

## PROJECT DEVELOPMENT PHASE

|              |  |
|--------------|--|
| Team Id      | PNT2022TMID27986                                   |
| Project Name | Project - Analytics for hospital's healthcare Data |

Team Members:

- B.Deeptha
- B.Deekshitha
- P.Divya
- Preethi Baskaran

**SPRINT-I**

Registration  
Data Uploading

**SPRINT-III**

Story Creation

**SPRINT-II**

Data Analysis  
Dashboard

**SPRINT-IV**

Report Creation

**Importing Data Sets of Analytics for Hospitals Health Care Data Using  
CognosAnalytics:****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.

IBM Cognos Analytics with Watson

Content

Search content

Content

New

My content

Team content

Samples

Name

Type

Last Accessed

Sales Analytics Report

Report

9/20/2022, 12:28 AM

Sales data module

Data module

9/6/2022, 1:34 AM

sample\_sub.csv

CSV

Uploaded file

11/14/2022, 10:18 PM

sept 13

Data module

9/13/2022, 1:43 AM

test\_data.csv

CSV

Uploaded file

11/14/2022, 10:18 PM

train\_data\_dictionary.csv

CSV

Uploaded file

11/14/2022, 10:17 PM

train\_data.csv

CSV

Uploaded file

11/14/2022, 10:18 PM

Search

ENG US

09:49 15-11-2022

IBM Cognos Analytics with Watson

us1.ca.analytics.ibm.com

IBM Cognos Analytics with Watson

New data module

Save as

Name: database databases date

Test data module

Selected destination: My content

My content Team content

| Name                      | Type          | Last Accessed        |
|---------------------------|---------------|----------------------|
| Sales data module         | Data module   | 9/6/2022, 1:34 AM    |
| sample_sub.csv            | Uploaded file | 11/14/2022, 10:18 PM |
| sept 13                   | Data module   | 9/13/2022, 1:43 AM   |
| test_data.csv             | Uploaded file | 11/14/2022, 10:18 PM |
| train_data_dictionary.csv | Uploaded file | 11/14/2022, 10:17 PM |
| train_data.csv            | Uploaded file | 11/14/2022, 10:18 PM |

Cancel Save

Diagram settings

Cardinality

Focus mode

Degrees of separation: 1

27°C Cloudy

Search

ENG US

10/12 15-11-2022

IBM Cognos Analytics with Watson

New data module

Search

New data module

- Navigation paths
- test\_data.csv
  - Row Id
  - case\_id
  - Hospital\_code
  - Hospital\_type\_code
  - City\_Code\_Hospital
  - Hospital\_region\_code
  - Available E...in Hospital
  - Department
  - Ward\_Type
  - Ward\_Facility\_Code
  - Bed Grade
  - patientid
  - City\_Code\_Patient
  - Type of Admission
  - Severity of Illness
  - Visitors ...h Patient

Grid Relationships Custom tables

| T1 | Row Id | case_id | Hospital_code | Hospital_type_code | City_Code_Hospital | Hospital_region_code | Available E...in Hospital | D |
|----|--------|---------|---------------|--------------------|--------------------|----------------------|---------------------------|---|
|    | 1      | 318439  | 21            | c                  | 3                  | Z                    | 3                         |   |
|    | 2      | 318440  | 29            | a                  | 4                  | X                    | 2                         |   |
|    | 3      | 318441  | 26            | b                  | 2                  | Y                    | 3                         |   |
|    | 4      | 318442  | 6             | a                  | 6                  | X                    | 3                         |   |
|    | 5      | 318443  | 28            | b                  | 11                 | X                    | 2                         |   |
|    | 6      | 318444  | 23            | a                  | 6                  | X                    | 3                         |   |
|    | 7      | 318445  | 26            | b                  | 2                  | Y                    | 2                         |   |
|    | 8      | 318446  | 25            | e                  | 1                  | X                    | 4                         |   |
|    | 9      | 318447  | 23            | a                  | 6                  | X                    | 4                         |   |
|    | 10     | 318448  | 23            | a                  | 6                  | X                    | 3                         |   |
|    | 11     | 318449  | 10            | e                  | 1                  | X                    | 4                         |   |
|    | 12     | 318450  | 4             | a                  | 4                  | X                    | 3                         |   |
|    | 13     | 318451  | 16            | c                  | 3                  | Z                    | 4                         |   |
|    | 14     | 318452  | 28            | b                  | 11                 | X                    | 3                         |   |

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Search

ENG US

10:05

15-11-2022

## **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.

IBM Cognos Analytics with Watson

us1.ca.analytics.ibm.com/bi/7perspective+ca-modeller&id=1584271249\_Bdcec8dbc9b14f2daca5b59b85466b5e\_sessionTemp&objRef=&id=1584271249\_Bdcec8dbc9b14f2daca5b59b85466b5e\_sessionT...

