

Building Mobile Applications with jQuery

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About Sidney Maestre

Sid Maestre has been designing and developing web applications since 1998. His passion for cutting edge technology lead him into RIA and now mobile development.

Sid spent many years consulting with startups building both ColdFusion and Flash based applications. Recently, Sid founded Crush It Mobile focused on helping event organizers manage their data for mobile apps.

Community involvement includes managing the Bay Area ColdFusion User Group, organizing the first ColdFusion DevCamp in 2009 and speaking at 360IFlex San Jose in 2010.

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Setup and Configuration

Before you proceed, please note the following: Throughout this document, the following styles are used to simplify instructions. Menu items and field prompts are formatted in **bold**. Text you need to enter is always in **monotype** **AND** **bold**. The **Ellipsis** (...) indicates additional code, not shown. And any special notes are in boxes like this.

This hands-on lab requires that you have the following installed:

- Apple Safari browser
- An HTML text editor (i.e Dreamweaver, ColdFusionBuilder, etc)
- Files for this lab (ZIP file)

The MobilejQuery.zip file should be expanded on your desktop. This will create a folder named **mobilejquery** containing other files and folders.

Directory Structure

/mobilejquery/Code/

Contains all code snippets for each lab.

/mobilejquery/myWine/

Contains the start and finished files for each lab

/mobilejquery/Walkthrough/

Contains the two walkthrough files for CSS and jQuery

Lab 1 – Initialize jQTouch and create a list and detail

Open the file for this lab.

1. Go to your HTML text editor.
2. Open the **File** menu and select **Open ...**
3. Open the file **myWine01.html** in the **myWine** folder located in the **mobilejquery** folder on your desktop.

Initialize jQTouch

1. Inside the **head** tag add the **script** tag and initialize jQTouch.

Enter Code 1.1

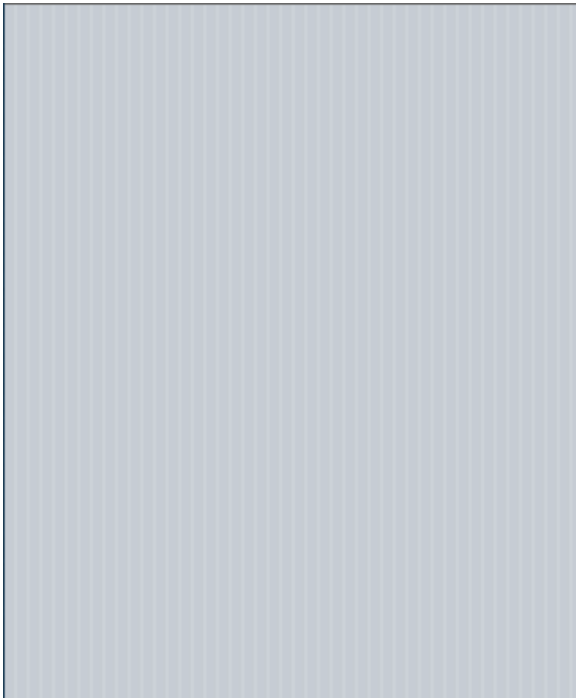
```
<head>

...

<script>
    var jQT = $.jQTouch({
        icon: 'assets/images/myWineIcon.png',
        statusBar: 'black'
    });
</script>
</head>
```

Test Your Code

1. Launch the Safari Browser.
2. Open the **File** menu and select **Open File...**
3. Open the file **myWine01.html** in the **myWine** folder located in the **mobilejquery** folder on your desktop.



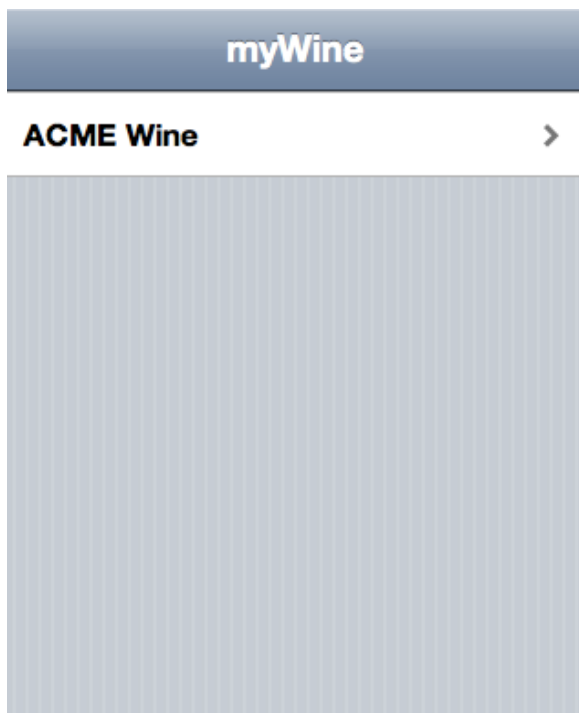
Add a **toolbar** and **unordered list** to the **home div**

