

Hands-on Lab: Working with Databases in Cloudant



Estimated time needed: 30 minutes

Objectives

After completing this lab you will be able to:

- Create a database through the Cloudant dashboard
- Insert documents into your database to populate it
- Query documents with specific criteria
- Modify documents by updating and deleting them

Prerequisite

In order to complete this lab, you will need to create an instance of Cloudant on IBM Cloud. If you haven't yet created one, you can create one by referring to the [Create an Instance of IBM Cloudant](#) lab.

Note: While working on this lab, you may be prompted to login when ever your session expires. Use your credentials to authenticate. This may happen when you step out or leave your Cloudant session unattended.

Exercise 1 - Launch Cloudant Dashboard

Step 1: Click on cloud.ibm.com/resources.

Step 2: Click on the Services chevron.

Step 3: Click on your instance of Cloudant.

▼ Click here for Hint

The screenshot shows the IBM Cloud console interface. At the top, there's a navigation bar with 'IBM Cloud', a search bar, and links to Catalog, Docs, Support, and Manage. Below this is the 'Resource list' section. On the left, there's a sidebar with various resource categories. The main area displays a table of resources. A blue arrow points to the 'mycloudant' instance under the 'Services' category. The instance details are shown in a row: Name: mycloudant, Group: Default, Location: London, Product: Cloudant, Status: Active (green dot), and Tags: none.

Name	Group	Location	Product	Status	Tags
mycloudant	Default	London	Cloudant	Active	—

Step 4: Click on Launch Dashboard.

The screenshot shows the IBM Cloud console interface for a resource named 'mycloudant'. The left sidebar contains navigation options: 'Manage', 'Service credentials', 'Plan', and 'Connections'. The main area has tabs for 'Overview', 'Dashboard', 'Capacity', and 'Docs'. The 'Overview' tab is active, displaying 'Deployment details' and 'Capacity details'. The 'Deployment details' section includes fields for CRN, Location, External Endpoint, External Endpoint (preferred), Authentication methods, Activity Tracker event types, and Disk encryption. A blue arrow points to the 'Launch Dashboard' button in the top right corner.

Deployment details	
CRN	crn:v1:bluemix:public:cloudantnosqldb:eu-gb:a/9ff7e8c5d25d4ac7aa5dcdf28618b403:f2f160dd-10bb-4161-93a9-f3d3db5a8db9::
Location	London
External Endpoint	https://4646e655-6aee-42d8-8b93-d2bde6e9a6ca-bluemix.cloudant.com
External Endpoint (preferred)	https://4646e655-6aee-42d8-8b93-d2bde6e9a6ca-bluemix.cloudantnosqldb.appdomain.cloud
Authentication methods	IBM Cloud IAM and Cloudant credentials
Activity Tracker event types	Management Save
Disk encryption	Yes. Automatically generated disk encryption key.

Capacity details

Exercise 2 - Create Database

Step 1: On the dashboard click on **Create Database**.

The screenshot shows the 'Databases' page in the IBM Cloud console. The left sidebar has icons for navigation. The main area has a 'Your Databases' section with a table. The table has columns: Name, Size, # of Docs, Partitioned, and Actions. A blue arrow points to the 'Create Database' button in the top right corner.

Name	Size	# of Docs	Partitioned	Actions
------	------	-----------	-------------	---------

Step 2: Type **housing** as database name. Select 'Non-partitioned' and click on **Create**.

The screenshot shows the 'Create Database' dialog box. The 'Database name' field is filled with 'housing'. Under 'Partitioning', the 'Non-partitioned' radio button is selected. The 'Create' button is highlighted with a blue arrow.

Create Database

Database name

housing

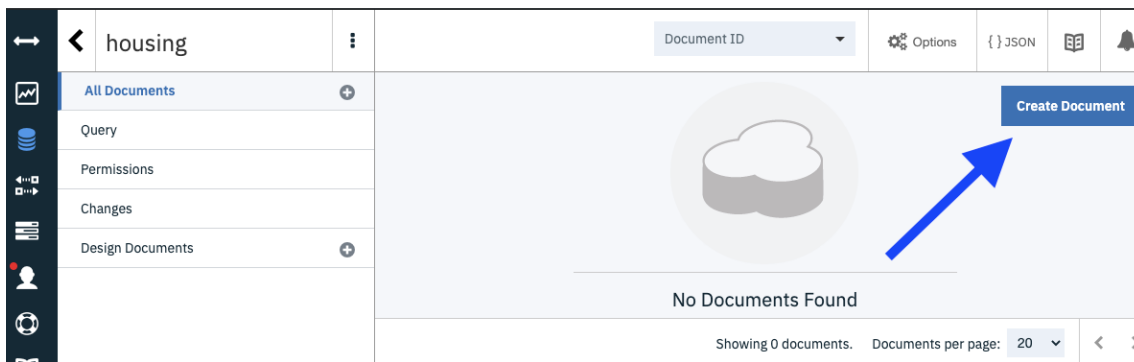
Partitioning

☐ Partitioned ☒ Non-partitioned

What is a Partitioned Database?

