

# Integrating with Cloudant by using an adapter

## What is Cloudant?

Cloudant is a NoSQL Database based on CouchDB that is included with the product as a component called IBM MobileFirst Cloudant Local Data Layer Edition. Cloudant is also available as a standalone installed product and as a Database as a Service (DBaaS) on IBM Bluemix and cloudant.com.

The Cloudant API is documented at <https://docs.cloudant.com/index.html>  
(<https://docs.cloudant.com/index.html>)

## Cloudant adapter

You can create and use a MobileFirst adapter to communicate with Cloudant.

The adapter within the sample that is provided with this module is an HTTP adapter.

- This adapter implements a subset of the Cloudant API.
- You can extend it to implement more Cloudant API

## Sample Application

The sample module contains an application that





demonstrates the use of the adapter to store, list, and query a set of names and ages in a Cloudant-hosted database.

## Configuring the sample application

First, download and import the sample module.

Then, open the `CloudantAdapterDemo/adapters/CloudantAdapter/CloudantAdapter.xml` file.

The adapter uses basic authentication to connect to the Cloudant database. Enter your database location and username and password into the `CloudantAdapter.xml` file. You can obtain this information from Cloudant.

To avoid exposing the user credentials in `CloudantAdapter.xml`, you can leverage Cloudant support for API keys and passwords.

```

<?xml version="1.0" encoding="UTF-8"?>
<wl:adapter name="CloudantAdapter" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:wl=
"http://www.ibm.com/mfp/integration" xmlns:http="http://www.ibm.com/mfp/integration/http">
  <displayName>CloudantAdapter</displayName>
  <description>CloudantAdapter</description>
  <connectivity>
    <connectionPolicy xsi:type="http:HTTPConnectionPolicyType">
      <protocol>https</protocol>
      <domain>mylogin.cloudant.com</domain>
      <port>443</port>
      <connectionTimeoutInMilliseconds>30000</connectionTimeoutInMilliseconds>
      <socketTimeoutInMilliseconds>30000</socketTimeoutInMilliseconds>
      <authentication>
        <basic/>
        <serverIdentity>
          <username>mylogin</username>
          <password>mypassword</password>
        </serverIdentity>
      </authentication>
      <maxConcurrentConnectionsPerNode>4</maxConcurrentConnectionsPerNode>
      <!-- Following properties used by adapter's key manager for choosing specific certificate from key store -->
      <sslCertificateAlias></sslCertificateAlias>
      <sslCertificatePassword></sslCertificatePassword>
    </connectionPolicy>
  </connectivity>
  <procedure name="createDB"/>
  <procedure name="deleteDB"/>
  <procedure name="getAllDocs"/>
  <procedure name="updateDocs"/>
  <procedure name="createDoc"/>
  <procedure name="getDoc"/>
  <procedure name="updateDoc"/>
  <procedure name="deleteDoc"/>
  <procedure name="createDesignDoc"/>
  <procedure name="search" />
  <procedure name="getView" />
</wl:adapter>

```

## Starting the sample application and adapter

Right-click adapters/CloudantAdapter and select **Run As > Deploy MobileFirst Adapter**.

Right-click apps/CloudantSampleApp and select **Run As > Run on MobileFirst Development Server**.

From the MobileFirst Platform Operations Console, select **Preview as Common Resources** (or view the app in the environment of your choice).

## Cloudant adapter methods

- `createDB (name)`  
Returns JSON result statement
- `deleteDB (name)`  
Returns JSON result statement

- getAllDocs (name, limit, include\_docs)

Arguments:

- name - database name
- limit - limit on the number of docs
- include\_docs - whether or not to include the full body of the docs in the return

Returns JSON object with document information

- updateDocs (name, updates)

Arguments:

- name - database name
- updates - list of objects to create or update

Returns JSON result statement

- createDoc (name, doc)

Arguments:

- name - database name
- doc - JSON document to create

Returns JSON result statement

- getDoc (name, docID)

Arguments:

- name - database name
- docID - document ID

Returns JSON document

- updateDoc (name, doc)

Arguments:

- name - database name
- docID - document to update

Returns JSON result statement

- createDesignDoc (name, docName, designDoc)

Arguments:

- name - database name
- docName - design doc name
- designDoc - JSON design document to create

Returns JSON result statement

- search (name, designDocName, viewName, limit, include\_docs, query)

Arguments:

- name - database name
- designDocName - design doc name
- viewName - view name
- limit - limit on number of results
- include\_docs - whether or not to include the full body of the docs in the return

- query - the query

Returns JSON document with results

- getView (name, designDocName, viewName, group)

Arguments:

- name - database name
- designDocName - design doc name
- viewName - view name
- group - if results must be grouped

Returns JSON documents from the view

## Using the Cloudant adapter in your app

To use the adapter in your app, copy the CloudantAdapter folder to your MobileFirst app.

Extend the adapter as needed with the functionality for your app.

## Sample application

Click to download

(<http://public.dhe.ibm.com/software/products/en/MobileFirstPlatform/docs/v700/CloudantAdapterDemoProject.zip>)  
the Studio project.