Enter Code 1.2

```
<div id="home">
  <div class="toolbar">
    <h1>myWine</h1>
  </div>
  <ul class="edgetoedge">
    <li class="arrow">
      <a href="#detail">ACME Wine</a>
    </li>
  </ul>
</div>
```

Test Your Code

1. Refresh your browser with **myWine01.html**



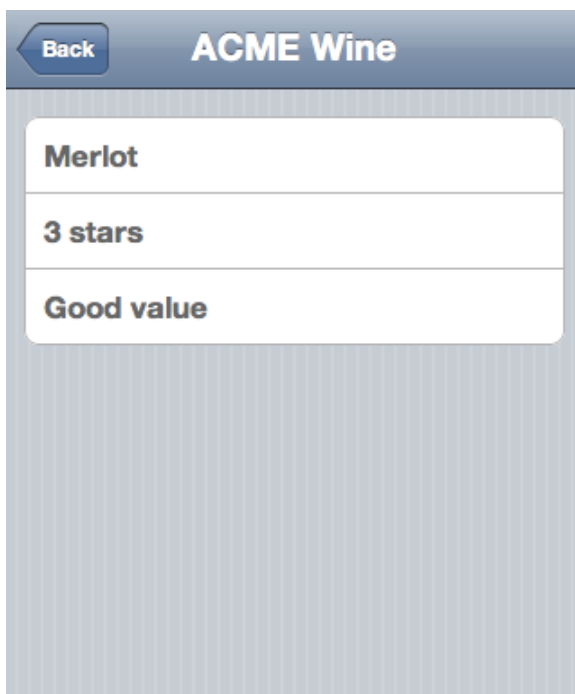
Add a **toolbar** and **unordered list** to the **detail** div

Enter Code 1.3

```
<div id="detail">
  <div class="toolbar">
    <a href="#" class="back">Back</a>
    <h1>ACME Wine</h1>
  </div>
  <ul class="rounded">
    <li class="varietal">Merlot</li>
    <li class="rating">3 stars</li>
    <li class="description">Good value</li>
  </ul>
</div>
```

Test Your Code

1. Refresh your browser with **myWine01.html**
2. **Click** on **ACME Wine** to go to the detail screen.
3. **Click** the **Back** button to return to the home screen.



Change from the **apple** theme to the custom **wine** theme

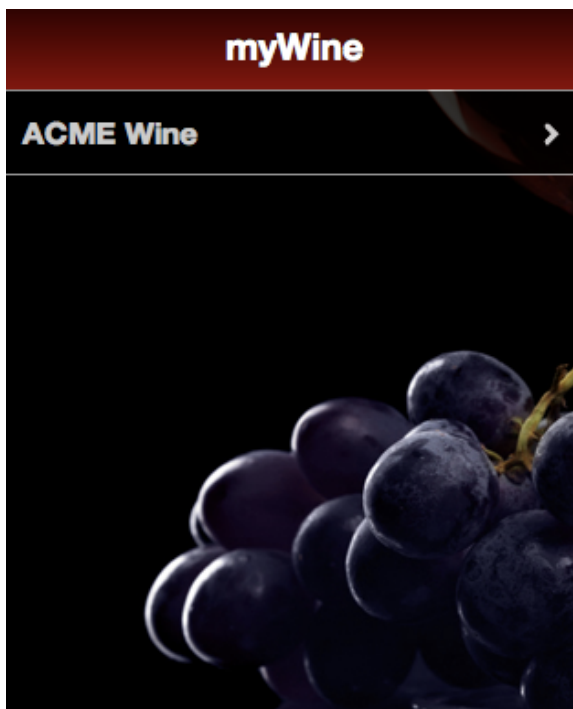
1. Inside the **head** tag find the style import with **theme/apple/theme.css** and replace **apple** with **wine**.