Cancel Create

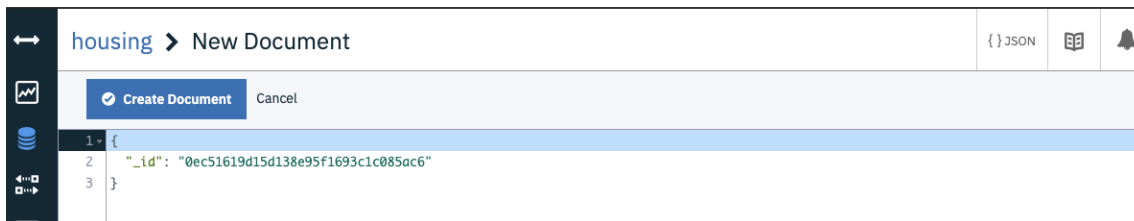
In a few moments the database will be created, and you will be taken to a page that looks like the one below.



Exercise 3 - Insert documents

Step 1: Click on Create Document to insert a document.

You will be presented the below screen, with a simple sample document.



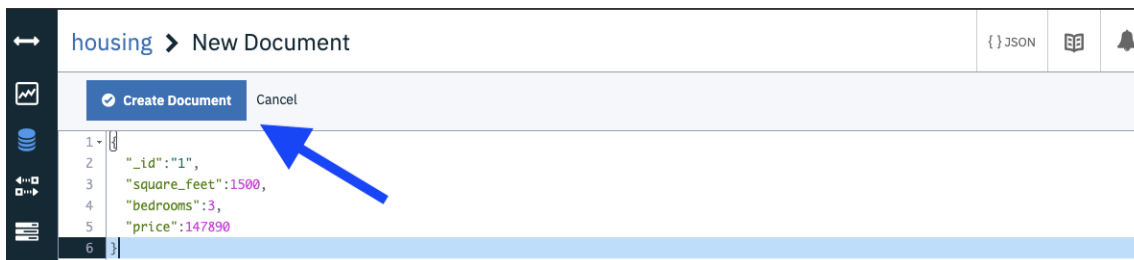
Cloudant uses `_id` key to uniquely identify a document. It is equivalent to the primary key in RDBMS. You can use your own custom values for `_id`.

Copy and paste the below json document and click on Create Document button, as show in the image below.

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
```

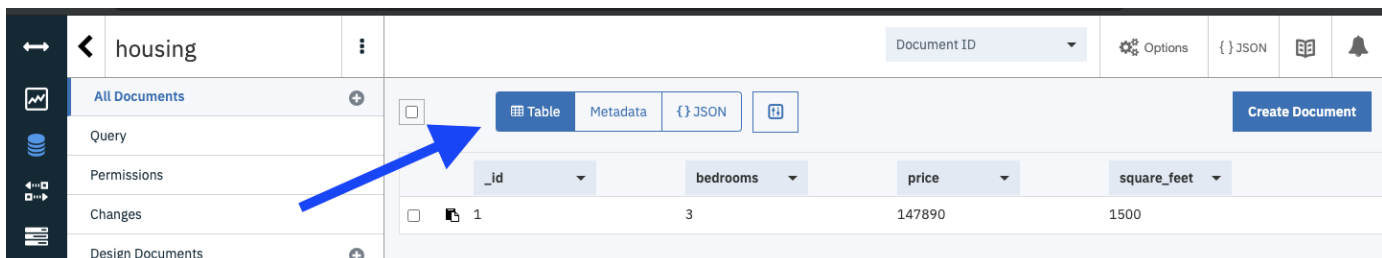
```
1. {
2.   "_id": "1",
3.   "square_feet": 1500,
4.   "bedrooms": 3,
5.   "price": 147890
6. }
```

Copied!



Once the document is created, Cloudant will take you to a page with the list of documents.

Click on the Table view button. You should see a screen similar to the one below.



Follow the above mentioned process and insert the below 4 documents. Ensure you only insert one document at a time.

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
```

```
1. {
2.   "_id": "2",
3.   "square_feet": 1800,
4.   "bedrooms": 3,
5.   "price": 182650
6. }
```

Copied!