IBM Cognos Analytics with Watson

New data module

Search content

Properties

Data module

Search

test\_data.csv

- # Row Id
- # case\_id
- # Hospital\_code
- Hospital...ype\_code
- City\_Code\_Hospital
- Hospital...ion\_code
- Available...Hospital
- Department
- Ward\_Type
- Ward\_Facility\_Code
- Bed Grade
- patientid
- City\_Code\_Patient
- Type of Admission
- Severity of Illness
- Visitors ...h Patient
- Age
- Admission\_Deposit

Grid Relationships Custom tables

| T1 | Available E...in Hospital | Department | Ward_Type | Ward_Facility_Code | Bed Grade | patientid | City_Code_Patient |
|----|---------------------------|------------|-----------|--------------------|-----------|-----------|-------------------|
| 3  |                           | gynecology | S         | A                  | 2         | 17006     | 2                 |
| 2  |                           | gynecology | S         | F                  | 2         | 17006     | 2                 |
| 3  |                           | gynecology | Q         | D                  | 4         | 17006     | 2                 |
| 3  |                           | gynecology | Q         | F                  | 2         | 17006     | 2                 |
| 2  |                           | gynecology | R         | F                  | 2         | 17006     | 2                 |
| 3  |                           | gynecology | Q         | F                  | 2         | 17006     | 2                 |
| 2  |                           | gynecology | Q         | D                  | 2         | 17006     | 2                 |
| 4  |                           | gynecology | S         | E                  | 3         | 95946     | Null              |
| 4  |                           | gynecology | Q         | F                  | 3         | 95946     | Null              |
| 3  |                           | gynecology | Q         | F                  | 4         | 95946     | Null              |
| 4  |                           | gynecology | Q         | E                  | 2         | 95946     | Null              |
| 3  |                           | gynecology | R         | F                  | 3         | 95946     | Null              |
| 4  |                           | gynecology | R         | A                  | 3         | 95946     | Null              |
| 3  |                           | gynecology | R         | F                  | 4         | 95946     | Null              |

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Search

ENG US

10:06

15-11-2022

IBM Cognos Analytics with Watson

New data module

Search

test\_data.csv

- # Row Id
- # case\_id
- # Hospital\_code
- Hospital\_type\_code
- City\_Code\_Hospital
- Hospital...lon\_code
- Available...Hospital
- Department
- Ward\_Type
- Ward\_Facility\_Code
- Bed Grade
- patientid
- City\_Code\_Patient
- Type of Admission
- Severity of Illness
- Visitors ...h Patient
- Age
- Admission\_Deposit

Grid Relationships Custom tables

| T1 | Available E...In Hospital | Department | Ward_Type | Ward_Facility_Code | Bed Grade | patientid | City_Code_Patient |
|----|---------------------------|------------|-----------|--------------------|-----------|-----------|-------------------|
| 3  |                           | gynecology | S         | A                  | 2         | 17006     | 2                 |
| 2  |                           | gynecology | S         | F                  | 2         | 17006     | 2                 |
| 3  |                           | gynecology | Q         | D                  | 4         | 17006     | 2                 |
| 3  |                           | gynecology | Q         | F                  | 2         | 17006     | 2                 |
|    |                           | gynecology | R         | F                  | 2         | 17006     | 2                 |
|    |                           | gynecology | Q         | F                  | 2         | 17006     | 2                 |
|    |                           | gynecology | Q         | D                  | 2         | 17006     | 2                 |
|    |                           | gynecology | S         | E                  | 3         | 95946     | Null              |
|    |                           | gynecology | Q         | F                  | 3         | 95946     | Null              |
|    |                           | gynecology | Q         | F                  | 4         | 95946     | Null              |
|    |                           | gynecology | Q         | E                  | 2         | 95946     | Null              |
|    |                           | gynecology | R         | F                  | 3         | 95946     | Null              |
|    |                           | gynecology | R         | A                  | 3         | 95946     | Null              |
|    |                           | gynecology | R         | F                  | 4         | 95946     | Null              |