Enter Code 1.4

```
<style type="text/css" media="screen">
  @import "themes/wine/theme.css";
</style>
```

Test Your Code

1. Refresh your browser with **myWine01.html**
2. You will see the new theme for your mobile app.



Lab 2 – Creating a form

Open the file for this lab.

1. Go to your HTML text editor.
2. Open the **File** menu and select **Open ...**
3. Open the file **myWine02.html** in the **myWine** folder located in the **mobilejquery** folder on your desktop.

Add an **Add Wine** button to the **home** div toolbar.

Enter Code 2.1

```
<div id="home" >
  <div class="toolbar">
    <h1>myWine</h1>
    <a href="#add" class="button slideup">Add Wine</a>
  </div>
  ...
</div>
```

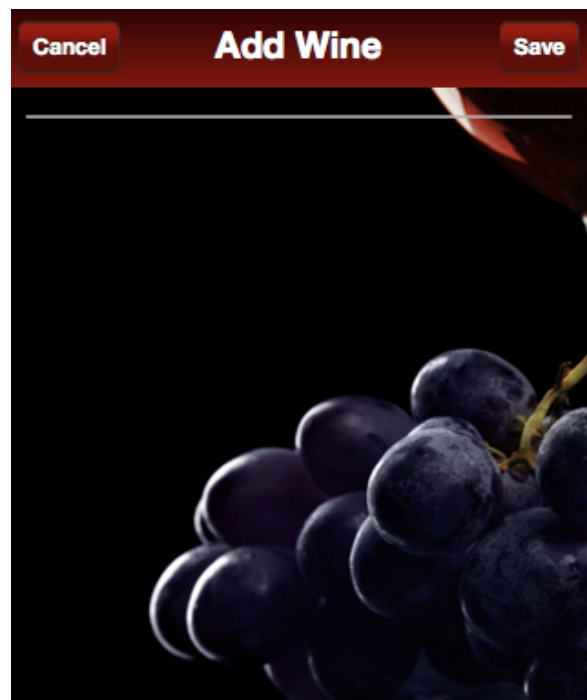
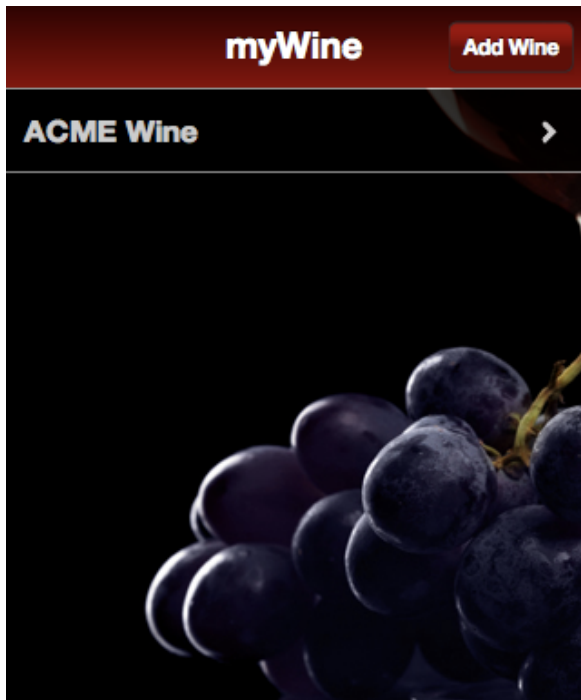
Add a **Cancel** and **Save button** to the **add div** toolbar.

Enter Code 2.2

```
<div id="add">
  <form>
    <div class="toolbar">
      <a href="#" class="cancel">Cancel</a>
      <h1>Add Wine</h1>
      <a href="#" class="button save">Save</a>
    </div>
    ...
  </div>
```

Test Your Code

1. Go to the Safari Browser.
2. Open the **File** menu and select **Open File...**
3. Open the file **myWine02.html** in the **myWine** folder located in the **mobilejquery** folder on your desktop.
4. **Click the Add Wine button** to go to the add screen.
5. **Click the Cancel button** to return to the home screen.