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7

1.
2. {
3.   "_id": "3",
4.   "square_feet": 2000,
5.   "bedrooms": 3,
6.   "price": 201260
7. }
```

Copied!

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7

1.
2. {
3.   "_id": "4",
4.   "square_feet": 2200,
5.   "bedrooms": 4,
6.   "price": 234980
7. }
```

Copied!

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7

1.
2. {
3.   "_id": "5",
4.   "square_feet": 1100,
5.   "bedrooms": 2,
6.   "price": 114310
7. }
```

Copied!

After inserting the above documents your database should look like this.

housing		Document ID		Options	{ } JSON		
All Documents	+	<input type="checkbox"/>	Table	Metadata	{ } JSON		Create Document
Query							
Permissions							
Changes							
Design Documents	+						
		<input type="checkbox"/>	1	3	147890	1500	
		<input type="checkbox"/>	2	3	182650	1800	
		<input type="checkbox"/>	3	3	201260	2000	
		<input type="checkbox"/>	4	4	234980	2200	
		<input type="checkbox"/>	5	2	114310	1100	

Cloudant is a NoSQL database. It is a schema less database. All documents in a database need not have the same schema.

Let us insert two documents that have additional keys, compared to the previously inserted documents.

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9

1.
2. {
3.   "_id": "6",
4.   "square_feet": 1400,
5.   "bedrooms": 3,
6.   "price": 123140,
7.   "type": "apartment",
8.   "floor": 5
9. }
```

Copied!

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9

1.
2. {
3.   "_id": "7",
4.   "square_feet": 3400,
5.   "bedrooms": 4,
6.   "price": 342720,
7.   "type": "villa",
8.   "car_parks": 3
9. }
```

```
9. }
```

Copied!

After inserting the above documents your database should now look like this.

housing	Document ID	Options	{ } JSON		
All Documents	<input type="checkbox"/>	Table	Metadata	{ } JSON	Create Document
Query					
Permissions					
Changes					
Design Documents					

		_id	bedrooms	price	square_feet	type
<input type="checkbox"/>		1	3	147890	1500	
<input type="checkbox"/>		2	3	182650	1800	
<input type="checkbox"/>		3	3	201260	2000	
<input type="checkbox"/>		4	4	234980	2200	
<input type="checkbox"/>		5	2	114310	1100	
<input type="checkbox"/>		6	3	123140	1400	apartment
<input type="checkbox"/>		7	4	342720	3400	villa

Exercise 4 - Query documents

Click on Query as shown in the image below.

housing	Document ID	Options	{ } JSON		
All Documents	<input type="checkbox"/>	Table	Metadata	{ } JSON	Create Document
Query					
Permissions					
Changes					
Design Documents					

		_id	bedrooms	price	square_feet	type
<input type="checkbox"/>		1	3	147890	1500	
<input type="checkbox"/>		2	3	182650	1800	
<input type="checkbox"/>		3	3	201260	2000	
<input type="checkbox"/>		4	4	234980	2200	
<input type="checkbox"/>		5	2	114310	1100	
<input type="checkbox"/>		6	3	123140	1400	apartment
<input type="checkbox"/>		7	4	342720	3400	villa

You will see a screen like this.

housing > Cloudant Query

Query history

Cloudant Query

```
1 {
2   {
3     "selector": {
4       "_id": {
5         "$gt": "0"
6       }
7     },
8     "fields": [
9       "_id",
10      "_rev"
11    ],
12    "sort": [
13      {
14        "_id": "asc"
15      }
16    ]
17  }
18 }
```

Run Query Explain manage indexes

Create Document

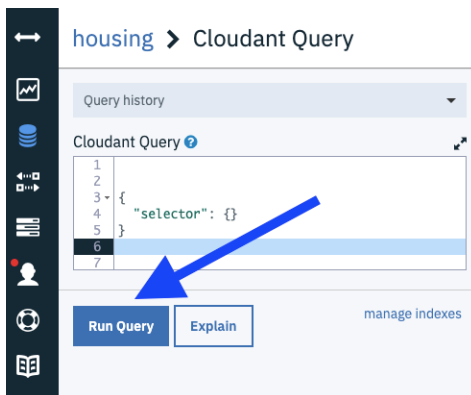
No Documents Found

Replace the default query with the one given below, and click on the Run Query button.

