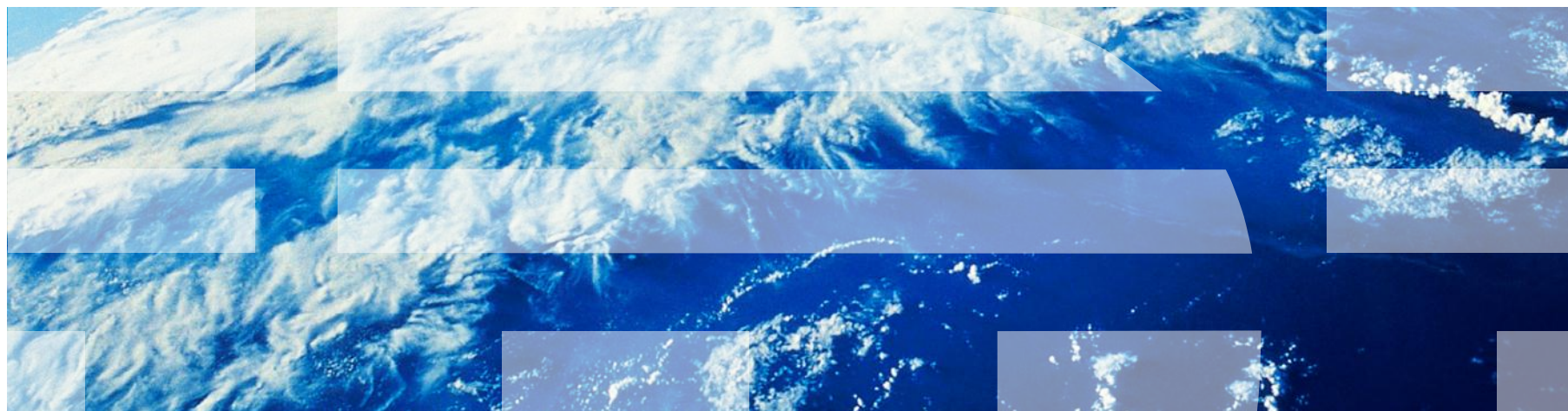


IBM Worklight Foundation V6.2.0 Getting Started

Working with UI frameworks



Trademarks

- IBM, the IBM logo, ibm.com, and Worklight are trademarks or registered trademarks of International Business Machines Corporation, registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at “[Copyright and trademark information](http://www.ibm.com/legal/copytrade.shtml)” at www.ibm.com/legal/copytrade.shtml.
- Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.
- Other company products or service names may be trademarks or service marks of others.
- This document may not be reproduced in whole or in part without the prior written permission of IBM.

About IBM®

- See <http://www.ibm.com/ibm/us/en/>

Agenda

- Working with UI frameworks
- Using jQuery in a Worklight application
- Working with jQuery Mobile
- Working with Dojo Mobile
- Working with Sencha Touch

Working with UI frameworks

- Designing and implementing the UI of your application is an important part of the development process.
- Writing your own CSS style for each component from scratch gives you a high level of customization, but requires a large amount of resources.
- Sometimes it is better to use the existing JavaScript™ UI frameworks.
- This module describes the development of Worklight® applications by using three JavaScript UI frameworks:
 - jQuery Mobile
 - Dojo Mobile
 - Sencha Touch

Agenda

- Working with UI frameworks
- Using jQuery in a Worklight application
- Working with jQuery Mobile
- Working with Dojo Mobile
- Working with Sencha Touch

Using jQuery in a Worklight application

- jQuery is a fast and concise JavaScript framework that simplifies HTML document flow, event handling, animating, and Ajax interactions for rapid web development.
- The Worklight client-side framework uses the jQuery library for internal functionality. By default, the \$ character is assigned to the internal jQuery in the main HTML file of the application.

```
<script>window.$ = window.jQuery = WLJQ;</script>
```

- If your application does not require jQuery, or if you want to use a different version of jQuery, you can remove this line.
- For more information about jQuery, see <http://jquery.com/>.