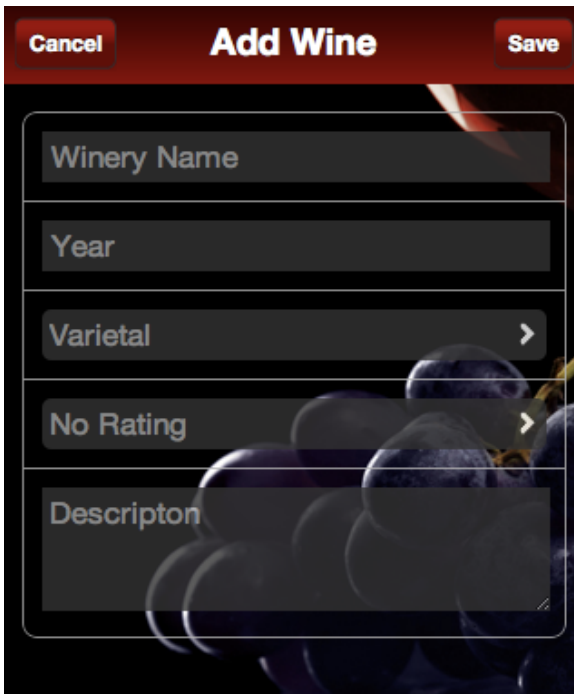
Insert **placeholder** attribute for text input.

Enter Code 2.3

```
<div id="add">
    ...
    <ul class="rounded">
        <li>
            <input type="text" id="name"
                placeholder="Winery Name" />
        </li>
        ...
    </ul>
</div>
```

Test Your Code

1. Refresh your browser with **myWine02.html**
2. Click the **add button**, you should see the new form.



Add a jQuery **each** function to **loop** over the **varietals array** and add options to the select box. Place this inside the jQuery **document.ready** function to ensure the select box is created prior to adding the options.

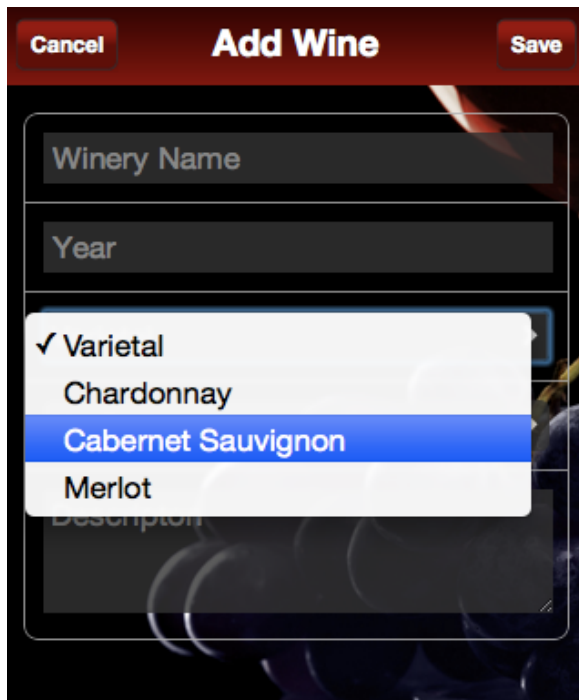
Enter Code 2.4

```
<script type="text/javascript">
...
$(document).ready(function() {

    $.each(arrVarietal,function( intIndex, objValue ){
        $('#varietal').append($("<option>" +
            "</option>").text(objValue));
    });
});
...
</script>
```

Test Your Code

1. Refresh the **myWine02.html** in your browser.
2. **Click** the **Add Wine button** to go to the add screen.
3. **Click** the **Varietals select box** to confirm your array is populating the options correctly.



The screenshot shows a mobile application interface for adding a new wine. At the top is a red header bar with three buttons: 'Cancel' on the left, 'Add Wine' in the center, and 'Save' on the right. Below the header is a form with several input fields. The first field is labeled 'Winery Name'. The second field is labeled 'Year'. The third field is a dropdown menu labeled 'Varietal'. The dropdown menu is open, showing three options: 'Chardonnay', 'Cabernet Sauvignon' (which is highlighted with a blue background), and 'Merlot'. Below the dropdown menu is a larger text area labeled 'Description'.

