# 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>
    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">
      cprotocol>https
      <domain>mylogin.cloudant.com</domain
      <port>443</port>
      <connectionTimeoutInMilliseconds>30000</connectionTimeoutInMilliseconds>
      <socketTimeoutInMilliseconds>30000</socketTimeoutInMilliseconds>
      <authentication>
        <basic/>
         <serverIdentity>
           <username>mylogin</username>
           <password>mypassword</password>
         </serverldentity>
      </authentication>
```



#### 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:

- o name database name
- limit limit on the number of docs
- o 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:

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

Returns JSON result statement

• createDoc (name, doc)

Arguments:

- o name database name
- doc JSON document to create

Returns JSON result statement

getDoc (name, docID)

Arguments:

- o name database name
- o docID document ID

Returns JSON document

• updateDoc (name, doc)

Arguments:

- o name database name
- docID document to update

Returns JSON result statement

createDesignDoc (name, docName, designDoc)
 Arguments:

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

#### Returns JSON result statement

- search (name, designDocName, viewName, limit, include\_docs, query)Arguments:
  - o name database name
  - designDocName design doc name
  - o viewName view name
  - limit limit on number of results
  - o include docs whether or not to include the full body of the docs in the return
  - o query the query

Returns JSON document with results

- getView (name, designDocName, viewName, group)
   Arguments:
  - o name database name
  - o designDocName design doc name
  - o viewName view name
  - o 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.