```
1. 1
2. 2
3. 3

1. {
2.   "selector": {}
3. }
```

Copied!



You should see an output like this.

The screenshot shows the Cloudant Query interface with the query editor on the left and the resulting table output on the right. The query editor shows the same sample query as before. The table output has columns: `_id`, `bedrooms`, `price`, `square_feet`, and `type`. The data rows are as follows:

	<code>_id</code>	<code>bedrooms</code>	<code>price</code>	<code>square_feet</code>	<code>type</code>
<input type="checkbox"/>	1	3	147890	1500	
<input type="checkbox"/>	2	3	182650	1800	
<input type="checkbox"/>	3	3	201260	2000	
<input type="checkbox"/>	4	4	234980	2200	
<input type="checkbox"/>	5	2	114310	1100	
<input type="checkbox"/>	6	3	123140	1400	apartment
<input type="checkbox"/>	7	4	342720	3400	villa

Try out these Cloudant queries.

Select all fields in all documents

```
1. 1
2. 2
3. 3
4. 4

1. {
2.   {
3.     "selector": {}
4.   }
5. }
```

Copied!

Select all fields in all documents with `_id` greater than 4

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8

1. {
2.   {
3.     "selector": {
4.       "_id": {
5.         "$gt": "4"
6.       }
7.     }
8.   }
9. }
```

Copied!

Select all fields in all documents with `_id` less than 4

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8

1. {
2.   {
3.     "selector": {
4.       "_id": {
5.         "$lt": "4"
6.       }
7.     }
8.   }
9. }
```

Copied!

Select the fields `_id`, `square_feet` and `price` in all documents

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9

1.
2. {
3.   "selector": {},
4.   "fields": [
5.     "_id",
6.     "price",
7.     "square_feet"
8.   ]
9. }
```

Copied!

Select the fields `_id`, `square_feet` and `price` in documents with `_id` less than 4

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10
11. 11
12. 12
13. 13

1.
2. {
3.   "selector": {
4.     "_id": {
5.       "$lt": "4"
6.     }
7.   },
8.   "fields": [
9.     "_id",
10.    "price",
11.    "square_feet"
12.  ]
13. }
```

Copied!

Select the fields `_id`, `bedrooms` and `price` in documents with `_id` greater than 2 and sort by `_id` ascending

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10
11. 11
12. 12
13. 13
14. 14
15. 15
16. 16
17. 17
18. 18

1.
2. {
3.   "selector": {
4.     "_id": {
5.       "$gt": "2"
6.     }
7.   },
8.   "fields": [
9.     "_id",
10.    "price",
11.    "square_feet"
12.  ],
13.   "sort": [
14.     {
15.       "_id": "asc"
16.     }
17.   ]
18. }
```

Copied!

Select the fields `_id`, `bedrooms` and `price` in documents with `_id` greater than 2 and sort by `_id` descending

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10
11. 11
12. 12
13. 13
14. 14
15. 15
16. 16
17. 17
18. 18

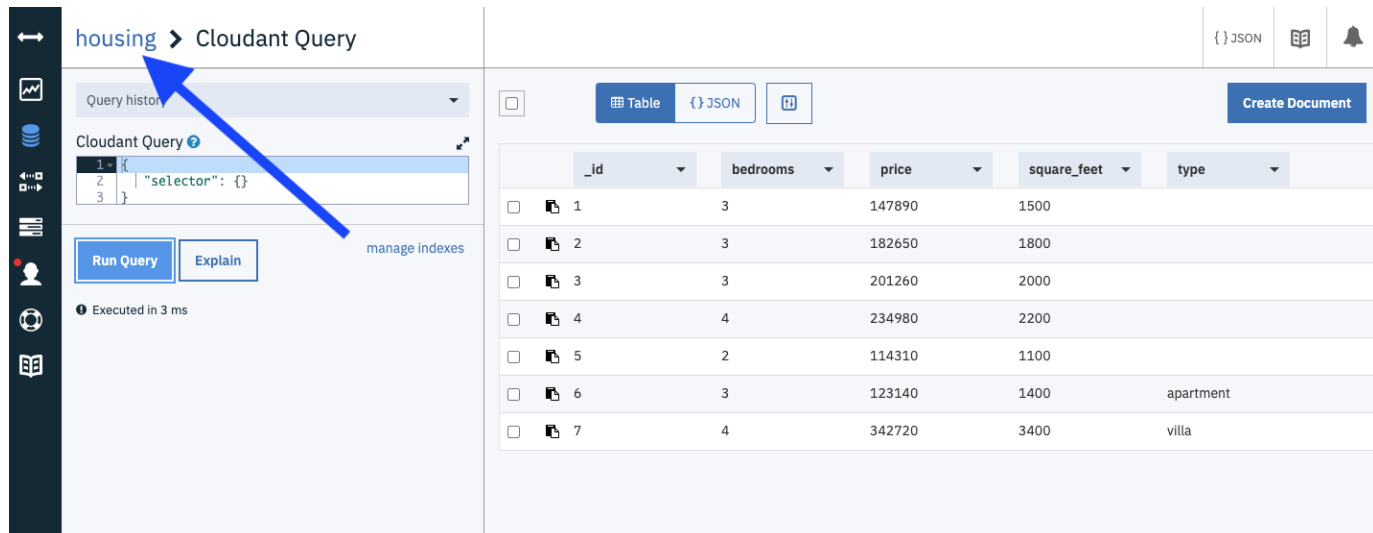
1.
2. {
3.   "selector": {
4.     "_id": {
5.       "$gt": "2"
6.     }
7.   },
8.   "fields": [
9.     "_id",
10.    "price",
11.    "square_feet"
12.  ],
```