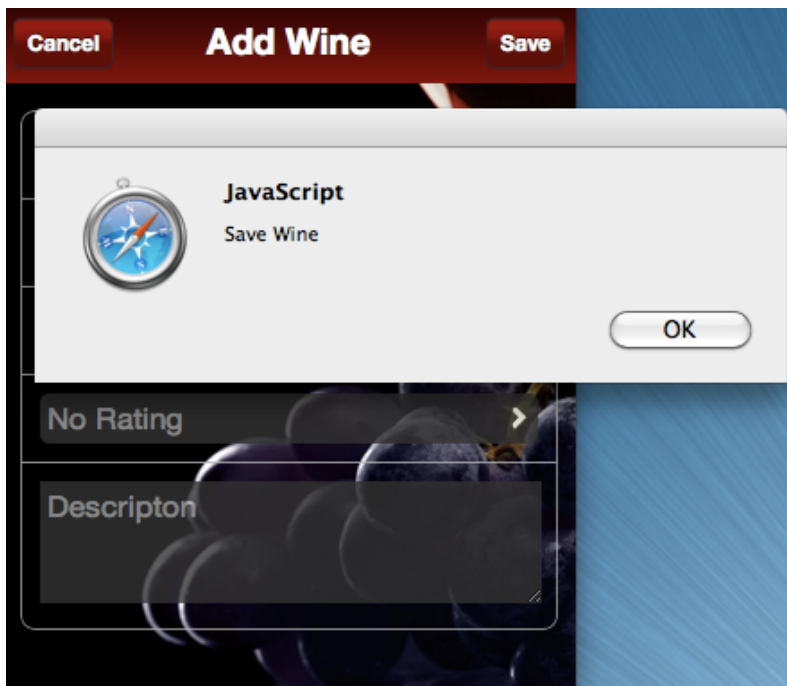
With jQuery, **bind** a **function** to the **save** button **click** event. Insert the code inside the **document.ready** function.

Enter Code 2.5

```
$(document).ready(function() {  
    ...  
    $('#add .save').click( function() {  
        alert('Save Wine');  
    });  
});
```

Test Your Code

1. Refresh **myWine02.html** in your browser.
2. **Click** the **Add Wine** button to go to the add screen.
3. **Click** the **Save** button to confirm your function is triggering the alert.



Lab 3 – Creating a SQLite database

Open the file for this lab.

1. Go to your HTML text editor.
2. Open the **File** menu and select **Open ...**
3. Open the file **myWine03.html** in the **myWine** folder located in the **mobilejquery** folder on your desktop.

Create the **db** variable.

Enter Code 3.1

```
var jQT = $.jQTouch({  
    icon: 'assets/images/myWineIcon.png',  
    statusBar: 'black'  
});  
  
var db;
```

Create a local database for this app.

Enter Code 3.2

```
$(document).ready(function() {  
  
    var fileName = 'winedb';  
    var version = '1.0';  
    var displayName = 'myWine Database';  
    var maxSize = '1024';  
  
    db = openDatabase(fileName,version,displayName,maxSize);  
    db.transaction( function(transaction) {  
        transaction.executeSql(  
            'CREATE TABLE IF NOT EXISTS wine ' +  
            ' (id INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT, ' +  
            ' name TEXT, year INTEGER, varietal TEXT, ' +  
            ' rating INTEGER, description TEXT )',[]);  
        }  
    );  
  
    ...  
});
```

Test Your Code

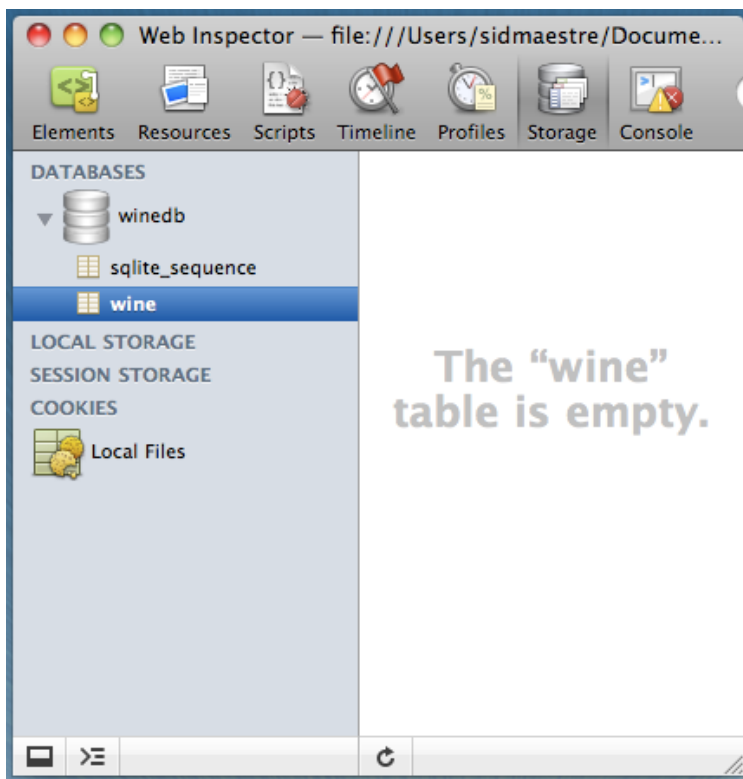
1. Go to the **Safari** Browser.
2. Open the **Safari menu** and select **Preferences**.
3. Click the **Advanced** icon
4. **Check** the box next to **Show Develop menu in menu bar**.
5. **Close** Preferences.

