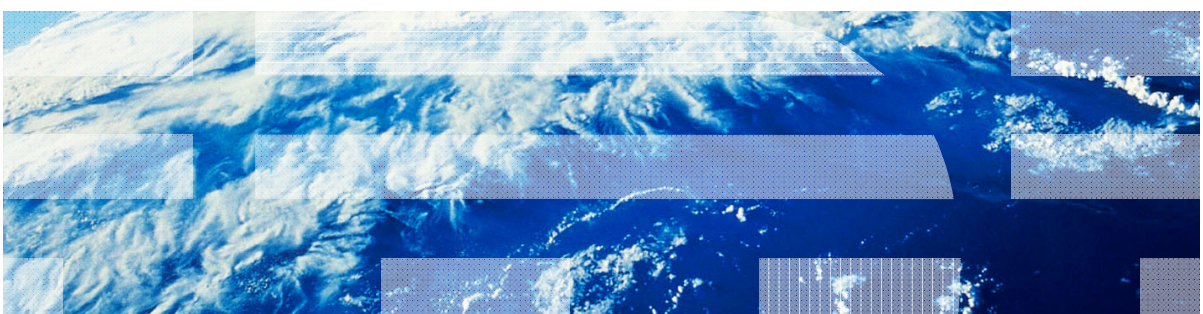
IBM Worklight V5.0.5
Getting Started

Module 7.10 – Using JSONStore



18 January 2013

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Agenda

- Basic JSONStore Usage – Local Data
  - Initialization
  - Adding a document
  - Removing a document
  - Find document with query
  - Find all documents
  - Retrieving document count
  - Closing a collection
  - Destroying a collection
- Sample

Introduction to JSONStore

- This module covers basic tasks that you can perform on a local JSONStore collection.
- Adapter connectivity is covered in a later module.

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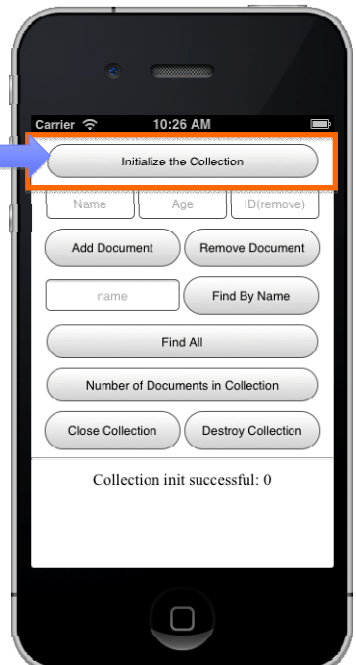
Initialization - UI

First, initialize a collection instance to be used by the rest of the app.

If the collection exists it is opened, otherwise an empty collection is created.



Initialization – The Code

```
WLJQ('button#initCollection').bind('click', function () {

    WL.Logger.debug('Called button#initCollection');

    var collectionName = 'users',
        searchFields = {name: 'string', age: 'number'};

    var win =   function (data) {
        logMessage('Collection init successful: ' + data);
    };

    var options = {onSuccess: win, onFailure: genericFailureCallback};

    usersCollection = WL.JSONStore.initCollection(collectionName, searchFields, options);

});
```

Name and Search Fields

Define your collection's name and your search fields.

By defining the search fields, you can query by them later in the app.

Initialization – The Code

```
WLJQ('button#initCollection').bind('click', function () {

    WL.Logger.debug('Called button#initCollection');

    var collectionName = 'users',
        searchFields = {name: 'string', age: 'number'};

    var win =   function (data) {
        logMessage('Collection init successful: ' + data);
    };

    var options = {onSuccess: win, onFailure: genericFailureCallback};

    usersCollection = WL.JSONStore.initCollection(collectionName, searchFields, options);

});
```

Options

Define the OnSuccess callback. The variable “data” will contain a return code. You cannot use the collection until you get an OnSuccess callback.