Filter... Create calculation... Create data group... Create navigation path... Hide from users Remove Refresh properties... Format data... Clean... Rename Cut Copy Properties

27°C Cloudy

Search

ENG US 10:06 15-11-2022



IBM Cognos Analytics with Watson

Search content

New data module

Properties

Data module

test\_data.csv

- # Row Id
- # case\_id
- # Hospital\_code
- Hospital...type\_code
- City\_Code\_Hospital
- Hospital...ion\_code
- Available...Hospital
- Department
- Ward\_Type
- Ward\_Facility\_Code
- Bed Grade
- patientid
- City\_Code\_Patient
- Type of Admission
- Severity of Illness
- Visitors ...h Patient
- Age
- Admission\_Deposit

Grid Relationships Custom tables

| Available E...In Hospital | Department | Ward_Type | Ward_Facility_Code | Bed Grade | patientid | City_Code_Patient |
|---------------------------|------------|-----------|--------------------|-----------|-----------|-------------------|
| 3                         | gynecology | S         | A                  | 2         | 17006     | 2                 |
| 2                         |            |           |                    | 2         | 17006     | 2                 |
| 3                         |            |           |                    | 4         | 17006     | 2                 |
| 3                         |            |           |                    | 2         | 17006     | 2                 |
| 2                         |            |           |                    | 2         | 17006     | 2                 |
| 3                         |            |           |                    | 2         | 17006     | 2                 |
| 2                         |            |           |                    | 2         | 17006     | 2                 |
| 4                         |            |           |                    | 3         | 95946     | Null              |
| 4                         |            |           |                    | 3         | 95946     | Null              |
| 3                         | gynecology | Q         | F                  | 4         | 95946     | Null              |
| 4                         | gynecology | Q         | E                  | 2         | 95946     | Null              |
| 3                         | gynecology | R         | F                  | 3         | 95946     | Null              |
| 4                         | gynecology | R         | A                  | 3         | 95946     | Null              |
| 3                         | gynecology | R         | F                  | 4         | 95946     | Null              |

Clean - City\_Code\_Patient

NULL values

☐ Replace this value with NULL 0

☐ Replace NULL values with 0

Cancel Clean

27°C Cloudy

Search

ENG US

10:07

15-11-2022

IBM Cognos Analytics with Watson

New data module

Grid Relationships Custom tables

Search

New data module

Navigation paths

test\_data.csv

# Row Id

# case\_id

# Hospital\_code

# Hospital\_type\_code

# City\_Code\_Hospital

# Hospital\_region\_code

Available E...In Hospital

Department

Ward\_Type

Ward\_Facility\_Code

Bed Grade

patientid

City\_Code\_Patient

Type of Admission

Severity of Illness

Visitors...h Patient

| Row Id | case_id | Hospital_code | Hospital_type_code | City_Code_Hospital | Hospital_region_code | Available E...In Hospital |
|--------|---------|---------------|--------------------|--------------------|----------------------|---------------------------|
| 1      | 318439  | 21            | c                  | 3                  | Z                    | 3                         |
| 2      | 318440  | 29            | a                  | 4                  | X                    | 2                         |
| 3      | 318441  | 26            | b                  | 2                  | Y                    | 3                         |
| 4      | 318442  | 6             | a                  | 6                  | X                    | 3                         |
| 5      | 318443  | 28            | b                  | 11                 | X                    | 2                         |
| 6      | 318444  | 23            | a                  | 6                  | X                    | 3                         |
| 7      | 318445  | 26            | b                  | 2                  | Y                    | 2                         |
| 8      | 318446  | 25            | e                  | 1                  | X                    | 4                         |
| 9      | 318447  | 23            | a                  | 6                  | X                    | 4                         |
| 10     | 318448  | 23            | a                  | 6                  | X                    | 3                         |
| 11     | 318449  | 10            | e                  | 1                  | X                    | 4                         |
| 12     | 318450  | 4             | a                  | 4                  | X                    | 3                         |
| 13     | 318451  | 16            | c                  | 3                  | Z                    | 4                         |
| 14     | 318452  | 28            | b                  | 11                 | X                    | 3                         |