Next ...

6. Open the **File** menu and select **Open File...**
7. Open the file **myWine03.html** in the **myWine** folder located in the **mobilejquery** folder on your desktop.
8. Open the **Develop** menu and select **Show Web Inspector**.
9. **Click** the **Storage** icon. You should see **winedb** under **databases**
10. **Click** the triangle next to **winedb** to expand and see the **wine** table
11. Close this window when you are done.

Next ...

1. Open the **Safari** menu and select **Preferences**.
2. Click the **Security** icon along the top.
3. Click the **show databases** button at the bottom.
4. You should see the **My Wine Database** listed.
5. Close this window when you are done.



Lab 4 – Inserting data

Open the file for this lab.

1. Go to your HTML text editor.
2. Open the **File** menu and select **Open ...**
3. Open the file **myWine04.html** in the **myWine** folder located in the **mobilejquery** folder on your desktop.

Set the **name variable** equal to the form input with the id of name using jQuery.

Enter Code 4.1

```
$(document).ready(function() {  
    ...  
    $('#add .save').click( function() {  
  
        var name = $('#name').val();  
        var year = $('#year').val();  
        var varietal = $('#varietal').val();  
        var rating = $('#rating').val();  
        var description = $('#description').val();  
        ...  
    });  
});
```

Test Your Code

1. Go to the Safari Browser.
2. Open the **File** menu and select **Open File...**
3. Open the file **myWine04.html** in the **myWine** folder located in the **mobilejquery** folder on your desktop.
4. Click on the **add** button, **fill out the form** and click the **save** button.



Remove the **alert** and **add** the **insertWine()** to the click function

Enter Code 4.2

```
$('#add .save').click( function() {  
    ...  
    insertWine(name, year, varietal, rating, description);  
});
```

Add the **insertWine** function

Enter Code 4.3

```
<script type="text/javascript">
...
function insertWine(name,year,varietal,rating,description) {
    db.transaction(
        function(transaction) { transaction.executeSql(
            'INSERT INTO wine ' +
            ' (name, year, varietal, rating, description) VALUES ' +
            ' (?, ?, ?, ?, ?);', [name,year,varietal,rating,description] ,
            successInsertHandler, errorHandler );
        }
    );
}
</script>
```

Add the **successInsertHandler** function with an **alert** function.

Enter Code 4.4

```
<script type="text/javascript">
...

function successInsertHandler(transaction, error) {
    alert('Insert Success');
}
</script>
```

Add the **errorHandler** function (this will handle any sql errors)

Enter Code 4.5

```
<script type="text/javascript">

...

function errorHandler(transaction, error) {
    alert('error ' + error.message
        + ' code: ' + error.code);
}
</script>
```

Test Your Code

1. Refresh **myWine03.html** in your browser.
2. **Click the Add Wine button** to go to the add screen.
3. Fill out the form and **click the save button**.
4. You should see the **alert "Insert Success"**.



Remove the **alert** and add **reset the form** in the **successInsertHandler**.

