

PROJECT DEVELOPMENT PHASE

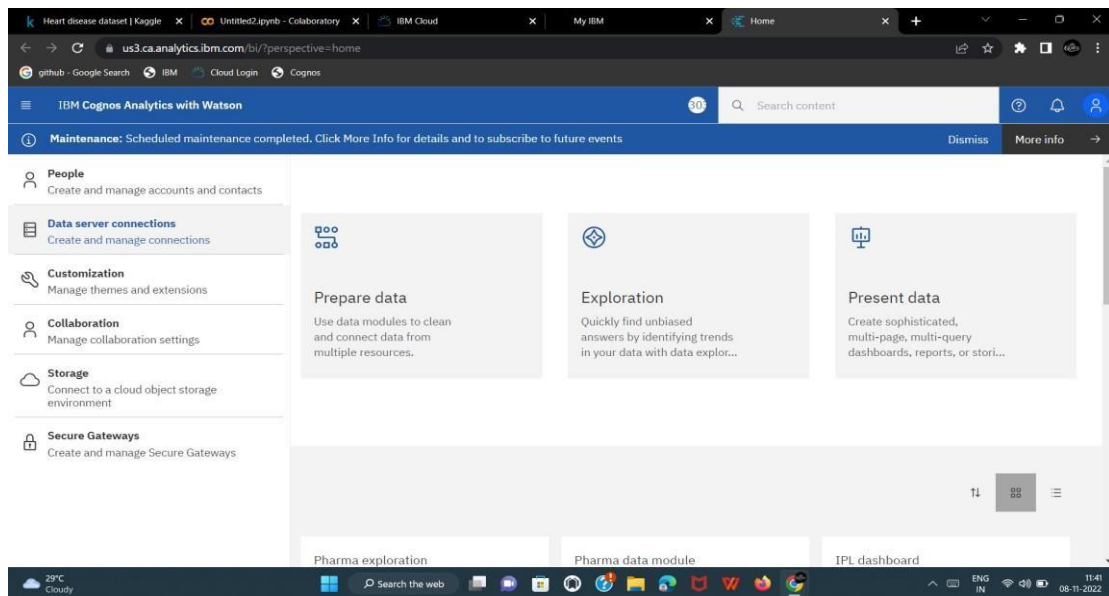
Delivery of Sprint - 1

Team ID	PNT2022TMID47218
Project Name	VISUALIZING AND PREDICTING HEART DISEASE WITH AN INTERACTIVE DASH BOARD.

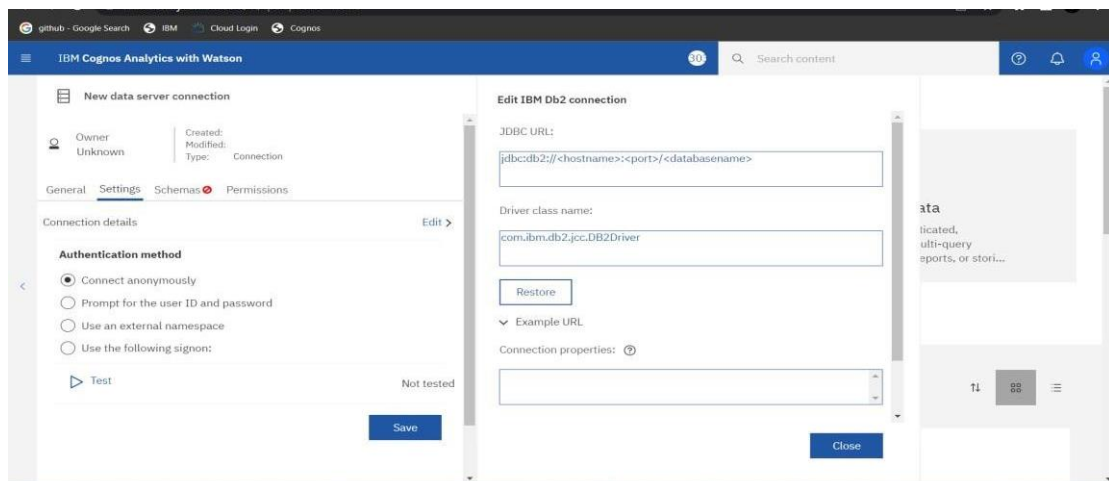
IBM DB2:

Service Creation and DB2 Connectivity with Cognos:

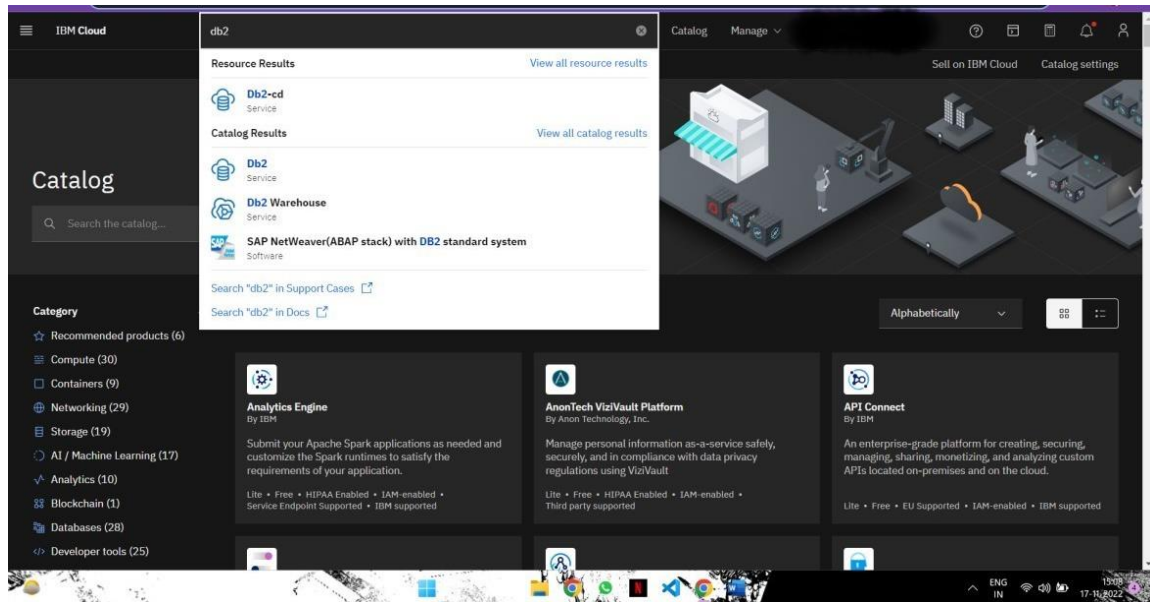
Step 1: In Cognos we have to perform data server connections.



