

Hands-on Lab: Dashboards in Cloudant



Estimated time needed: **30** minutes

Objectives

After completing this lab you will be able to:

- Create a database through the Cloudant dashboard
- Perform simple operations, such as inserting a document and querying data
- Replicate, or copy data, from one database to another
- Monitor your active tasks and your instance to detect potential issues

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

Step 4: Click on Launch Dashboard.

IBM Cloud

Search resources and offerings...

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Catalog

Docs

Support

Manage

Ra

Resource list /

mycloudant

Active

Add tags

Manage

Service credentials

Plan

Connections

Overview

Dashboard

Capacity

Docs

Deployment details

CRN

crn:v1:bluemix:public:cloudantnosqldb:eu-gb:a/9ff7e8c5d25d4ac7aa5dcdf28618b4db5a8db9::

Location

London

External Endpoint

<https://4646e655-6aee-42d8-8b93-d2bde6e9a6ca-bluemix.cloudant.com>

External Endpoint (preferred)

<https://4646e655-6aee-42d8-8b93-d2bde6e9a6ca-bluemix.cloudantnosqldb.appdo>

Authentication methods

[IBM Cloud IAM](#) and [Cloudant credentials](#)

Activity Tracker event types

Management

Save

Disk encryption

Yes. Automatically generated disk encryption key.

Capacity details

The Cloudant dashboard looks like this.

Databases

Database name ▼

Your Databases

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

Showing 1–0 of 0 database

Exercise 2 - Create a database

Step 1: Click on Create Database.

Databases

Database name ▼

Your Databases

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

Showing 1–0 of 0 database

Step 2: Enter *training* as the name of the database.

Step 3: Select 'Non-partitioned'.

Step 4: Click on Create.

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Log Out

Databases

Database name ▼

Your Databases

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

Showing 1–0 of 0 databases

The database will be created. You should see a screen like this.

The screenshot shows the AWS IAM console interface. On the left, a dark sidebar contains navigation icons. The main content area is titled 'training' and shows a list of documents. The 'All Documents' tab is selected, displaying a table with 0 documents. A blue arrow points from the 'All Documents' tab to the 'No Documents Found' message. The message includes a cloud icon and the text 'No Documents Found'. The bottom right corner shows 'Showing 0 documents'.

Exercise 3 - Perform a simple insert

Step 1: Click on Create Document.

[illegible]