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Search

ENG US

10:05 15-11-2022

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

The screenshot shows the IBM Cognos Analytics interface. On the left, the 'Data module' pane lists fields from the 'test\_data.csv' dataset, including 'City\_Code\_Patient'. The main area displays a data grid with columns: 'Available E...In Hospital', 'Department', 'Ward\_Type', 'Ward\_Facility\_Code', 'Bed Grade', 'patientid', and 'City\_Code\_Patient'. A dialog box titled 'Clean - City\_Code\_Patient' is open, showing options to handle NULL values. The dialog has two checkboxes: 'Replace this value with NULL' and 'Replace NULL values with', both with input fields set to '0'. The 'Clean' button is highlighted.

| Available E...In Hospital | Department | Ward_Type | Ward_Facility_Code | Bed Grade | patientid | City_Code_Patient |
|---------------------------|------------|-----------|--------------------|-----------|-----------|-------------------|
| 3                         | gynecology | S         | A                  | 2         | 17006     | 2                 |
| 2                         |            |           |                    | 2         | 17006     | 2                 |
| 3                         |            |           |                    | 4         | 17006     | 2                 |
| 3                         |            |           |                    | 2         | 17006     | 2                 |
| 2                         |            |           |                    | 2         | 17006     | 2                 |
| 3                         |            |           |                    | 2         | 17006     | 2                 |
| 2                         |            |           |                    | 2         | 17006     | 2                 |
| 4                         |            |           |                    | 3         | 95946     | Null              |
| 4                         |            |           |                    | 3         | 95946     | Null              |
| 3                         | gynecology | Q         | F                  | 4         | 95946     | Null              |
| 4                         | gynecology | Q         | E                  | 2         | 95946     | Null              |
| 3                         | gynecology | R         | F                  | 3         | 95946     | Null              |

IBM Cognos Analytics with Watson

us1.ca.analytics.ibm.com/bi/7/perspective=ca-modeller&id=1584271249\_8dcec8dbc9b14f2daca59b85466b5e\_sessionTemp&objRef=&tid=1584271249\_8dcec8dbc9b14f2daca59b85466b5e\_sessionT...

IBM Cognos Analytics with Watson

\* New data module

Search content

Properties

Data module

Search

New data module

Navigation paths

- test\_data.csv
  - # Row Id
  - # case\_id
  - # Hospital\_code
  - Hospital\_type\_code
  - City\_Code\_Hospital
  - Hospital\_ion\_code
  - Available...Hospital
  - Department
  - Ward\_Type
  - Ward\_Facility\_Code
  - Bed Grade
  - patientid
  - City\_Code\_Patient
  - Type of Admission
  - Severity of Illness
  - Visitors...h Patient

Save as

Name: database databases date

Test data module

Selected destination: My content

My content Team content

| Name                          | Type          | Last Accessed        |
|-------------------------------|---------------|----------------------|
| Sales data module             | Data module   | 9/6/2022, 1:34 AM    |
| sample_sub.csv CSV            | Uploaded file | 11/14/2022, 10:18 PM |
| sept 13                       | Data module   | 9/13/2022, 1:43 AM   |
| test_data.csv CSV             | Uploaded file | 11/14/2022, 10:18 PM |
| train_data_dictionary.csv CSV | Uploaded file | 11/14/2022, 10:17 PM |
| train_data.csv CSV            | Uploaded file | 11/14/2022, 10:18 PM |

Cancel Save

Diagram settings

- Cardinality
- Focus mode
- Degrees of separation: 1

27°C Cloudy

Search

ENG US

10:12 15-11-2022

IBM Cognos Analytics with Watson

Search content

Grid Relationships Custom tables

test\_data.csv

- # Row Id
- # case\_id
- # Hospital\_code
- Hospital...ype\_code
- City\_Code\_Hospital
- Hospital...ion\_code
- Available...Hospital
- Department
- Ward\_Type
- Ward\_Facility\_Code
- Bed Grade
- patientid
- City\_Code\_Patient
- Type of Admission
- Severity of Illness
- Visitors ...h Patient
- Age
- Admission\_Deposit

Filter...

Create data group...

Create navigation path...

Search for members...

Refresh members

Split...

Hide from users

Remove

Refresh properties...