```
13.   "sort": [
14.     {
15.       "_id": "desc"
16.     }
17.   ]
18. }
```

Copied!

Exercise 5 - Update documents

Click on the database name **housing** as shown in the image below.



housing > Cloudant Query

Query history

Cloudant Query

```
{
  "_id": {
    "$gt": 2
  }
}
```

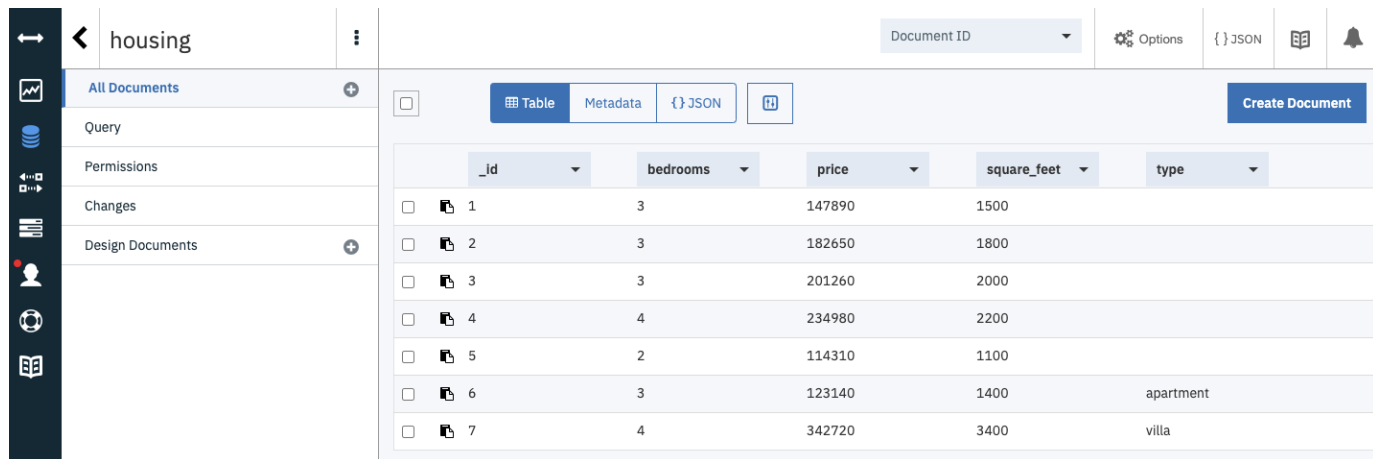
Run Query Explain

Executed in 3 ms

manage indexes

	_id	bedrooms	price	square_feet	type
<input type="checkbox"/>	1	3	147890	1500	
<input type="checkbox"/>	2	3	182650	1800	
<input type="checkbox"/>	3	3	201260	2000	
<input type="checkbox"/>	4	4	234980	2200	
<input type="checkbox"/>	5	2	114310	1100	
<input type="checkbox"/>	6	3	123140	1400	apartment
<input type="checkbox"/>	7	4	342720	3400	villa

You will see a screen as in the image below.



housing

All Documents

Query

Permissions

Changes

Design Documents

Document ID

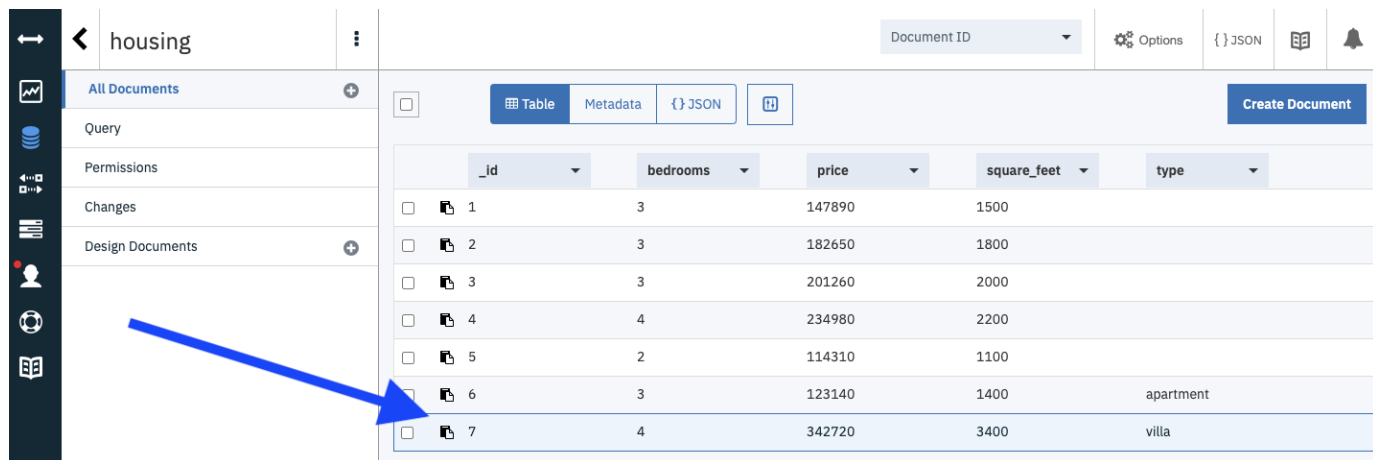
Options

JSON

Create Document

	_id	bedrooms	price	square_feet	type
<input type="checkbox"/>	1	3	147890	1500	
<input type="checkbox"/>	2	3	182650	1800	
<input type="checkbox"/>	3	3	201260	2000	
<input type="checkbox"/>	4	4	234980	2200	
<input type="checkbox"/>	5	2	114310	1100	
<input type="checkbox"/>	6	3	123140	1400	apartment
<input type="checkbox"/>	7	4	342720	3400	villa

Click on the document with **_id 7**.



housing

All Documents

Query

Permissions

Changes

Design Documents

Document ID

Options

JSON

Create Document

	_id	bedrooms	price	square_feet	type
<input type="checkbox"/>	1	3	147890	1500	
<input type="checkbox"/>	2	3	182650	1800	
<input type="checkbox"/>	3	3	201260	2000	
<input type="checkbox"/>	4	4	234980	2200	
<input type="checkbox"/>	5	2	114310	1100	
<input type="checkbox"/>	6	3	123140	1400	apartment
<input type="checkbox"/>	7	4	342720	3400	villa

The document will open up like this.

housing > 7

Save Changes Cancel

Upload Attachment Clone Document Delete