Initialization – The Code

```
WLJQ('button#initCollection').bind('click', function () {

    WL.Logger.debug('Called button#initCollection');

    var collectionName = 'users',
        searchFields = {name: 'string', age: 'number'};

    var win =   function (data) {
        logMessage('Collection init successful: ' + data);
    };

    var options = {onSuccess: win, onFailure: genericFailureCallback};

    usersCollection = WL.JSONStore.initCollection(collectionName, searchFields, options);
});
```

Initialize Collection

Finally, call the init function.

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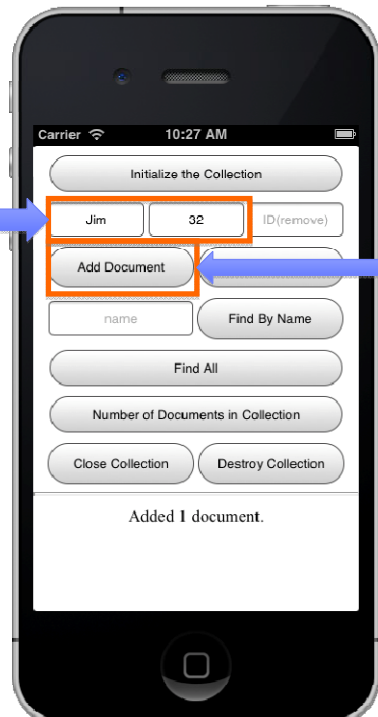
Adding a Document - UI



Specify a name and age.

Insert data into the *users* collection, creating a new document.

Adding a Document – The Code

```
WLJQ('button#add').bind('click', function () {

    WL.Logger.debug('Called button#store');

    var user_name = nameTag.val(),
        user_age = ageTag.val();

    if (user_name.length < 1 || user_age.length < 1 ||
        checkUndefOrNull(usersCollection)) {

        logMessage('You must init the collection and provide valid values');

    } else {

        var win =   function (data) {
            logMessage('Added ' + data + ' document.');
            nameTag.val('');
            ageTag.val('');
        };

        var options = {onSuccess: win, onFailure: genericFailureCallback};

        usersCollection.add({name: user_name, age: user_age},options);
    }
});
```

User Inputs

Get the values that were input and assign them to variables.

Adding a Document – The Code

```
WLJQ('button#add').bind('click', function () {

    WL.Logger.debug('Called button#store');

    var user_name = nameTag.val(),
        user_age = ageTag.val();

    if (user_name.length < 1 || user_age.length < 1 ||
        checkUndefOrNull(usersCollection)) {

        logMessage('You must init the collection and provide valid values');

    } else {

        var win =   function (data) {
            logMessage('Added ' + data + ' document.');
            nameTag.val('');
            ageTag.val('');
        };

        var options = {onSuccess: win, onFailure: genericFailureCallback};

        usersCollection.add({name: user_name, age: user_age},options);
    }
});
```

Options

Define the OnSuccess callback. The variable **data** will contain the number of documents successfully added.

Adding a Document – The Code

```
WLJQ('button#add').bind('click', function () {

    WL.Logger.debug('Called button#store');

    var user_name = nameTag.val(),
        user_age = ageTag.val();

    if (user_name.length < 1 || user_age.length < 1 ||
        checkUndefOrNull(usersCollection)) {

        logMessage('You must init the collection and provide valid values');

    } else {

        var win =   function (data) {
            logMessage('Added ' + data + ' document.');
            nameTag.val('');
            ageTag.val('');
        };

        var options = {onSuccess: win, onFailure: genericFailureCallback};

        usersCollection.add({name: user_name, age: user_age},options);
    }
});
```

Add the document

Finally, call the add function and pass in an array of objects including the name and age specified in the inputs.