Format data...

Clean...

Rename

Cut

Copy

Properties

| Ward_Type | Ward_Facility_Code | Bed Grade | patientid | City_Code_Patient | Type of Admission | Severity of Illness |
|-----------|--------------------|-----------|-----------|-------------------|-------------------|---------------------|
| S         | A                  | 2         | 17006     | 2                 | Emergency         | Moderate            |
| S         | F                  | 2         | 17006     | 2                 | Trauma            | Moderate            |
| Q         | D                  | 4         | 17006     | 2                 | Emergency         | Moderate            |
|           | F                  | 2         | 17006     | 2                 | Trauma            | Moderate            |
|           | F                  | 2         | 17006     | 2                 | Trauma            | Moderate            |
|           | F                  | 2         | 17006     | 2                 | Trauma            | Moderate            |
|           | D                  | 2         | 17006     | 2                 | Trauma            | Moderate            |
|           | E                  | 3         | 95946     | 5                 | Emergency         | Moderate            |
|           | F                  | 3         | 95946     | 5                 | Trauma            | Moderate            |
|           | F                  | 4         | 95946     | 5                 | Urgent            | Moderate            |
|           | E                  | 2         | 95946     | 5                 | Trauma            | Moderate            |
|           | F                  | 3         | 95946     | 5                 | Emergency         | Moderate            |
|           | A                  | 3         | 95946     | 5                 | Trauma            | Moderate            |
|           | F                  | 4         | 95946     | 5                 | Urgent            | Moderate            |

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Search

ENG US

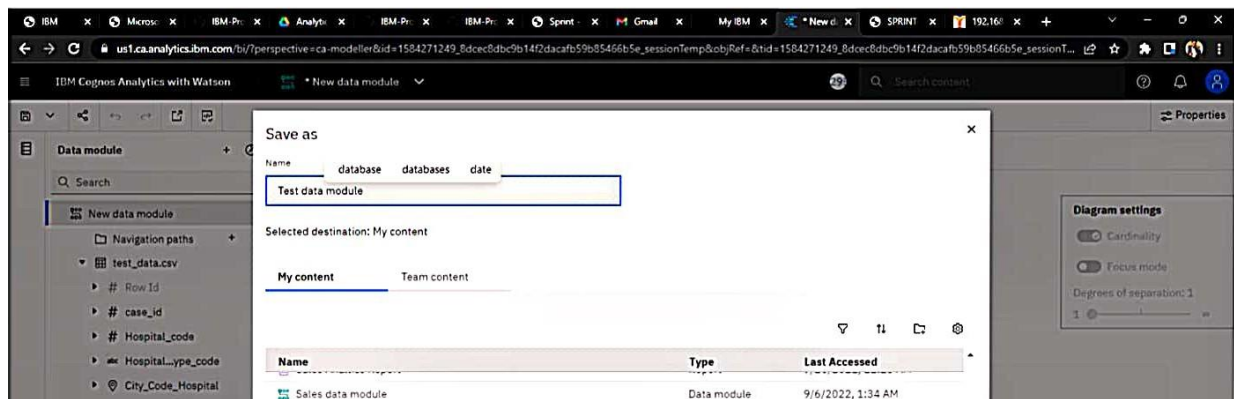
10:09

15-11-2022

## 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.



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us1.ca.analytics.ibm.com/bi/perspective=ca-modeller&id=1584271249\_bdcec8dbc9b1412daca59b85466b5e\_sessionTemp&objRef=&tid=1584271249\_bdcec8dbc9b1412daca59b85466b5e\_sessionT...

IBM Cognos Analytics with Watson

New data module

Grid Relationships Custom tables

Data module

Search

New data module

- Navigation paths
- test\_data.csv
  - # Row Id
  - # case\_id
  - # Hospital\_code
  - Hospital\_type\_code
  - City\_Code\_Hospital
  - Hospital\_location\_code
  - Available...Hospital
  - Department
  - Ward\_Type
  - Ward\_Facility\_Code
  - Bed Grade
  - patientid
  - City\_Code\_Patient
  - Type of Admission
  - Severity of Illness
  - Visitors ...h Patient

test\_data.csv

Diagram settings

- Cardinality
- Focus mode
- Degrees of separation: 1

27°C Cloudy

Search

ENG US

10:10

15-11-2022

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