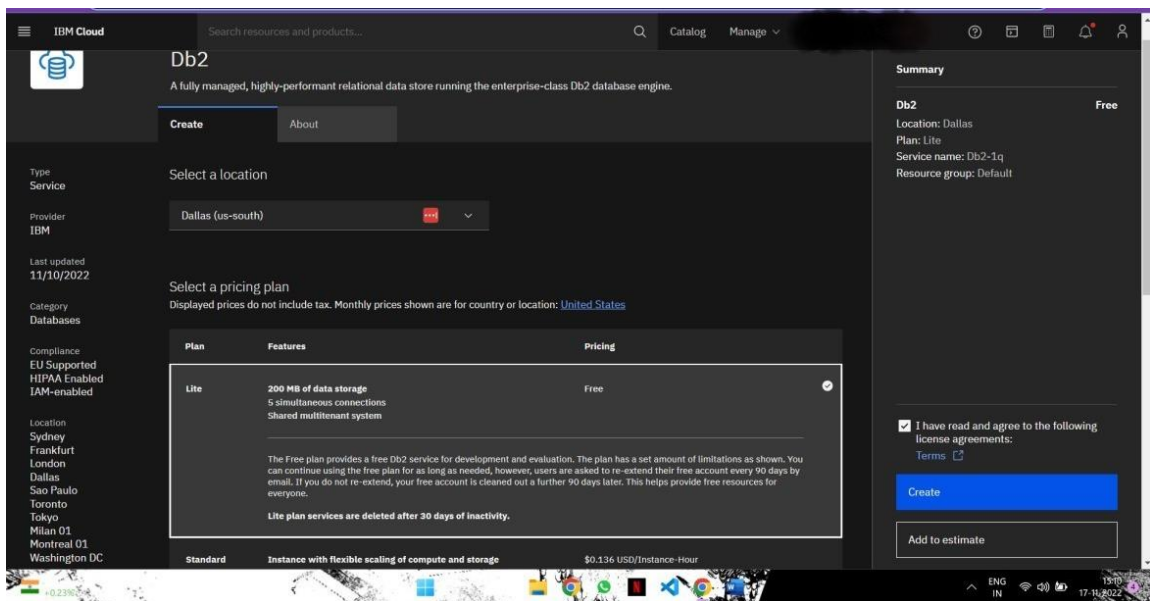
STEP 2: Connection of New Data Server.



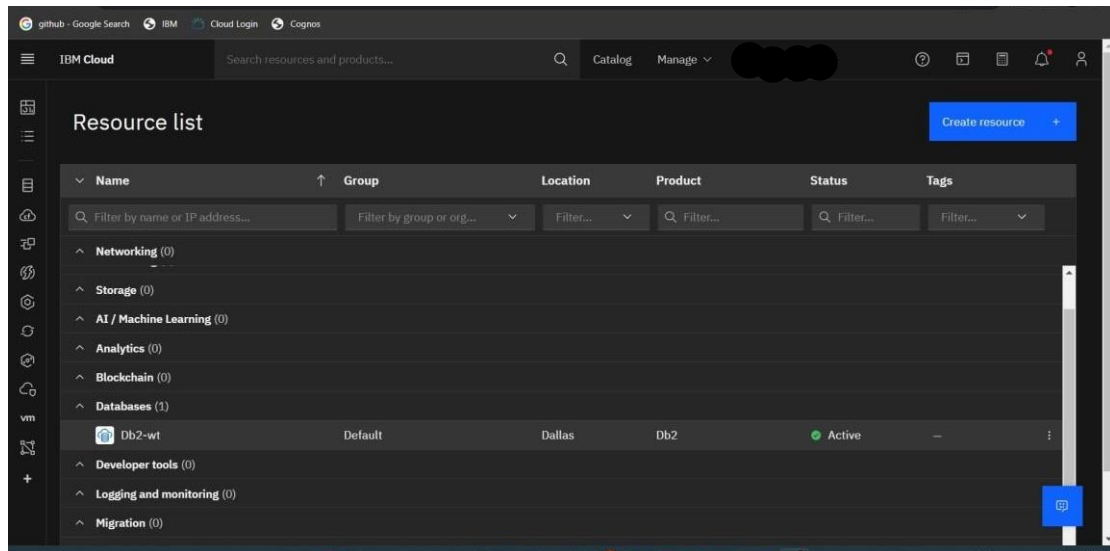
STEP 3: In IBM cloud go to catalog and search for Db2.



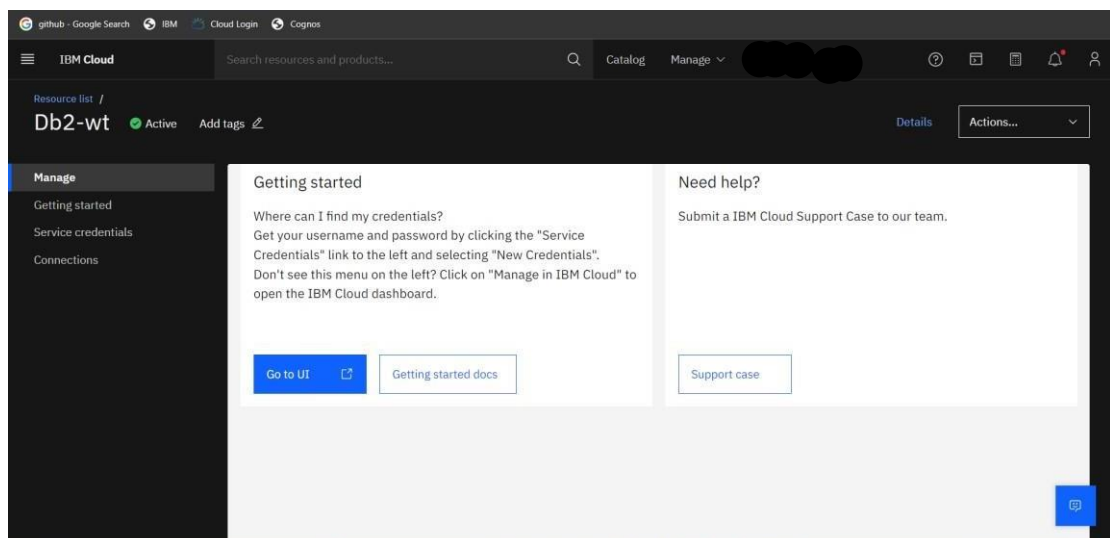
STEP 4: Create a new db2 connection.