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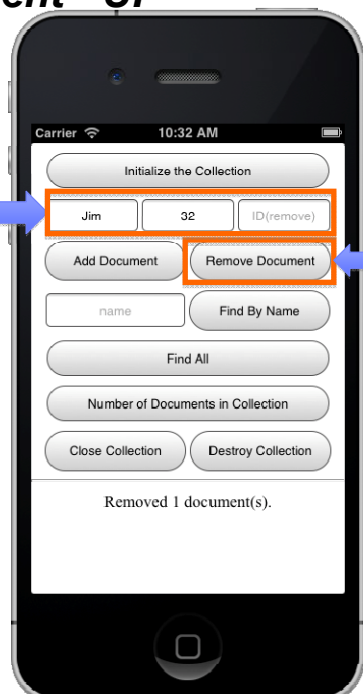
Removing a Document - UI

Specify a name, age, or id of an existing document in the collection.



Mark a document or documents as removed from the “users” collection.

Removing a Document – The Code

```
WLJQ('button#btn_remove').bind('click', function () {

    WL.Logger.debug('Called button#btn_remove');

    var name = nameTag.val(),
        id = idTag.val(),
        age = ageTag.val();

    var win =   function (data) {
        logMessage('Removed ' + data + ' document(s).' );
        nameTag.val('');
        ageTag.val('');
        idTag.val('');
    };

    var options = {onSuccess: win, onFailure: genericFailureCallback};

    if (age.length > 0 && name.length > 0) { //Remove specific document
        logMessage('Remove Document by name and age.' );
        usersCollection.remove({name: name, age: age}, options);

    } else if (name.length > 0 && age.length < 1) { //Remove All By Name
        logMessage('Remove All by Name.' );
        usersCollection.remove({name: name}, options);

    } else if (id.length > 0) { //Remove document by ID
        logMessage('Remove by ID.' + id );
        usersCollection.remove(parseInt(id), options);
```

User Inputs

Get the values that were input and assign them to variables.

Removing a Document – The Code

```
WLJQ('button#btn_remove').bind('click', function () {

    WL.Logger.debug('Called button#btn_remove');

    var name = nameTag.val(),
        id = idTag.val(),
        age = ageTag.val();

    var win =   function (data) {
        logMessage('Removed ' + data + ' document(s).' );
        nameTag.val('');
        ageTag.val('');
        idTag.val('');
    };

    var options = {onSuccess: win, onFailure: genericFailureCallback};

    if (age.length > 0 && name.length > 0) { //Remove specific document
        logMessage('Remove Document by name and age.' );
        usersCollection.remove({name: name, age: age}, options);

    } else if (name.length > 0 && age.length < 1) { //Remove All By Name
        logMessage('Remove All by Name.' );
        usersCollection.remove({name: name}, options);

    } else if (id.length > 0) { //Remove document by ID
        logMessage('Remove by ID.' + id );
        usersCollection.remove(parseInt(id), options);
```

Options

Define the OnSuccess callback. The variable **data** will contain the number of documents marked as removed.

Note that the documents will not actually be removed until `push` is executed (covered in a subsequent module).

Removing a Document – The Code

```
WLJQ('button#btn_remove').bind('click', function () {

    WL.Logger.debug('Called button#btn_remove');

    var name = nameTag.val(),
        id = idTag.val(),
        age = ageTag.val();

    var win =   function (data) {
        logMessage('Removed ' + data + ' document(s).' );
        nameTag.val('');
        ageTag.val('');
        idTag.val('');
    };

    var options = {onSuccess: win, onFailure: genericFailureCallback};

    if (age.length > 0 && name.length > 0) { //Remove specific document
        logMessage('Remove Document by name and age.' );
        usersCollection.remove({name: name, age: age}, options);

    } else if (name.length > 0 && age.length < 1) { //Remove All By Name
        logMessage('Remove All by Name.' );
        usersCollection.remove({name: name}, options);

    } else if (id.length > 0) { //Remove document by ID
        logMessage('Remove by ID.' + id );
        usersCollection.remove(parseInt(id), options);
```

Removal by 2 fields

If both name and age were specified in the inputs then call remove with an array containing both objects.