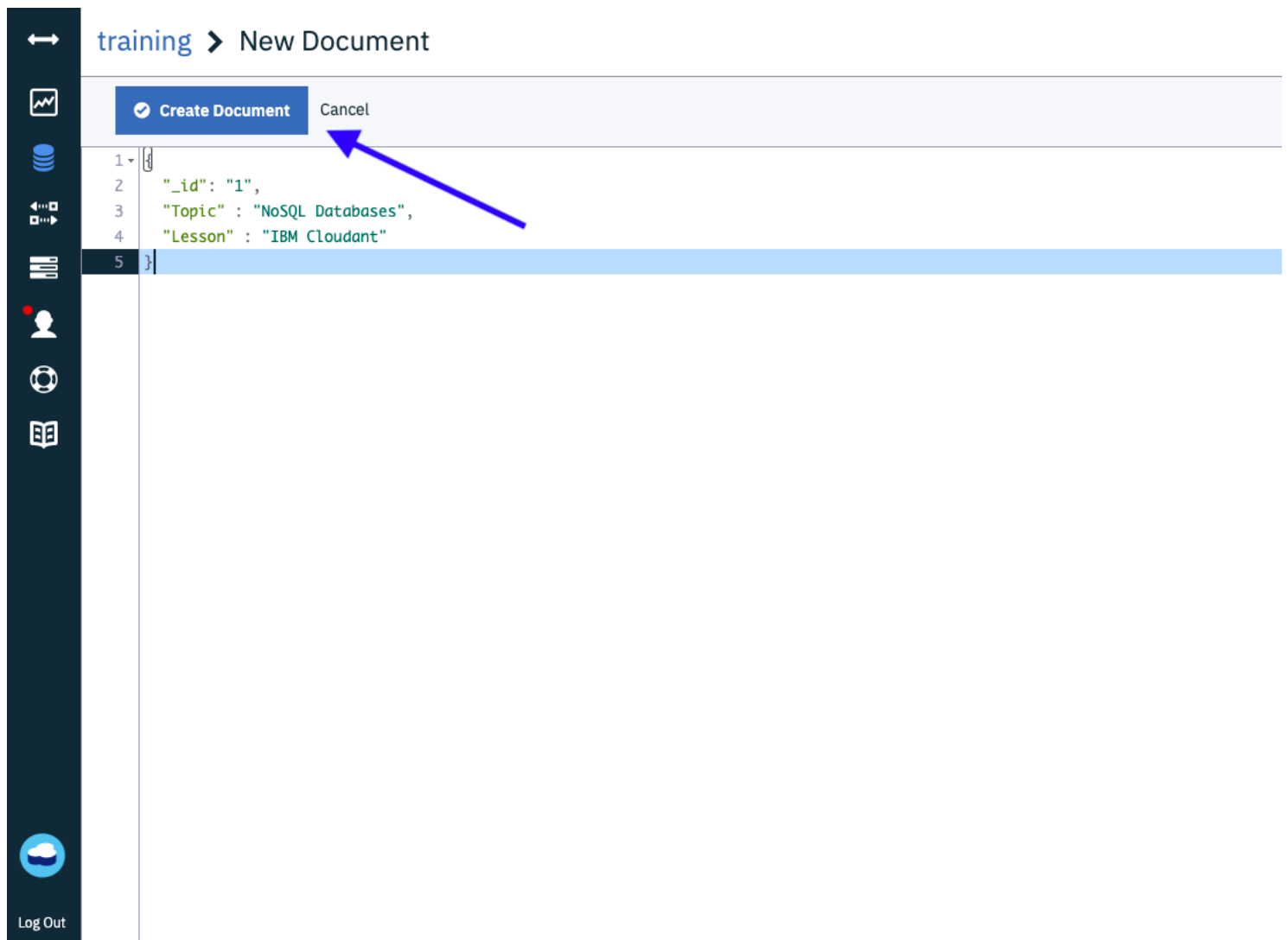
Step 2: Copy the below given JSON document and replace the default sample document given on the page.