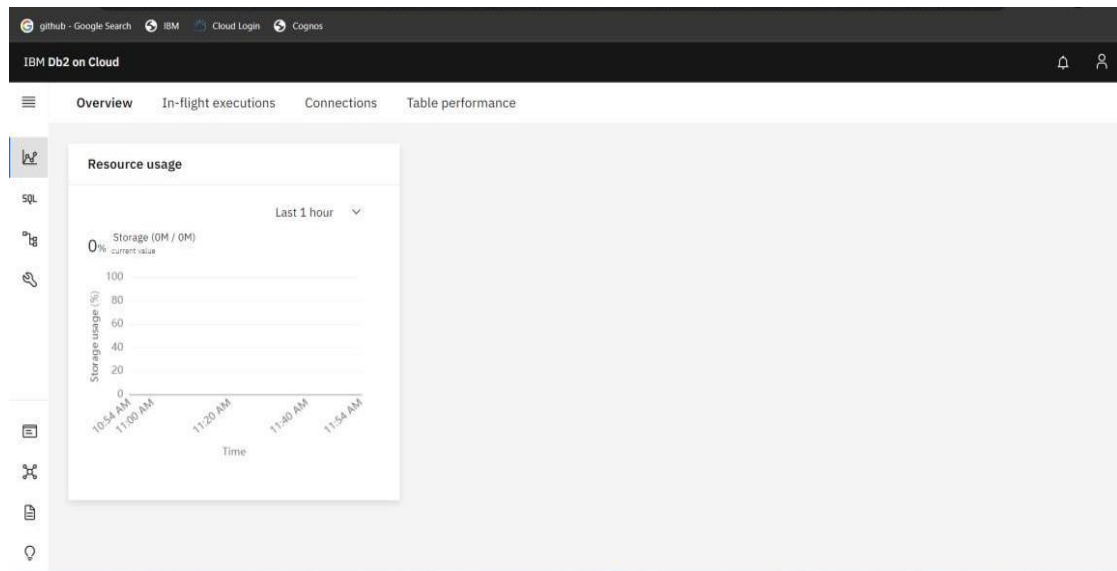
STEP 5: From the resource list select database as Db2.



STEP 6: Click on Go to UI to know resource usage.



STEP 7: Resource usage of IBM Db2 on cloud.

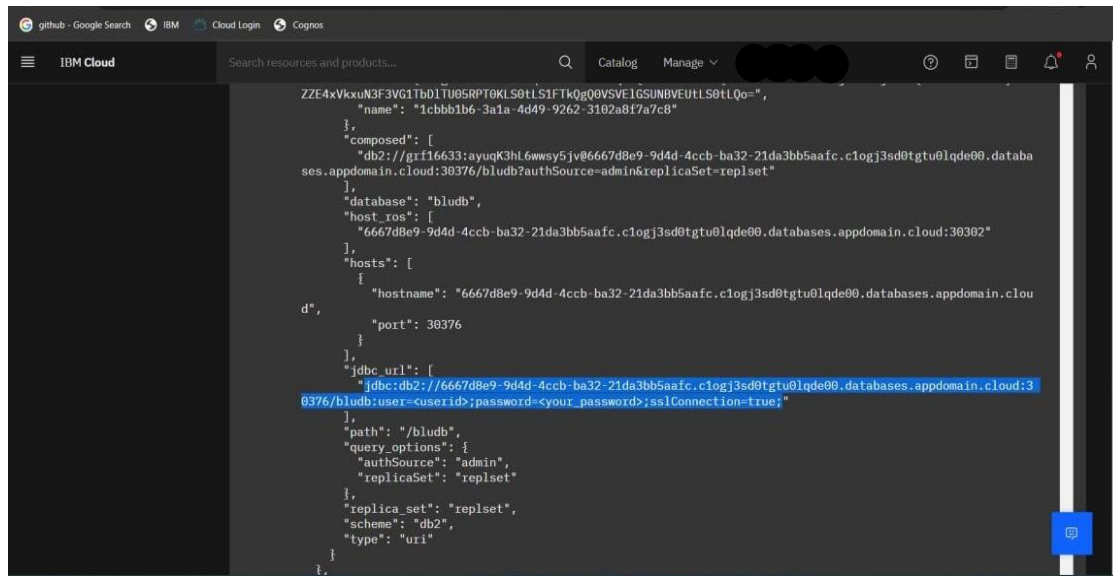


STEP 8: Creation of new Service Credential.

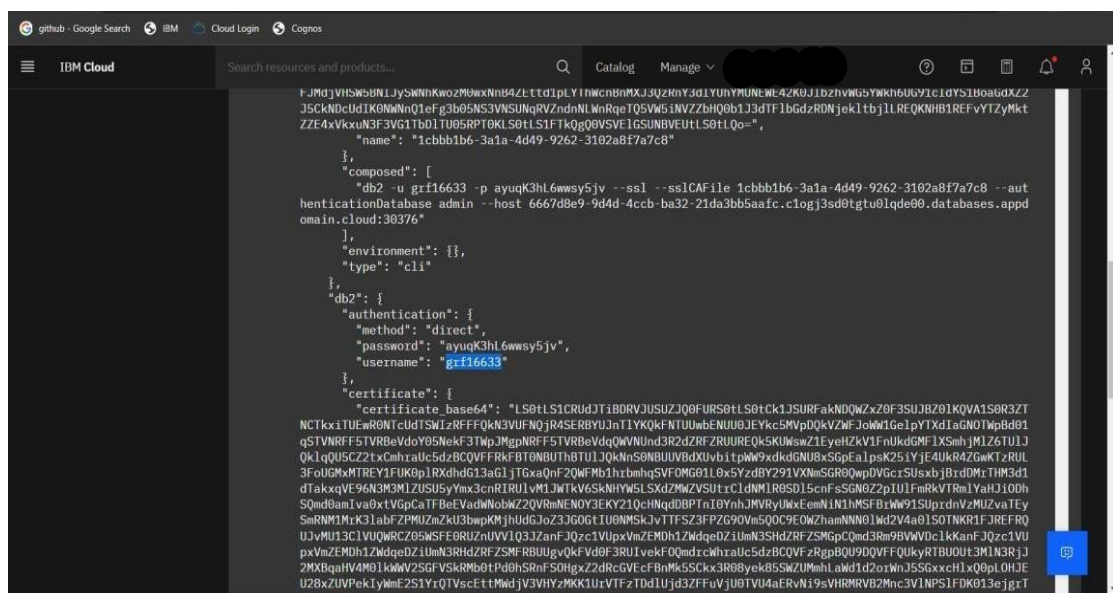
The screenshot shows the IBM Cloud console interface. The top navigation bar includes links to GitHub, Google Search, IBM, Cloud Login, and Cognos. The main header shows 'IBM Cloud' with a search bar and a 'Catalog' button. The left sidebar contains a 'Resource list' section with 'Db2-wt' (Active) and 'Add tags' link. Below this, there are tabs for 'Manage', 'Getting started', 'Service credentials', and 'Connections'. The 'Service credentials' tab is selected. The main content area shows the 'Service credentials' section with a description: '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](#)'. Below this, there is a search bar for 'Search credentials...' and a 'New credential' button. A table lists the existing credentials:

Key name	Date created
Service credentials-1	2022-11-08 11:58 AM

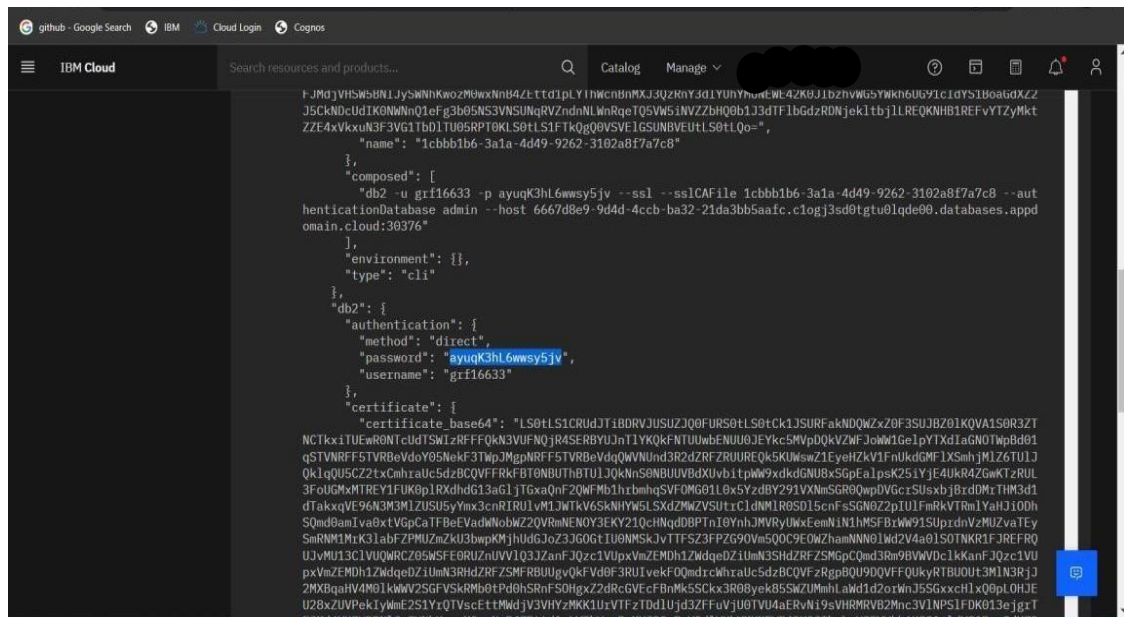
STEP 9: Copy the JDBC URL from the created service credential in IBM Cloud.



STEP 10: Copy the username and paste it in JDBC URL in Cognos for creating data server connection.