```
1 {
2   "_id": "7",
3   "_rev": "1-6c4aba2b36f6cf1bee45f5b2220a578",
4   "square_feet": 3400,
5   "bedrooms": 4,
6   "price": 342720,
7   "type": "villa",
8   "car_parks": 3
9 }
```

Change the number of car_parks to 4 and add facing key with value East, as shown in the image below. Click Save Changes to save the document.

housing > 7

Save Changes Cancel

Upload Attachment Clone Document Delete

```
1 {
2   "_id": "7",
3   "_rev": "1-6c4aba2b36f6cf1bee45f5b2220a578",
4   "square_feet": 3400,
5   "bedrooms": 4,
6   "price": 342720,
7   "type": "villa",
8   "car_parks": 4,
9   "facing": "East"
10 }
```

Exercise 6 - Delete documents

Select the document you wish to delete and click on the delete icon as shown in the image below.

housing

Document ID Options {} JSON

All Documents +

Query

Permissions

Changes

Design Documents +

Create Document

	_id	bedrooms	price	square_feet	type
<input type="checkbox"/>	1	3	147890	1500	
<input type="checkbox"/>	2	3	182650	1800	
<input type="checkbox"/>	3	3	201260	2000	
<input type="checkbox"/>	4	4	234980	2200	
<input checked="" type="checkbox"/>	5	2	114310	1100	
<input type="checkbox"/>	6	3	123140	1400	apartment
<input type="checkbox"/>	7	4	342720	3400	villa

You will get a pop up asking "Are you sure you want to delete this doc?"

Click ok.

Practice exercises

1. Create a database named **diamonds**.

- ▶ Click here for Hint
- ▶ Click here for Solution

2. Insert the below documents into the **diamonds** database.

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10
11. 11
12. 12
13. 13
14. 14
15. 15
16. 16
17. 17
18. 18
19. 19
20. 20
21. 21
22. 22
23. 23
24. 24
25. 25
```