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

1. {
2.   "id": "1",
3.   "Topic": "NoSQL Databases",
4.   "Lesson": "IBM Cloudant"
5. }
```

Copied!

Step 3: Click on Create Document



The document is created, and you should see a screen like this.

training

All Documents

Query

Permissions

Changes

Design Documents

Document ID

Table

Metadata

JSON

id	key	value
1	1	{ "re

Showing document 1

Step 4: Select **Table** view to view the documents in a tabular form.

You should now see documents like this.

<
training
⋮

Document ID

All Documents +

Query

Permissions

Changes

Design Documents +

☐

Table

Metadata

JSON

Lesson	Topic	_id
<input type="checkbox"/> IBM Cloudant	NoSQL Databases	1

Showing 3 of 4 columns. ☐ Show all columns.
Showing document 1

Exercise 4 - Perform a simple query

Step 1: Click on Query.

1/9/23, 11:08 AM

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training

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All Documents

+

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Query

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Permissions

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Changes

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Design Documents

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Log Out

☐

Table

Metadata

{ } JSON

🔍

Lesson

▼

Topic

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IBM Cloudant

NoSQL Databases

1

Showing 3 of 4 columns. ☐ Show all columns.

Showing document 1

Step 2: Copy the below given query and replace the default sample query given on the page.

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

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

Copied!

Step 3: Click on Run Query

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11/23

[illegible]

Showing 0 documents

You will see the query results.

[illegible]

Cloudant queries are also in the JSON format. What we have queried here is the equivalent of `select * from training`.

Exercise 5 - Replicate a database

Step 1: Api Key is needed for setting up replication. Fetch the apikey from Cloudbant Service Credentials.

► [Click here for Hint](#)

Step 2: Click on the Replication icon.

training > Cloudant Query

Query history

Cloudant Query

1

2

3

{

"selector": {}

}

Run Query

Explain

manage indexes

Executed in 2 ms

Table

{ } JSON

Lesson

Topic

IBM Cloudant

NoSQL Databases

Showing 3 of 4 columns. ☐ Show all columns.

Showing document 1

Step 3: You will land on the Replication dashboard. Click on New Replication.

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Replication

Replicator DB Activity

_replicate Activity

Replications must have a replication document to display in the following table.

Filter replications

Source	Target	Start Time	Type
There is no replicator-db activity or history to display.			

Log Out

Pollin

Step 4: On the Job Configuration page, select the following details.

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

1.

2. Under Source

3. Select Type = Local database

4. Select Name = training

5. Select Authentication = "IAM Authentication"

6. Paste the api key you copied earlier in the IAM API Key textbox.

7.

8. Under Target

9. Select Type = New local database

10. Select Name = training_replica

11. Select Authentication = "IAM Authentication"

12. Paste the api key you copied earlier in the IAM API Key textbox.

13.

14. Under Options:

15. Select Type = Continuous










16.

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Step 5: Click on Start Replication.

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Job Configuration

Log Out

Source

Type:Local database

Name:training

Authentication:IAM Authentication

Target

Type:New local database

New database:training_replica

New database options:☐ Partitioned

Authentication:IAM Authentication

Options

Replication type:Continuous

Replication document:Custom ID (optional)

Start Replication

Clear

Step 6: A replication status of `running` indicates that the replication is working.