All documents that match that name and age will be marked for removal.

Removing a Document – The Code

```
WLJQ('button#btn_remove').bind('click', function () {

    WL.Logger.debug('Called button#btn_remove');

    var name = nameTag.val(),
        id = idTag.val(),
        age = ageTag.val();

    var win =   function (data) {
        logMessage('Removed ' + data + ' document(s).' );
        nameTag.val('');
        ageTag.val('');
        idTag.val('');
    };

    var options = {onSuccess: win, onFailure: genericFailureCallback};

    if (age.length > 0 && name.length > 0) { //Remove specific document
        logMessage('Remove Document by name and age.' );
        usersCollection.remove({name: name, age: age}, options);

    } else if (name.length > 0 && age.length < 1) { //Remove All By Name
        logMessage('Remove All by Name.' );
        usersCollection.remove({name: name}, options);

    } else if (id.length > 0) { //Remove document by ID
        logMessage('Remove by ID.' + id );
        usersCollection.remove(parseInt(id), options);
```

Removal by 1 field

This scenario is the same as in the previous slide but it uses only a single object.

Removing a Document – The Code

```
WLJQ('button#btn_remove').bind('click', function () {

    WL.Logger.debug('Called button#btn_remove');

    var name = nameTag.val(),
        id = idTag.val(),
        age = ageTag.val();

    var win =   function (data) {
        logMessage('Removed ' + data + ' document(s).' );
        nameTag.val('');
        ageTag.val('');
        idTag.val('');
    };

    var options = {onSuccess: win, onFailure: genericFailureCallback};

    if (age.length > 0 && name.length > 0) { //Remove specific document
        logMessage('Remove Document by name and age.' );
        usersCollection.remove({name: name, age: age}, options);

    } else if (name.length > 0 && age.length < 1) { //Remove All By Name
        logMessage('Remove All by Name.' );
        usersCollection.remove({name: name}, options);

    } else if (id.length > 0) { //Remove document by ID
        logMessage('Remove by ID.' + id );
        usersCollection.remove(parseInt(id), options);
```

Removal by ID

This scenario is the same as the previous slide except that it uses an ID value which will remove only one specific document.

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Find Document with Query- UI

Specify a name to search for, that exists in the collection.

An array of all documents that match that name is displayed.

Find Document with Query– The Code

```
WLJQ('button#find_name').bind('click', function () {

    WL.Logger.debug('Called button#find_name');

    if (!checkColInit(usersCollection)) {return;}

    var user_name = nameFindTag.val();

    if (user_name.length < 1) {
        logMessage('You must provide a search name');
    } else {

        var query = {name: user_name};

        var win =  function (data) {
            reloadTable(data);
            nameFindTag.val('');
        };

        var options = {onSuccess: win, onFailure: genericFailureCallback};

        usersCollection.find(query, options);
    }
});
```

Search Query

Construct a simple search query using the value for **name** that was input by the user.

Find Document with Query– The Code

```
WLJQ('button#find_name').bind('click', function () {

    WL.Logger.debug('Called button#find_name');

    if (!checkColInit(usersCollection)) {return;}

    var user_name = nameFindTag.val();

    if (user_name.length < 1) {
        logMessage('You must provide a search name');
    } else {

        var query = {name: user_name};

        var win =  function (data) {
            reloadTable(data);
            nameFindTag.val('');
        };

        var options = {onSuccess: win, onFailure: genericFailureCallback};

        usersCollection.find(query, options);
    }
});
```

Options

Define the OnSuccess callback. The variable **data** will contain the number of documents successfully retrieved.