26. 26
27. 27
28. 28
29. 29
30. 30
31. 31
32. 32
33. 33
34. 34
35. 35
36. 36
37. 37
38. 38
39. 39
40. 40
41. 41
42. 42
43. 43
44. 44
45. 45
46. 46
47. 47
48. 48
49. 49
50. 50
51. 51
52. 52
53. 53
54. 54
55. 55
56. 56
57. 57
58. 58
59. 59
60. 60
61. 61
62. 62
63. 63
64. 64
65. 65
66. 66
67. 67
68. 68
69. 69
70. 70
71. 71
72. 72
73. 73
74. 74
75. 75
76. 76
77. 77
78. 78
79. 79
80. 80
81. 81
82. 82
83. 83
84. 84
85. 85
86. 86
87. 87
88. 88
89. 89
90. 90
91. 91
92. 92
93. 93
94. 94
95. 95
96. 96
97. 97
98. 98
99. 99
100. 100
101. 101
102. 102
103. 103
104. 104
105. 105
106. 106
107. 107
108. 108
109. 109
110. 110
111. 111
112. 112
113. 113
114. 114

```
1.  {
2.    "_id": "1",
3.    "carat": 0.31,
4.    "cut": "Ideal",
5.    "color": "J",
6.    "clarity": "SI2",
7.    "depth": 62.2,
8.    "table": 54,
9.    "price": 339
10. }
11.
12. {
13.   "_id": "2",
14.   "carat": 0.2,
15.   "cut": "Premium",
16.   "color": "E",
17.   "clarity": "SI2",
18.   "depth": 60.2,
19.   "table": 62,
20.   "price": 351
21. }
22.
23. {
24.   "_id": "3",
25.   "carat": 0.32,
26.   "cut": "Premium",
27.   "color": "E",
28.   "clarity": "I1",
29.   "depth": 60.9,
30.   "table": 58,
31.   "price": 342
32. }
33.
34.
35.
36. {
37.   "_id": "4",
38.   "carat": 0.3,
39.   "cut": "Good",
40.
```

```
41.   "color": "J",
42.   "clarity": "SI1",
43.   "depth": 63.4,
44.   "table": 54,
45.   "price": 349
46. }
47.
48. {
49.   "_id": "5",
50.   "carat": 0.3,
51.   "cut": "Good",
52.   "color": "J",
53.   "clarity": "SI1",
54.   "depth": 63.8,
55.   "table": 56,
56.   "price": 347
57. }
58.
59. {
60.   "_id": "6",
61.   "carat": 0.3,
62.   "cut": "Very Good",
63.   "color": "J",
64.   "clarity": "SI1",
65.   "depth": 62.7,
66.   "table": 59,
67.   "price": 349
68. }
69.
70. {
71.   "_id": "7",
72.   "carat": 0.3,
73.   "cut": "Good",
74.   "color": "I",
75.   "clarity": "SI2",
76.   "depth": 63.3,
77.   "table": 56,
78.   "price": 343
79. }
80.
81. {
82.   "_id": "8",
83.   "carat": 0.23,
84.   "cut": "Very Good",
85.   "color": "E",
86.   "clarity": "VS2",
87.   "depth": 63.8,
88.   "table": 55,
89.   "price": 339
90. }
91.
92. {
93.   "_id": "9",
94.   "carat": 0.23,
95.   "cut": "Very Good",
96.   "color": "H",
97.   "clarity": "VS1",
98.   "depth": 61,
99.   "table": 57,
100.  "price": 323
101. }
102.
103. {
104.   "_id": "10",
105.   "carat": 0.31,
106.   "cut": "Very Good",
107.   "color": "J",
108.   "clarity": "SI1",
109.   "depth": 59.4,
110.   "table": 62,
111.   "price": 346
112. }
113.
114. }
```

[Copied!](#)

- [Click here for Hint](#)
- ▼ [Click here for Solution](#)

← diamonds > New Document

Create Document

Cancel

```
1 {
2   "_id": 1,
3   "carat": 0.31,
4   "cut": "Ideal",
5   "color": "J",
6   "clarity": "SI2",
7   "depth": 62.2,
8   "table": 54,
9   "price": 339
10 }
```

Log Out

3. Write a query to fetch all documents

► [Click here for Hint](#)

▼ [Click here for Solution](#)

← diamonds > Cloudant Query

Query history

Cloudant Query

```
1 {
2   "selector": {}
3 }
```

Run Query

Explain

manage indexes

● Executed in 3 ms

Table

{ } JSON

Create Document

	_id	carat	clarity	color	cut
<input type="checkbox"/>	1	0.31	SI2	J	Ideal
<input type="checkbox"/>	10	0.31	SI1	J	Very Good
<input type="checkbox"/>	2	0.2	SI2	E	Premium
<input type="checkbox"/>	3	0.32	I1	E	Premium
<input type="checkbox"/>	4	0.3	SI1	J	Good
<input type="checkbox"/>	5	0.3	SI1	J	Good
<input type="checkbox"/>	6	0.3	SI1	J	Very Good
<input type="checkbox"/>	7	0.3	SI2	I	Good
<input type="checkbox"/>	8	0.23	VS2	E	Very Good
<input type="checkbox"/>	9	0.23	VS1	H	Very Good

Showing 5 of 9 columns. ☐ Show all columns.