Enter Code 4.6

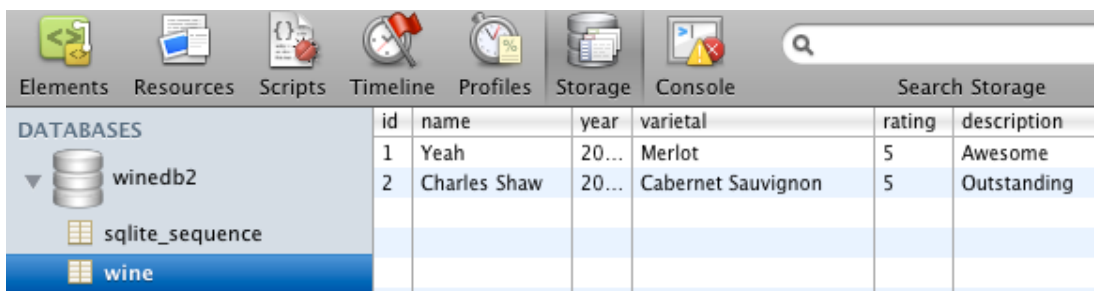
```
<script type="text/javascript">

...

function successInsertHandler(transaction, error) {
    document.forms[0].reset();
}
</script>
```

Test Your Code

1. Refresh the browser with **myWine04.html**
2. **Click** the **Add Wine button** to go to the add screen.
3. Fill in the form and click the **Save** button.
4. Open the **Develop** menu and select **Show Web Inspector**.
5. **Click** the **Storage** icon. You should see **winedb** under **databases**
6. **Click** the **triangle** next to **winedb** to expand and see the **wine** table
7. **Click** the **wine** table to see the rows of data.
8. **Close** this window when you are done.



Search Storage						
DATABASES						
▼ winedb2						
sqlite_sequence						
wine						
id	name	year	varietal	rating	description	
1	Yeah	20...	Merlot	5	Awesome	
2	Charles Shaw	20...	Cabernet Sauvignon	5	Outstanding	

Lab 5 – Loading data

Open the file for this lab.

1. Go to your HTML text editor.
2. Open the **File** menu and select **Open ...**
3. Open the file **myWine05.html** in the **myWine** folder located in the **mobilejquery** folder on your desktop.

Call the **loadWine** function from **document.ready**

Enter Code 5.1

```
$(document).ready(function() {  
    ...  
    loadWine();  
});
```

Add the **loadWine** function

Enter Code 5.2

```
<script type="text/javascript">  
    ...  
    function loadWine() {  
        db.transaction(  
            function (transaction) {  
                transaction.executeSql("SELECT * FROM wine;",  
                    [], successLoadHandler, errorHandler);  
            }  
        );  
    }  
</script>
```

Add the **successLoadHandler** function to display your wines in a list.

Enter Code 5.3

```
<script type="text/javascript">

...

function successLoadHandler(transaction, results) {
    $('#home .edgetoedge').empty();

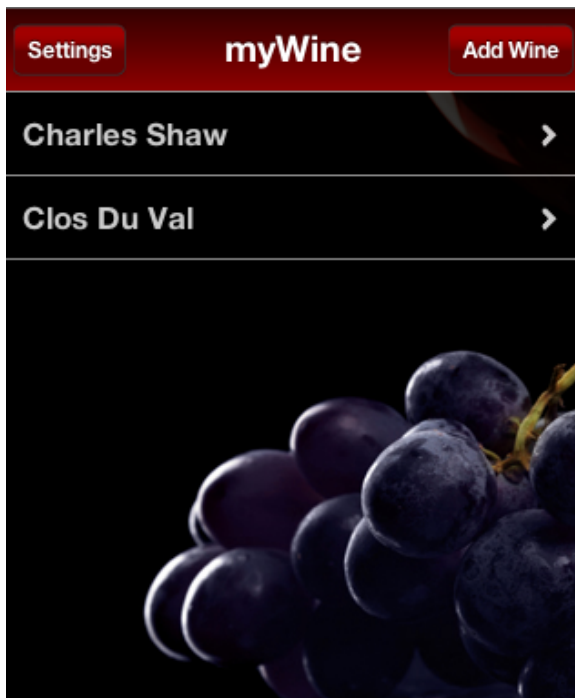
    for (var i = 0; i < results.rows.length; i ++ ) {
        var row = results.rows.item(i);
        var currItem = 'detail_' + row.id;

        $('#home .edgetoedge').append('<li class="arrow">' +
            '<a href="#" + currItem + '" >' + row.name +
            '</a></li>');
    }
}

</script>
```


Test Your Code

1. Go to the Safari Browser.
2. Open the **File** menu and select **Open File...**
3. Open the file **myWine05.html** in the **myWine** folder located in the **mobilejquery** folder on your desktop.
4. You should see a list of wines in your database.