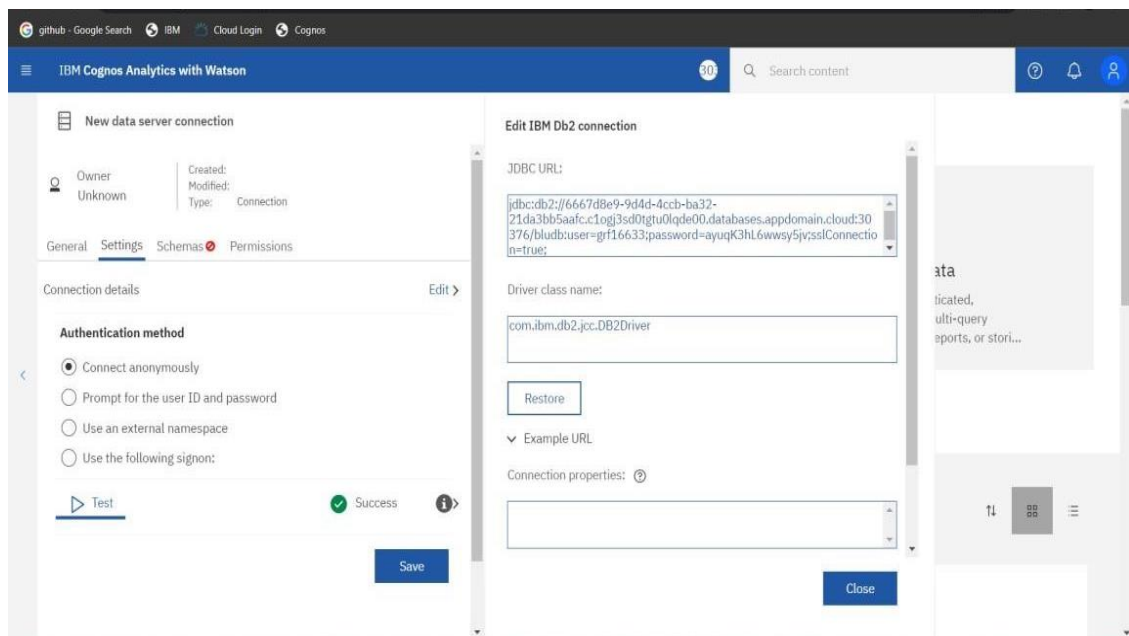


STEP 11: Copy the password and paste it in JDBC URL in Cognos.



```
FJMdjVH5W5BN1JySNhKwozMBWxNnb4Zttd1pLYI1NwcnBnMXJ3QzRnY3d1YUyYhUeWE42K8J1b2hVW65Yknh6U6Y91C1dYs1BoaGQXZJ
J5CkNDcUD1K0NwNnQ1eFg3b05NS3VNSUNqRVZndnNLWnRqETQ5VW5iNVZBhQ0b1J3dTf1bGdzRDnJek1tbj1LREQKNHB1REFvYTYZMkt
ZZE4xVkuXN3F3VG1TbD1TU05RPT0KLS0tLS1FTkQgO0VSVE1GSUNBVEUtlS0tLQo=","
"name": "1cbbb1b6-3a1a-4d49-9262-3102a8f7a7c8"
},
"composed": [
  "db2 -u grf16633 -p ayuqK3hL6wwsy5jv --ssl --sslCAFile 1cbbb1b6-3a1a-4d49-9262-3102a8f7a7c8 --aut
henticationDatabase admin --host 6667d8e9-9d4d-4ccb-ba32-21da3bb5aafc.c1ogj3sd0tgtu0lqde00.databases.appd
omain.cloud:30376"
],
"environment": {},
"type": "cli"
},
"db2": {
  "authentication": {
    "method": "direct",
    "password": "ayuqK3hL6wwsy5jv",
    "username": "grf16633"
  },
  "certificate": {
    "certificate_base64": "LS0tLS1CRUdJTiB0RVJUSUZJQ0FURSB0LS0tck1JSURFakNDQWZzZWF3SUJhZDZ0IQA1S0R3ZT
NCTkxiTUEwR0NTc0dTSMiZkRFFQK3VUFNQR4SERBYUJnT1YKQKfNTUUbENUU0JEYkc5MVpDQKvZWFJwM1Ge1pYTXdIaGN0TWpBd01
qSTVNRFF5TVRBeVd0Y05Nekf3T1WpJmGpNRRF5TVRBeVdqQWVNUnd3R2dZRFZRUUREQk5KUWswZ1EYehZKv1FnUkdGMF1XSmhJm1Z6TU1J
Qk1qQU5CZ2ZlcmhzaUc5d2BCQVFRKfBT0NBUT1bTULJQkNnS0NB0UUVBdXUvbiTpwW9xdkdG0U8xSGpEa1psK251YjE4UKR4ZGwKTzRUL
3FoUGMxMTREY1FUK0p1RXdhG13aG1jTGxaQnFZQWfMb1hrbmhgSVFOMG0L8x5YzdBY291VXNmSGR0Qwp0VGcrSUSxbjBrd0MxTHM3d1
dTakxqVE96N3M3M1ZUSU5yYmx3cnRIRU1vM1JWTKV6SkNHYSGLSXdZMZWVSUtrC1dNMLR0S015cnfSGNBZ2p1U1FmRkVTRm1YaHJ100h
S0md8amIva0xtV6pCaTFBeVadwNobWZ20VRmNEN0Y3EKY21QchNqdDBPTn10YnhJMVRyUWxEemN1N1hMSFBz1Ww91SUpzdnVzMUZvaTey
SmrNM1MrK31abFZPMUzmZu3bwpKMjhUdGJoZ3JG0G1U0NMskJvTTF5Z3FPZG90Vn5Q0C9E0WZhamNN01Wd2V4a01S0TNKR1FJREFRQ
UJvMU13C1U1UQWRCZ05WSF0RUZnuUVV1Q3J3anFJQzc1VUpxVmZEMDh1ZWdqeDZiUmN3SHdZRFZSNGpCQmd3Rm9BbWV0c1kkanFJQzc1VU
pxVmZEMDh1ZWdqeDZiUmN3RHdZRFZSMFRBUJgVqKfVd0F3RUIveKfQmdrcWhraUc5dzBCQVFrRgpbQU9DQVFFQUkyRTBU0ut3M1N3RjJ
2MXBqaHV4M01kwWV2SGFVSkrMb0tPd0hSRnF50HgXZ2dRcGVEcF8nMk5SCKx3R08yekB5SWZUMmhlawd1d2orWnJ5SGxxc1lxQ0pLOHJE
U28xZUVPek1yMmE251YrQTvScEtTmMjdV3VHYzMKK1UzVTFzTdd1Ujd3ZFvUvU0TVU4aErVn19sVHRMRV82Mnc3V1NPS1FDK013ejgrT
```

STEP 12: Data Server Connection is created successfully.



IBM Cognos Analytics with Watson

Search content

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 Success

Save

Edit IBM Db2 connection

JDBC URL:

jdbc:db2://6667d8e9-9d4d-4ccb-ba32-21da3bb5aafc.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud:30376/bludb:user=grf16633;password=ayuqK3hL6wwsy5jv;sslConnection=true;

Driver class name:

com.ibm.db2.jcc.DB2Driver

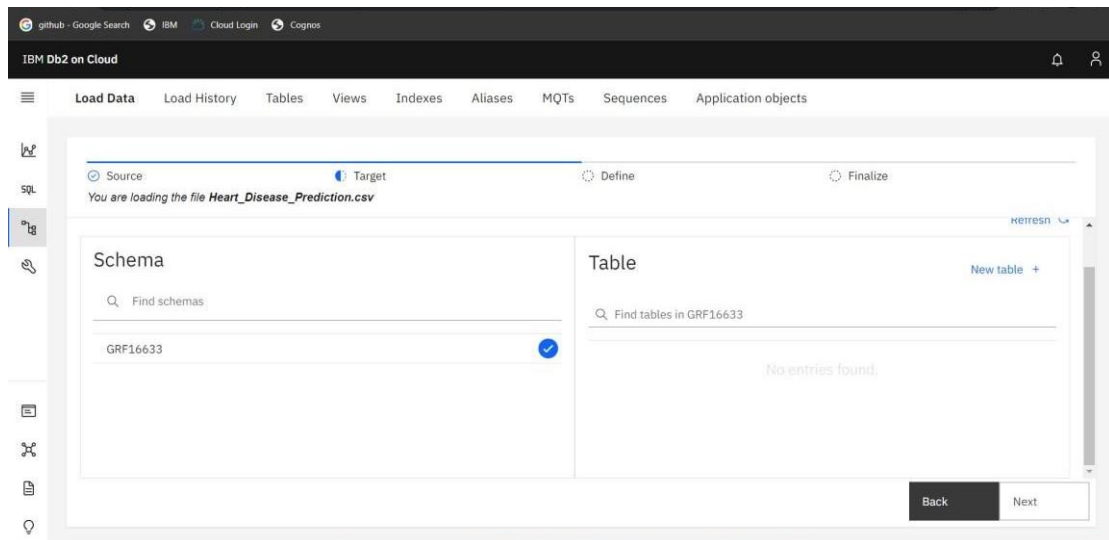
Restore

Example URL

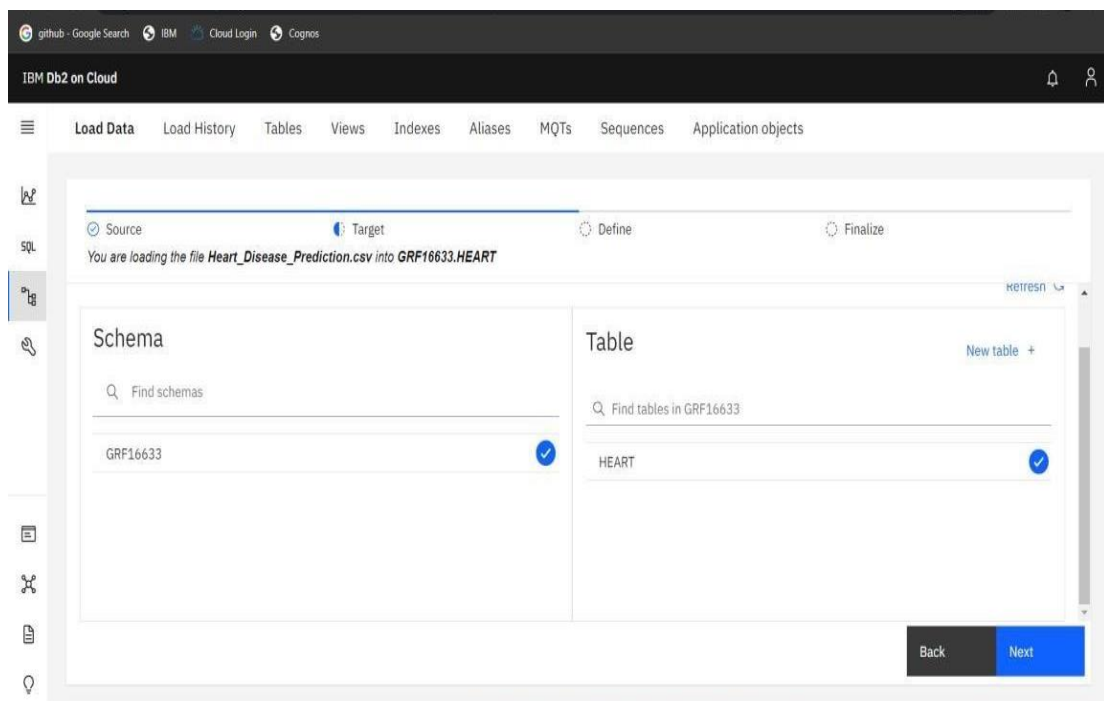
Connection properties:

Close

STEP 13: In IBM Db2 Select a schema and create a table.



