Sencha Touch

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About the Tutorial

Sencha Touch is a mobile application framework to develop user interface for mobile apps using HTML5, CSS3, and JavaScript. It assists the developers in creating mobile apps with ease that supports Android, iOS, Windows, Tizen, Microsoft Surface Pro and RT, and BlackBerry devices.

Audience

This tutorial has been prepared for beginners to help them understand the concepts of Sencha Touch to build a mobile application.

Prerequisites

For this tutorial, the reader should have prior knowledge of HTML, CSS, and JavaScript coding. It would be helpful if the reader is aware of the concepts of object-oriented programming and also has a general idea on creating web applications.

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1. Sencha Touch – Overview

Sencha Touch is a popular framework of Sencha for creating a user interface for mobile applications. It helps the developer create a mobile app using simple HTML, CSS, JS which supports many mobile devices such as android, IOS, BlackBerry, and Windows. It is based on MVC architecture. The latest version of Sencha Touch is 2.4.

History of Sencha Touch

After releasing Sencha's other product, ExtJs, which was for web application, there was a need to develop a framework which works on mobile devices too.

The first version of Sencha Touch was 0.9 beta version, which supported Android and IOS devices. Later, the first main release of Sencha Touch version 1.0 was in November 2010, which was the first stable version and supported Blackberry devices too.

The latest release of Sencha Touch is version 2.4 released in June 2015, which supports many devices such as Windows, Tizen along with Android, IOS, BlackBerry OS 10, Google Chrome for Android and mobile Safari, etc.

Features of Sencha Touch

Following are the most prominent features of Sencha Touch:

- Customizable and more than 50 build in UI widgets with a collection of rich UI such as lists, carousels, forms, menus, and toolbars, built specifically for mobile platforms.
- Code compatibility of new versions with the older one.
- A flexible layout manager that helps organize the display of data and content across multiple mobile devices with different OS.
- The framework includes a robust data package that can consume data from any backend data source.
- Adaptive layouts, animations, and smooth scrolling for a better mobile web application experience for the user.
- Out-of-the-box, native-looking themes for every major platform enables to make web and hybrid applications match the look and feel of the target platforms.

Sencha Touch – Benefits

Sencha Touch is the leading standard for business-grade web application development. It offers the tools necessary to build robust applications for most of the mobile devices providing a single platform for developing applications. Following are some of the benefits:

- Provides a responsive touch feature, hence the user can easily navigate while using the mobile app.

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- Provides compatibility with all the latest versions of IOS, Android and Blackberry, and Windows.
- Provides fastest possible speed desirable for any mobile application.
- Provides a cost-effective solution with its cross-platform compatibility.
- Based on the native APIs and basic web development languages such as HTML, CSS, JS which makes it easier for a developer to understand Sencha Touch.

Sencha Touch – Limitations

Sencha Touch API doesn't have the following capability:

- The app does not have access to the device's camera, contacts, and accelerometer.
- It does not provide the push notification facility. For this, we have to use websockets or long polling.
- According to general public license policy, it is free for open source applications however paid for commercial applications.
- It is not good for hardcore graphics and animation apps such as for gaming apps.

Sencha Touch – Tools

Sencha SDK

This is Sencha development kit used to create a skeleton of the project. We use the command "sencha -sdk path/to/touch generate app appName" to create an app with the name given in the command.

When the app is created, you can see the following files in the app:

- **app** - This folder contains model, view, controller and store files for the app.
- **app.js** - This is the main JS file for your application. From this file, the Sencha code flow starts.
- **app.json** - This is the configuration file for the app, all the configuration details presents here.
- **index.html** - This is the main html file where we include the app.js and other Sencha related files.
- **package.json** - This file has all the dependency and other information related to the app.
- **resources** - This folder includes all the CSS files and images required for the application.

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Sencha CMD

Sencha CMD is a command line tool, which provides the features of Sencha Touch code minification, scaffolding, build generation, and other useful features for production purpose.

We use command "Sencha app build package" in the command prompt to build the application for this. Go to the app directory in the command prompt and type the above command. Once the build is successful, we will see the minified version of the application basically used for production purpose.

This can be downloaded from https://www.sencha.com/products/extjs/cmd-download/

Sencha Inspector

Sencha Inspector is a debugging tool to debug any issue in Sencha code during development.

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2. Sencha Touch – Environment

Try it Option Online

We have set up Sencha Touch Programming environment online, so that you can compile and execute all the available examples online. It gives you confidence in what you are reading and enables you to verify the programs with different options. Feel free to modify any example and execute it online.