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Replication

Replicator DB Activity

_replicate Activity

Replications must have a replication document to display in the following table.

⌵

Filter replications

<input type="checkbox"/>	Source ▾	Target ▾	Start Time ▲	Type ▾
<input type="checkbox"/>	https://4646e655-6aee-42d8-8b93-d2bde6e9a6ca-bluemix.cloudant.com/training	https://4646e655-6aee-42d8-8b93-d2bde6e9a6ca-bluemix.cloudant.com/training_replica	Apr 12th, 4:11 pm	Continuous

Log Out

Step 7: Click on the Database icon. You should see a new database named **training_replica**.

Databases

Database name

Your Databases

Name	Size	# of Docs	Partitioned
_replicator	4.7 KB	2	No
training	1.1 KB	1	No
training_replica	1.2 KB	1	No

Showing 1–3 of 3 databases

Step 8: Click on the **training_replica** database. You should see the document you have inserted in the training database.

You have successfully setup continuous replication between the training and training_replica databases. Whatever changes you make on the training database will be replicated to the training_replica database.

Step 1: Click on the **Active Tasks** icon.

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Replication

Polling

Replicator DB Activity

_replicate Activity

Replications must have a replication document to display in the following table.

▼

Filter replications

<input type="checkbox"/>	Source ▼	Target ▼	Start Time ▲	Type ▼
<input type="checkbox"/>	https://4646e655-6aee-42d8-8b93-d2bde6e9a6ca-bluemix.cloudant.com/training	https://4646e655-6aee-42d8-8b93-d2bde6e9a6ca-bluemix.cloudant.com/training_replica	Apr 12th, 4:11 pm	Continuo

Log Out

The Active tasks page displays a list of all running tasks. You can use this to find out what is happening on your Cloudbant instance. You can see a list of active tasks, which includes compaction, replication, and indexing.

Here is a sample Active Tasks view.

Active Tasks

Exercise 7 - Monitor your instance

Monitor your usage in realtime with a graph that shows your throughput by reads, writes, and global queries. You can see your current operations, denied requests, and storage usage.

Step 1: Click on the Monitoring icon.

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Log Out

Active Tasks

Polling Inter

All Tasks

Replication

Database Compaction

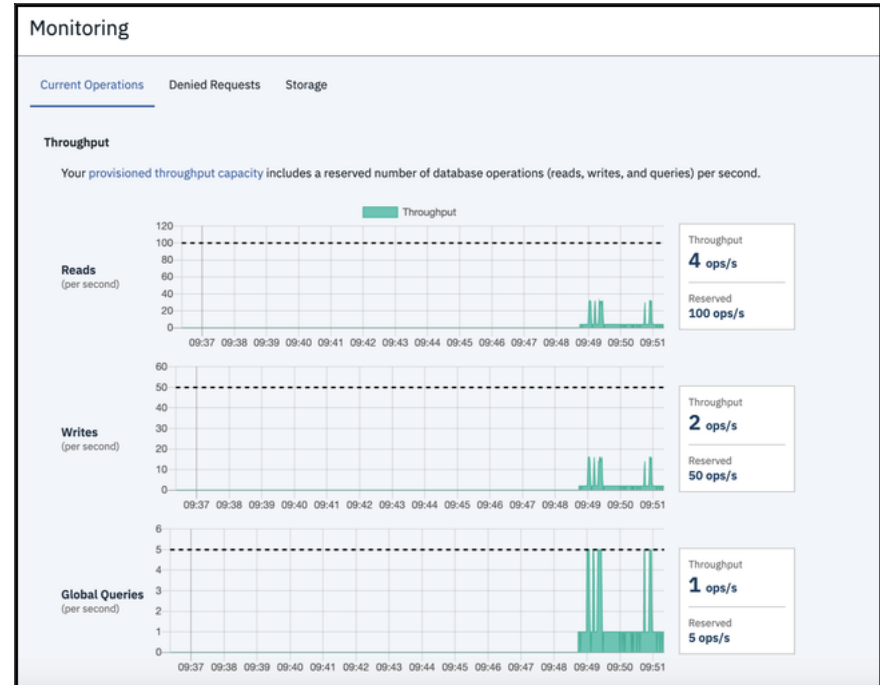
Indexer

View Compaction

Search for databases...

Type	Database	Started on ▲	Updated on	PID
No active tasks				

Here is a sample monitoring view for Current Operations.



Note: Your monitoring output could be different from the screen shot above, mostly 0 ops/s as there may not be any load on your instance.

Step 2: Click on the Denied Requests tab.

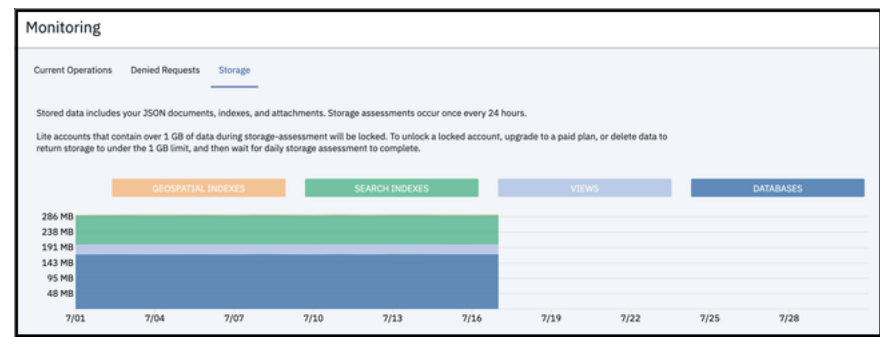
Here is a sample monitoring view for Denied Requests. Whenever we perform more reads or writes than our plan allows, those requests will be denied and shown here.



Note: Your monitoring output could be different from the screen shot above, depending upon your usage.

Step 3: Click on the storage tab.

Here is a sample Storage view. It shows how much storage is used for data, indexes and views.



Note: Your monitoring output could be different from the screen shot above, depending upon your usage.

Practice exercises

- 1. Problem:
*Create a database named **test**.*
► Click here for Hint
- 2. Problem:
Insert a sample document.
► Click here for Hint
- 3. Problem:
*Setup continuous replication between **test** and **test_replica** databases.*
► Click here for Hint
- 4. Problem:
Find out if any denied requests were denied.
► Click here for Hint

Authors

Other Contributors

Rav Ahuja

Change Log

Date (YYYY-MM-DD)	Version	Changed By	Change Description
2021-10-25	0.4	Kathy An	Updated lab instructions
2021-04-28	0.3	Steve Ryan	Changed IBM cloud links to markdown format
2021-04-13	0.2	Steve Ryan	Review pass
2021-04-11	0.1	Ramesh Sannareddy	Created initial version of the lab

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