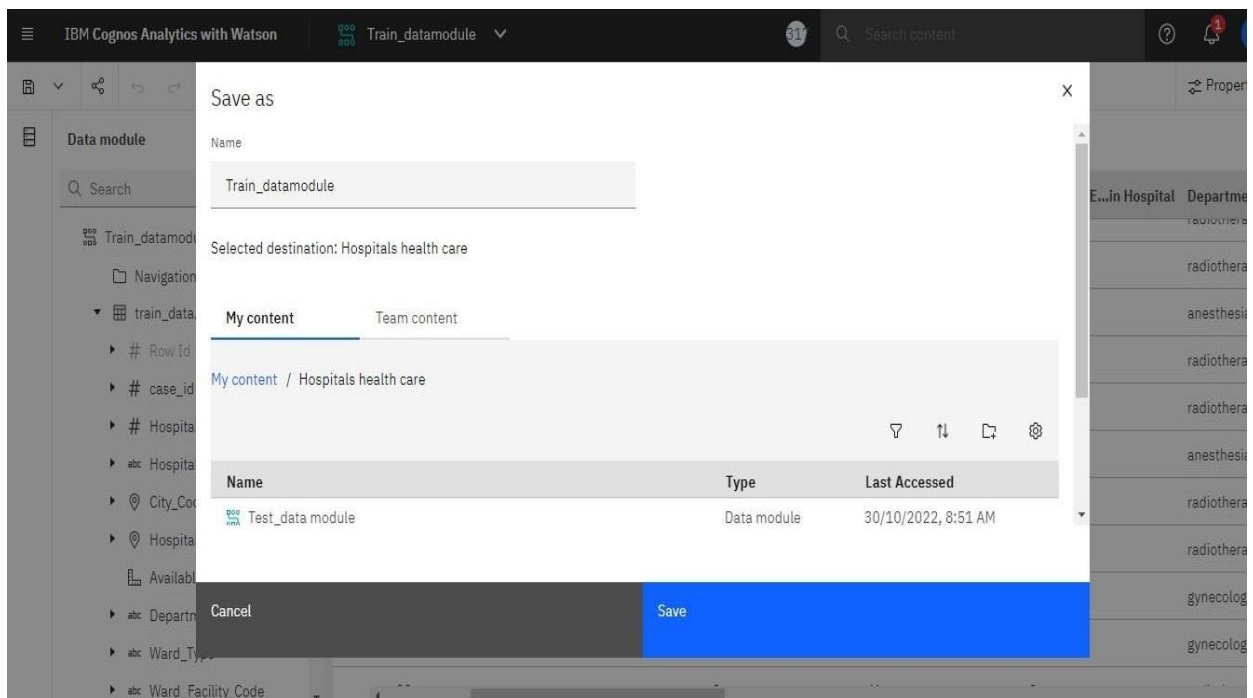
### USN-3:

- As an Analyst I will also correct the raw data and create a data module.
- I will Create the data module using test\_data.csv dataset first.





- Then I will Create the data module using train\_data.csv dataset.





us1.ca.analytics.ibm.com/bi/?perspective=ca-modeller&id=i62D0214C205D44E6B7E5A3DD961130A&objRef=i62D0214C205D44E6B7E5A3DD961130A&tid...

IBM Cognos Analytics with Watson Train\_datamodule 31 Search content

Data module + ?

Search

Train\_datamodule

- Navigation paths +
- train\_data.csv
  - # Row Id
  - # case\_id
  - # Hospital\_code
  - abc Hospital...ype\_code
  - City\_Code\_Hospital
  - Hospital...ion\_code
  - Available...Hospital
  - abc Department
  - abc Ward\_Type
  - abc Ward\_Facility\_Code

Grid Relationships Custom tables

Preview data

To preview data, select a table, a column in a table, or a folder that contains columns.

IBM Cognos Analytics with Watson Train\_datamodule 31 Search content

Data module + ?

Search

Train\_datamodule

- Navigation paths +
- train\_data.csv
  - # Row Id
  - # case\_id
  - # Hospital\_code
  - abc Hospital...ype\_code
  - City\_Code\_Hospital
  - Hospital...ion\_code
  - Available...Hospital
  - abc Department
  - abc Ward\_Type
  - abc Ward\_Facility\_Code

Grid Relationships Custom tables

train\_data.csv

Diagram settings

- Cardinality
- Focus mode
- Degrees of separation: 1