STEP 14: Schema and table has been created.



STEP 15: The creation of table is shown below:

The screenshot shows the 'Define' step in the IBM Db2 on Cloud console. The source is 'Heart_Disease_Prediction.csv' and the target is 'GRF16633.HEART'. The 'Code page' is set to '1208 (UTF-8)' and the 'Separator' is a comma. The 'Header in first row' checkbox is checked. The 'Time & date format' is set to 'YYYY-MM-DD HH:MM:SS.SSS'. The 'Detect data types' checkbox is checked. The table schema is defined with the following columns:

	AGE SMALLINT	SEX SMALLINT	CHEST_PAIN_TYPE SMALLINT	BP SMALLINT	CHOLESTEROL SMALLINT	FBS_OVER_120 SMALLINT	EKG_RESULTS SMALLINT	MAX_HR SMALLINT
1	70	1	4	130	322	0	2	109
2	67	0	3	115	564	0	2	160
3	57	1	2	124	261	0	0	141
4	64	1	4	128	263	0	0	105
5	74	0	2	120	269	0	2	121
6	65	1	4	120	177	0	0	140
7	56	1	3	130	256	1	2	142
8	50	1	4	110	238	0	2	112

Buttons: Back, Next

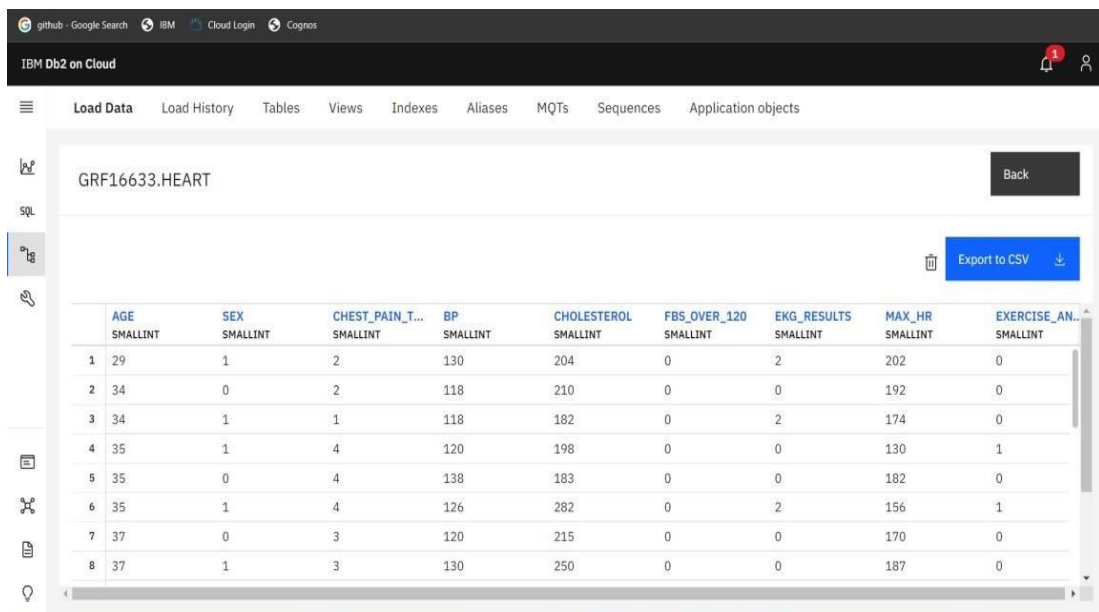
STEP 16: The data has been loaded successfully in Db2.

The screenshot shows the 'Status' page in the IBM Db2 on Cloud console. The 'Load Data' job is marked as 'COMPLETE'. The status summary shows:

- Rows read: 270
- Rows loaded: 270
- Rows rejected: 0

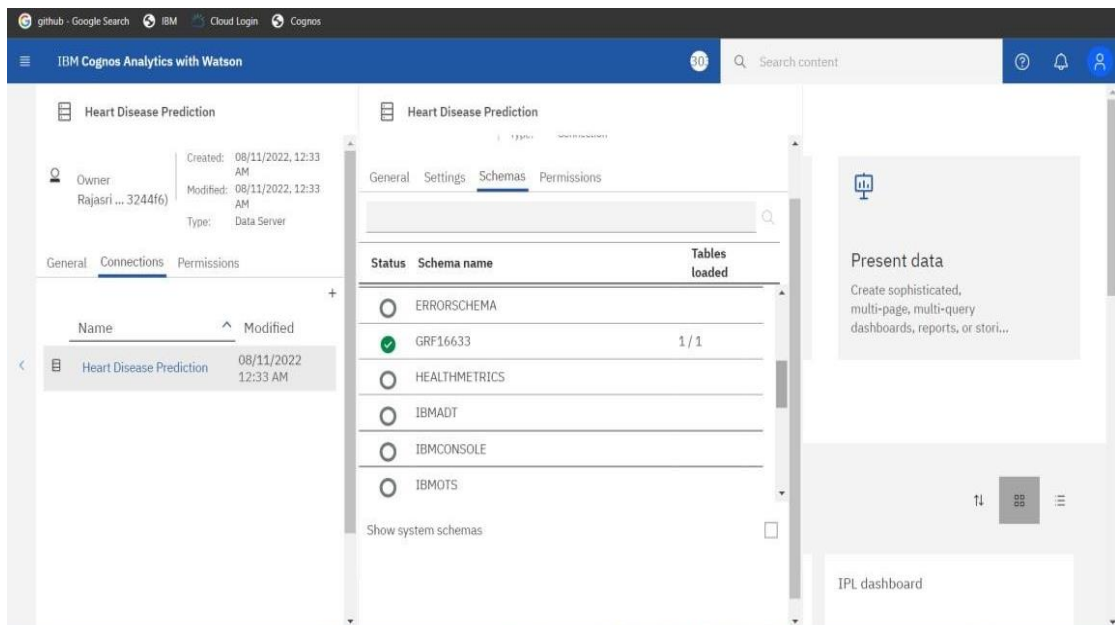
The start time is 11/08/2022 12:11:46 PM and the end time is 11/08/2022 12:11:59 PM. The message states: 'The data load job succeeded. You can now work with your data.' A notification banner on the right says: 'The data load job succeeded. Load Heart_Disease_Prediction.csv from My Computer to GRF16633.HEART. 2022/11/08, 12:11 PM. View details'.