Try the following example using **Try it** option available at the top right corner of the following sample code box.

```
<!DOCTYPE html>
<html>
   <head>
      <link href="https://cdn.sencha.com/touch/sencha-touch-
2.4.2/resources/css/sencha-touch.css" rel="stylesheet" />
      <script type="text/javascript" src="https://cdn.sencha.com/touch/sencha-
touch-2.4.2/sencha-touch-all.js"></script>
      <script type="text/javascript">
        Ext.application({
           name: 'Sencha',
           launch: function() {
              Ext.create("Ext.tab.Panel", {
                 fullscreen: true,
                 items: [{
                    title: 'Home',
                    iconCls: 'home',
                    html: 'Welcome'
                 }]
              });
           }
        });
      </script>
   </head>
   <body>
   </body>
</html>
```


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For most of the examples given in this tutorial, you will find a Try it option on our website code sections at the top right corner, that will take you to the online compiler. Make use of it and enjoy your learning.

Local Environment Setup

This section guides you on how to download and set up Sencha Touch on your machine. Please follow the steps to set up the environment.

Download library files

Download a commercial version of Sencha Touch library files from the following link https://www.sencha.com. You will get the trial version from the site on your registered mail id, which will be a zipped folder named sencha-touch-2.4.2-commercial.

Unzip the folder and you will find various JavaScript and CSS files to include in your application. Include mostly the following files:

JavaScript Files - JS file which you can find under folder \sencha-touch-2.4.2-commercial\touch-2.4.2 are:

File	Description
sencha-touch.js	This is the core file which contains all functionalities to run the application.
sencha-touch-all.js	This file contains all the code minified with no comments in the file.
sencha-touch-debug.js	This is the unminified version of sencha-touch-all.js for debugging purpose.
sencha-touch-all-debug.js	This file is also unminified and is used for development purpose as it contains all the comments and console logs to check any errors/issues.

You can add these files to your projects JS folder or you can provide a direct path where the files reside in your system.

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CSS Files - There are number of theme-based files which you can find under the folder I:\sencha touch\sencha-touch-2.4.2-commercial\touch-2.4.2\resources\css\sencha-touch.css

These library files will be added in Sencha Touch application as follows:

```
<html>
   <head>
    <script type="text/javascript" src="../sencha-touch-2.4.2-commercial/touch-
2.4.2/sencha-touch-all.js"></script>
    <link href="../sencha-touch-2.4.2-commercial/touch-
2.4.2/resources/css/sencha-touch.css" rel="stylesheet" />
    <script type ="text/javascript" src = "app.js" > </script>
   </head>
</html>
```

You can keep Sencha Touch application code in app.js file.

CDN Setup

CDN is content delivery network with which you do not need to download the Sencha Touch library files, instead you can directly add CDN link for ExtJS to your program as follows:

```
<html>
   <head>
    <script type="text/javascript" src="https://cdn.sencha.com/touch/sencha-
touch-2.4.2/sencha-touch-all.js"></script>
    <link href="https://cdn.sencha.com/touch/sencha-touch-
2.4.2/resources/css/sencha-touch.css" rel="stylesheet" />
    <script type ="text/javascript" src = "app.js" > </script>
   </head>
</html>
```

Popular Editors

As it is a JavaScript framework used for developing web applications, the project will have HTML, JS files, and to write your Ext JS programs, you will need a text editor. There are multiple IDEs available in the market. But for now, you can consider one of the following:

Notepad: On Windows machine, you can use any simple text editor such as Notepad (Recommended for this tutorial), Notepad++

Brackets: Another popular IDE which can be downloaded from https://brackets.io/

Sublime: Another popular IDE which can be downloaded from https://www.sublimetext.com/3/

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3. Sencha Touch – Naming Convention

Naming convention is a set of rules to be followed for identifiers. It makes the code easily readable and understandable for other programmers as well.

Naming convention in Sencha Touch follows the standard JavaScript convention, which is not mandatory but a good practice to follow. It should follow camel case syntax for naming the class, method, variable, and properties.

If the name is combined with two words, the second word will start with an uppercase letter always. For example, doLayout(), StudentForm, firstName, etc.

Name	Convention
Class Name	It should start with an uppercase letter, followed by camel case. For example, StudentClass
Method Name	It should start with a lowercase letter, followed by camel case. For example, studentMethod()
Variable Name	It should start with a lowercase letter, followed by camel case. For example, studentName
Constant Name	It should be in uppercase only. For example, COUNT, MAX_VALUE
Property Name	It should start with a lowercase letter, followed by camel case. For example, enableColumnResize = true

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End of ebook preview

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