Showing document 1 - 10. Documents per page: 20

4. Write a query to fetch all documents with _id greater than 2

► [Click here for Hint](#)

▼ [Click here for Solution](#)

12 of 15

10/11/2023, 8:31 PM

← →

diamonds > Cloudant Query

Query history

Cloudant Query

```
1 {
2   "selector": {
3     "_id": {
4       "$gt": "2"
5     }
6   }
7 }
```

Run Query

Explain

manage indexes

● Executed in 3 ms

Table

JSON

Create Document

	_id	carat	clarity	color	cut
<input type="checkbox"/>	3	0.32	I1	E	Premium
<input type="checkbox"/>	4	0.3	SI1	J	Good
<input type="checkbox"/>	5	0.3	SI1	J	Good
<input type="checkbox"/>	6	0.3	SI1	J	Very Good
<input type="checkbox"/>	7	0.3	SI2	I	Good
<input type="checkbox"/>	8	0.23	VS2	E	Very Good
<input type="checkbox"/>	9	0.23	VS1	H	Very Good

Showing 5 of 9 columns. ☐ Show all columns. Showing document 1 - 7. Documents per page: 20

5. Write a query to fetch all documents with `_id` less than 4

► Click here for Hint

▼ Click here for Solution

← →

diamonds > Cloudant Query

Query history

Cloudant Query

```
1 {
2   "selector": {
3     "_id": {
4       "$lt": "4"
5     }
6   }
7 }
```

Run Query

Explain

manage indexes

● Executed in 2 ms

Table

JSON

Create Document

	_id	carat	clarity	color	cut
<input type="checkbox"/>	1	0.31	SI2	J	Ideal
<input type="checkbox"/>	10	0.31	SI1	J	Very Good
<input type="checkbox"/>	2	0.2	SI2	E	Premium
<input type="checkbox"/>	3	0.32	I1	E	Premium

Showing 5 of 9 columns. ☐ Show all columns. Showing document 1 - 4. Documents per page: 20

6. Set the price of the diamond with `_id` 7 to 352

► Click here for Hint

▼ Click here for Solution

Save Changes Cancel Upload Attachment Clone Document Delete

```
{
  "_id": "7",
  "_rev": "1-b709e1c9ca25953adb0fe0f991c14ec31",
  "carat": 0.3,
  "cut": "Good",
  "color": "I",
  "clarity": "SI2",
  "depth": 63.3,
  "table": 56,
  "price": 352
}
```

Log Out

7. Delete the document with `_id 3`

► Click here for Hint

▼ Click here for Solution

Document ID Options {} JSON

All Documents +

Query

Permissions

Changes

Design Documents +

Table Metadata {} JSON

Create Document

		_id	carat	clarity	color	cut
<input type="checkbox"/>		1	0.31	SI2	J	Ideal
<input type="checkbox"/>		10	0.31	SI1	J	Very Good
<input type="checkbox"/>		2	0.2	SI2	E	Premium
<input checked="" type="checkbox"/>		3	0.32	I1	E	Premium
<input type="checkbox"/>		4	0.3	SI1	J	Good
<input type="checkbox"/>		5	0.3	SI1	J	Good
<input type="checkbox"/>		6	0.3	SI1	J	Very Good
<input type="checkbox"/>		7	0.3	SI2	I	Good
<input type="checkbox"/>		8	0.23	VS2	E	Very Good
<input type="checkbox"/>		9	0.23	VS1	H	Very Good

Showing 5 of 9 columns. ☐ Show all columns.

Showing document 1 - 10. Documents per page: 20

Authors

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Change Log

Date (YYYY-MM-DD)	Version	Changed By	Change Description
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Date (YYYY-MM-DD)	Version	Changed By	Change Description
2021-10-25	0.5	Kathy An	Updated lab instructions
2021-04-28	0.4	Steve Ryan	Changed IBM cloud links to markdown format
2021-04-14	0.3	Steve Ryan	Review pass
2021-04-13	0.2	Ramesh Sannareddy	Added hints and solutions to practice exercises
2021-04-6	0.1	Ramesh Sannareddy	Created initial version of the lab

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