STEP 17: The below table represents the data present in our Dataset.



	AGE SMALLINT	SEX SMALLINT	CHEST_PAIN_T... SMALLINT	BP SMALLINT	CHOLESTEROL SMALLINT	FBS_OVER_120 SMALLINT	EKG_RESULTS SMALLINT	MAX_HR SMALLINT	EXERCISE_AN... SMALLINT
1	29	1	2	130	204	0	2	202	0
2	34	0	2	118	210	0	0	192	0
3	34	1	1	118	182	0	2	174	0
4	35	1	4	120	198	0	0	130	1
5	35	0	4	138	183	0	0	182	0
6	35	1	4	126	282	0	2	156	1
7	37	0	3	120	215	0	0	170	0
8	37	1	3	130	250	0	0	187	0

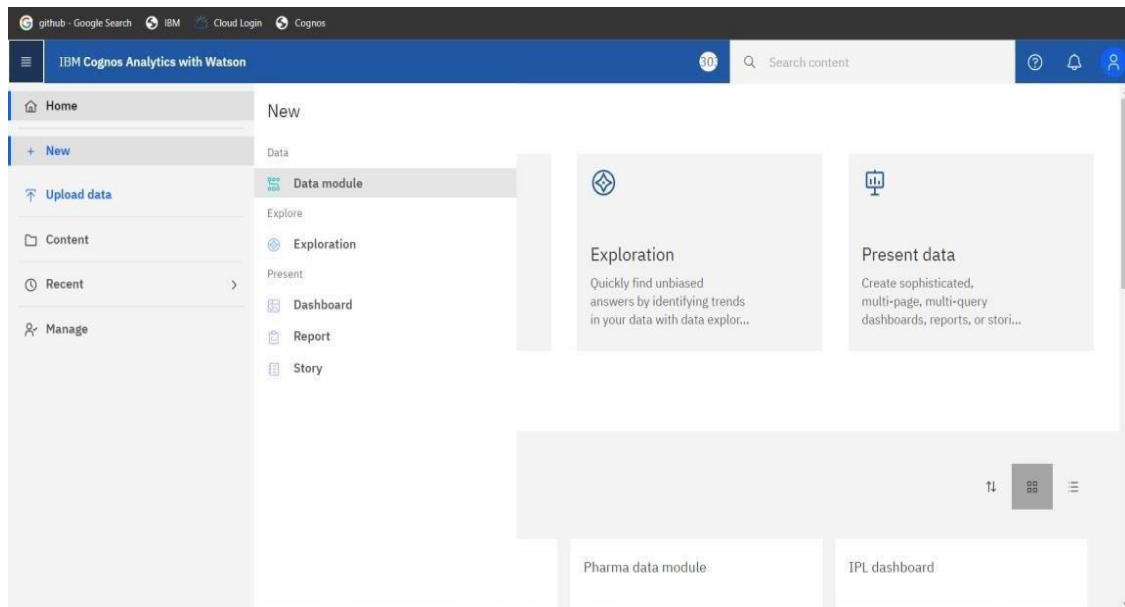
STEP 18: Loading of metadata and successfully loaded data in Cognos by server connection.



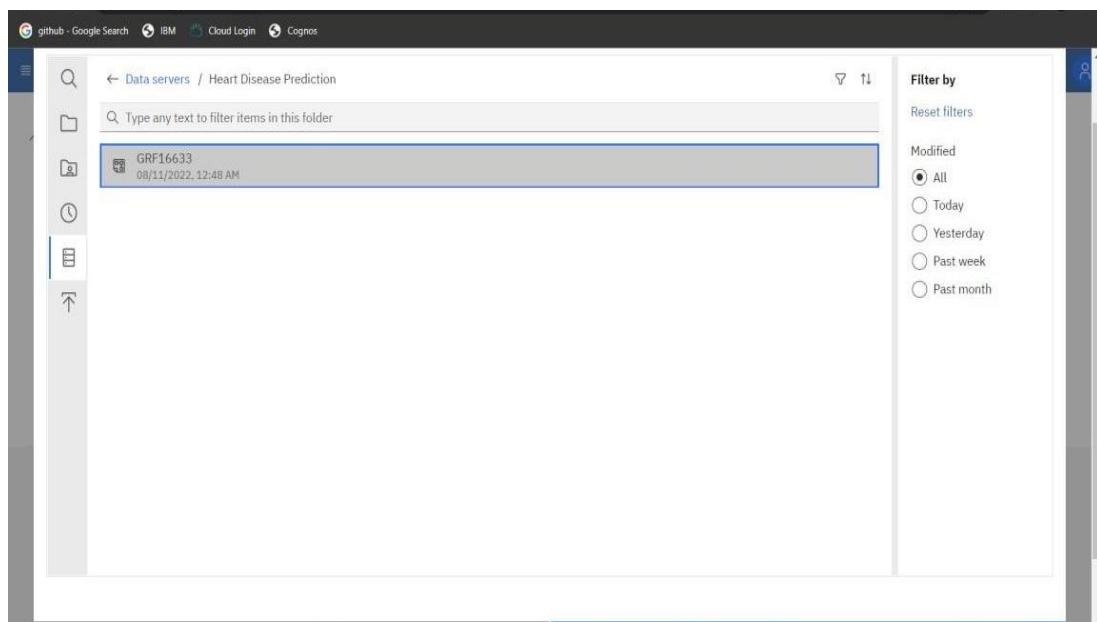
Status	Schema name	Tables loaded
<input type="radio"/>	ERRORSCHEMA	
<input checked="" type="radio"/>	GRF16633	1 / 1
<input type="radio"/>	HEALTHMETRICS	
<input type="radio"/>	IBMADT	
<input type="radio"/>	IBMCONSOLE	
<input type="radio"/>	IBMOTS	

Creation of Data Module:

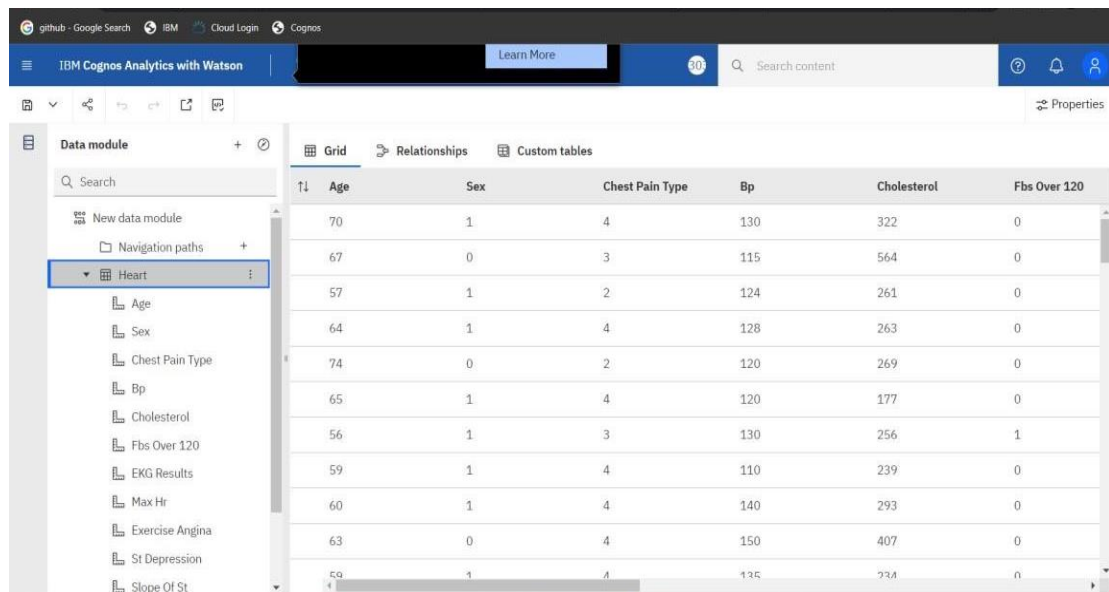
STEP 1: Creation of Data Module.



STEP 2: Choosing of dataset in data server connection in Cognos.



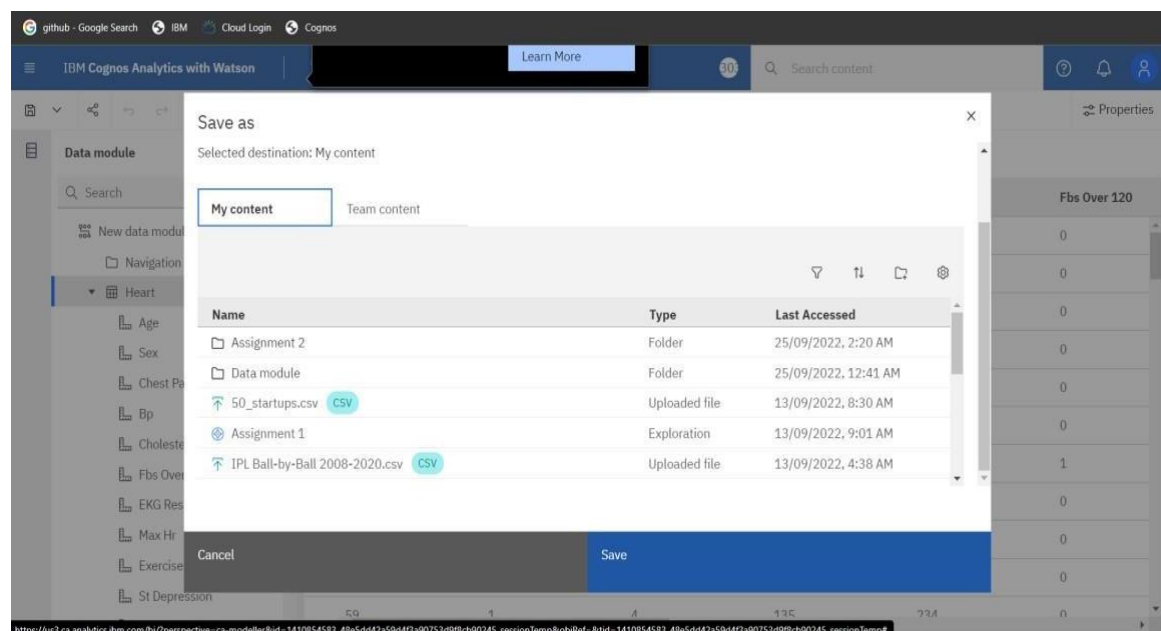
STEP 3: Data Module is created successfully.



The screenshot shows the IBM Cognos Analytics interface. On the left, a sidebar titled 'Data module' contains a search bar and a list of items. The 'Heart' module is selected, showing a list of attributes: Age, Sex, Chest Pain Type, Bp, Cholesterol, Fbs Over 120, EKG Results, Max Hr, Exercise Angina, St Depression, and Slope Of St. The main area displays a 'Grid' view of the data. The table has 7 columns: Age, Sex, Chest Pain Type, Bp, Cholesterol, and Fbs Over 120. There are 14 rows of data.

Age	Sex	Chest Pain Type	Bp	Cholesterol	Fbs Over 120
70	1	4	130	322	0
67	0	3	115	564	0
57	1	2	124	261	0
64	1	4	128	263	0
74	0	2	120	269	0
65	1	4	120	177	0
56	1	3	130	256	1
59	1	4	110	239	0
60	1	4	140	293	0
63	0	4	150	407	0
59	1	4	135	234	0

STEP 4: Save the Data Module in My content.



The screenshot shows the 'Save as' dialog box in IBM Cognos Analytics. The 'Selected destination' is 'My content'. The 'My content' tab is active, showing a list of existing items. The 'Save' button is highlighted in blue.

Name	Type	Last Accessed
Assignment 2	Folder	25/09/2022, 2:20 AM
Data module	Folder	25/09/2022, 12:41 AM
50_startups.csv	Uploaded file	13/09/2022, 8:30 AM
Assignment 1	Exploration	13/09/2022, 9:01 AM
IPL Ball-by-Ball 2008-2020.csv	Uploaded file	13/09/2022, 4:38 AM

STEP 5: Representation of data module with the datum present in Heart Disease Prediction.

The screenshot shows the IBM Cognos Analytics interface. The top navigation bar includes links for GitHub, Google Search, IBM, Cloud Login, and Cognos. The main header displays 'IBM Cognos Analytics with Watson' and 'Heart Disease Pr ... Data Module'. A search bar is present on the right. The left sidebar shows a 'Data module' tree with a search function. The 'Heart' module is expanded, listing attributes: Age, Sex, Chest Pain Type, Bp, Cholesterol, Fbs Over 120, EKG Results, Max Hr, Exercise Angina, St Depression, and Slope Of St. The main area displays a 'Grid' view of the data, showing 12 rows of patient records with columns for Age, Sex, Chest Pain Type, Bp, Cholesterol, and Fbs Over 120.

Age	Sex	Chest Pain Type	Bp	Cholesterol	Fbs Over 120
70	1	4	130	322	0
67	0	3	115	564	0
57	1	2	124	261	0
64	1	4	128	263	0
74	0	2	120	269	0
65	1	4	120	177	0
56	1	3	130	256	1
59	1	4	110	239	0
60	1	4	140	293	0
63	0	4	150	407	0
60	1	4	125	234	0