Find Document with Query– The Code

```
WLJQ('button#find_name').bind('click', function () {

    WL.Logger.debug('Called button#find_name');

    if (!checkColInit(usersCollection)) {return;}

    var user_name = nameFindTag.val();

    if (user_name.length < 1) {
        logMessage('You must provide a search name');
    } else {

        var query = {name: user_name};

        var win =  function (data) {
            reloadTable(data);
            nameFindTag.val('');
        };

        var options = {onSuccess: win, onFailure: genericFailureCallback};

        usersCollection.find(query, options);
    }
});
```

Retrieving the documents

Finally, call the find method and pass in the query and options. If any documents are found, they are displayed in a table.

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Find All Documents - UI

Add a document into the `users` collection if not done already.

Retrieve all documents in the `users` collection.

Display documents in a table.

Find All Documents – The Code

```
WLJQ('button#find_all').bind('click', function ()

    WL.Logger.debug('Called button#find_all');

    if (!checkColInit(usersCollection)) {return;}

    var win =   function (data) {
        reloadTable(data);
    };

    var options = {onSuccess: win, onFailure: genericFailureCallback};

    usersCollection.findAll(options);
});
```

Options

Define the OnSuccess callback. The variable **data** will contain an array of all the documents contained in the `users` collection.
In this case there is only one document to display.

Find All Documents – The Code

Find the documents

Finally, call the findAll method and pass in the options.

```
WLJQ('button#find_all').bind('click', function () {

    WL.Logger.debug('Called button#find_all');

    if (!checkColInit(usersCollection)) {return;}

    var win =   function (data) {
        reloadTable(data);
    };

    var options = {onSuccess: win, onFailure: genericFailureCallback};

    usersCollection.findAll(options);
});
```

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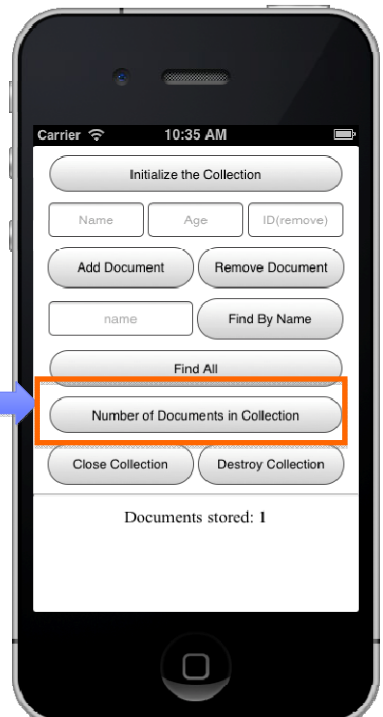
Retrieving Document Count - UI

Get the number of individual documents currently stored in the `users` collection.



Retrieving Document Count – The Code

```
WLJQ('button#count').bind('click', function () {

    WL.Logger.debug('Called button#count');

    if (checkUndefOrNull(usersCollection)) {
        logMessage('You must init the collection first
    } else {

        var win =   function (data) {
            logMessage('Documents stored: ' + data);
        };

        var options = {onSuccess: win, onFailure: genericFailureCallback};

        usersCollection.count(options);
    }
});
```

Options

Define the OnSuccess callback. The variable **data** will contain the number of documents stored in the `users` collection.

This number does not reflect those documents marked *removed*.

Retrieving Document Count – The Code

```
WLJQ('button#count').bind('click', function () {

    WL.Logger.debug('Called button#count');

    if (checkUndefOrNull(usersCollection)) {
        logMessage('You must init the collection first');
    } else {

        var win =   function (data) {
            logMessage('Documents stored: ' + data);
        };

        var options = {onSuccess: win, onFailure: genericFailureCallback};

        usersCollection.count(options);
    }
});
```

Find the documents

Finally, call the count method and pass in the options.