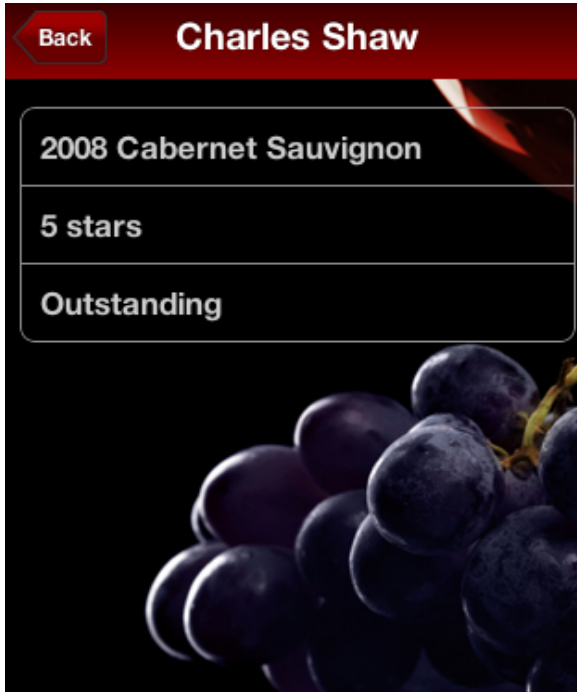
Add **MORE** to the **successLoadHandler** function to create a detail div for each wine.

Enter Code 5.4

```
for (var i = 0; i < results.rows.length; i ++ ) {  
    ...  
  
    $('#'+ currItem).remove();  
  
    $('#detail').clone().attr('id',currItem).appendTo('#jqtd');  
  
    var currClone = $('#'+ currItem);  
  
    $('h1', currClone).html(row.name);  
  
    $('varietal', currClone).html(row.year + ' ' +  
        row.varietal);  
    $('rating', currClone).html(row.rating + ' stars');  
    $('description', currClone).html(row.description);  
  
}
```

Test Your Code

1. Refresh the browser with **myWine05.html**
2. **Click** the any of the wines, you should see the details for that wine.



Call the **loadWine** function from **successInsertHandler** function

Enter Code 5.5

```
function successInsertHandler(transaction, error) {  
    document.forms[0].reset();  
    loadWine();  
}
```

Test Your Code

1. Refresh **myWine05.html** in your browser.
2. **Click** the **Add Wine button** to go to the add screen.
3. Fill in the form and click the **Save** button.
4. Your new wine should appear in your list.

Lab 6 – Deleting data

Open the file for this lab.

1. Go to your HTML text editor.
2. Open the **File** menu and select **Open ...**
3. Open the file **myWine06.html** in the **myWine** folder located in the **mobilejquery** folder on your desktop.

Add a **Settings button** to the home toolbar.

Enter Code 6.1

```
<div id="home">
  <div class="toolbar">
    <a href="#settings"
      class="button leftButton slideup">Settings</a>
    <h1>myWine</h1>
    <a href="#add" class="button slideup">Add Wine</a>
  </div>
  <ul class="edgetoedge"></ul>
</div>
```

Add the **Remove All Wines** button to the **Settings** div

Enter Code 6.2

```
<div id="settings">
  <div class="toolbar">
    <a href="#" class="back">Back</a>
    <h1>Settings</h1>
  </div>
  <div style="padding:20px;">
    <a href="#" class="whiteButton">Remove All Wines</a>
  </div>
</div>
```

Bind a **function** to the **Remove All Wines** button **click** event. Insert the code inside the **document.ready** function.

Enter Code 6.3

```
$(document).ready(function() {
  ...
  $('#settings .whiteButton').click( function() {
    deleteWine();
  });
});
```

Add the **deleteWine** and **successDeleteHandler** function

Enter Your Code

```
<script type="text/javascript">

...

function deleteWine() {
    db.transaction( function (transaction) {
        transaction.executeSql("DELETE FROM wine;", [],
            successDeleteHandler, errorHandler);
    }
);
}

function successDeleteHandler() {
    loadWine();
}

</script>
```

Test Your Code

1. Go to the Safari Browser.
2. Open the **File** menu and select **Open File...**
3. Open the file **myWine06.html** in the **myWine** folder located in the **mobilejquery** folder on your desktop.
4. **Click the Clear button** on the home screen.
5. Your wine list should be empty.