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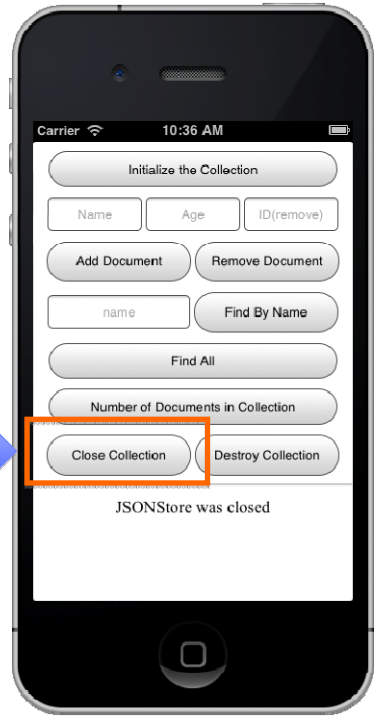
Closing a Collection - UI

Close all the collections in the JSONStore.



Closing a Collection – The Code

Options

Define the OnSuccess callback. If it is successful you can display a meaningful message here.

```
WLJQ('button#close').bind('click', function () {

    WL.Logger.debug('Called button#close');

    var win =   function () {
        logMessage('JSONStore was closed');
    };

    var options = {onSuccess: win, onFailure: genericFailureCallback};

    WL.JSONStore.closeAll(options);

});
```

Closing a Collection – The Code

```
WLJQ('button#close').bind('click', function () {

    WL.Logger.debug('Called button#close');

    var win =   function () {
        logMessage('JSONStore was closed');
    };

    var options = {onSuccess: win, onFailure: genericFailureCallback};

    WL.JSONStore.closeAll(options);

});
```

Close all collections

Finally, we call our closeAll method and pass in our options.

After a closeAll, each collection in the store will need to have WL.JSONStore.initCollection called again before that collection can be used.

Note that if the collections in the persistent store are password protected, the password will need to be specified using WL.JSONStore.usePassword (covered in a subsequent module)

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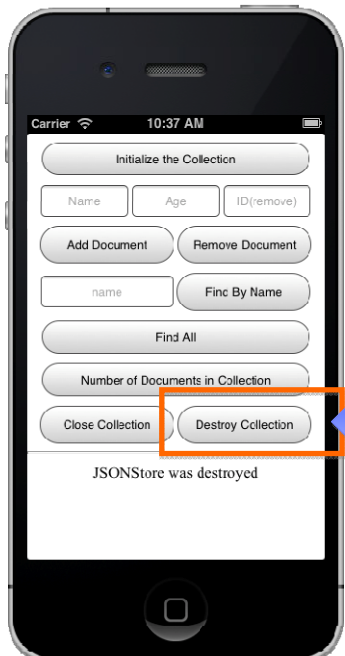
Destroying a Collection - UI



Destroy the internal storage associated with a collection and clear the keychain that stores necessary keys for decrypting the internal storage.

Destroying a Collection – The Code

Options

Define the OnSuccess callback. If it is successful you can display a meaningful message here.

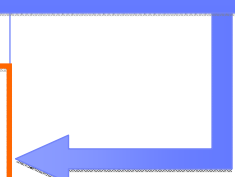
```
WLJQ('button#destroy').bind('click', function () {

    WL.Logger.debug('Called button#destroy');

    var win =   function () {
        logMessage('JSONStore was destroyed');
    };

    var options = {onSuccess: win, onFailure: genericFailureCallback};

    WL.JSONStore.destroy(options);
});
```



Destroying a Collection – The Code

```
WLJQ('button#destroy').bind('click', function () {

    WL.Logger.debug('Called button#destroy');

    var win =   function () {
        logMessage('JSONStore was destroyed');
    };

    var options = {onSuccess: win, onFailure: genericFailureCallback};

    WL.JSONStore.destroy(options);
});
```

Destroy all collections

Finally, call the `destroy` method and pass in the options.

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Sample

- The sample for this training module can be found in the Getting Started page of the IBM Worklight documentation website at
  - http://www.ibm.com/mobile-docs

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