Agenda

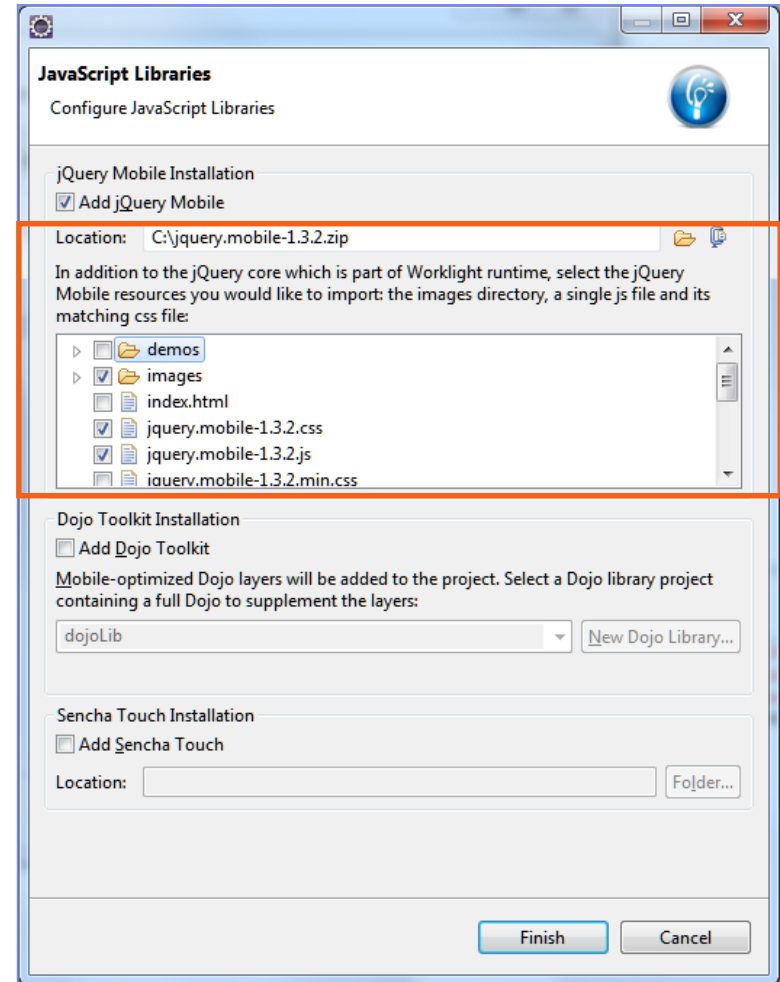
- Working with UI frameworks
- Using jQuery in a Worklight application
- Working with jQuery Mobile
- Working with Dojo Mobile
- Working with Sencha Touch

Working with jQuery Mobile

- jQuery Mobile is a touch-optimized web framework for smartphones and tablets.
- jQuery Mobile requires jQuery to run.
- You can download the required components at <http://jquerymobile.com/download/> or use the sample project that you can find at the end of this module as a reference.
- The required jQuery Mobile components are in the .js and .css files. More style images can optionally be added.

Working with jQuery Mobile

- When you create a new application, click **Configure JavaScript Libraries**. The **JavaScript Libraries** wizard opens.
- Use either the compressed jQuery Mobile .zip file or extract it.
- Select the files that you need to include in your project. You must include at minimum the images folder and the jquery-mobile-*.css and jquery-mobile-*.js files.
- When you create the application, a jqueryMobile folder is added that contains these files.
- The main HTML file of the application is created with references to the .css and .js files.



Working with jQuery Mobile

- The basic structure of a screen in a jQuery Mobile application is as follows:

```
<div data-role="page">  
  <div data-role="header"> ... </div>  
  <div data-role="content"> ... </div>  
  <div data-role="footer"> ... </div>  
</div>
```

- The header and footer elements are optional
- The page is rendered by a jQuery Mobile at run time
- All the required styles are automatically applied
- You can create your own styles and themes by using the ThemeRoller tool at <http://jquerymobile.com/themeroller/>

Working with jQuery Mobile

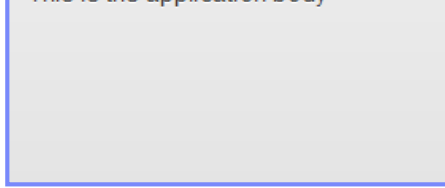

- A WYSIWYG editor is provided for jQuery Mobile widgets for developer convenience.



Working with jQuery Mobile

- By using jQuery Mobile, you can create mobile application screens with a few lines of code

```
<div data-role="page">  
  <div data-role="header">  
    <h2>My Application</h2>  
  </div>  
  <div data-role="content"> This is the application body  
</div>  
</div>
```



- For more information, see <http://jquerymobile.com/demos>.

Agenda

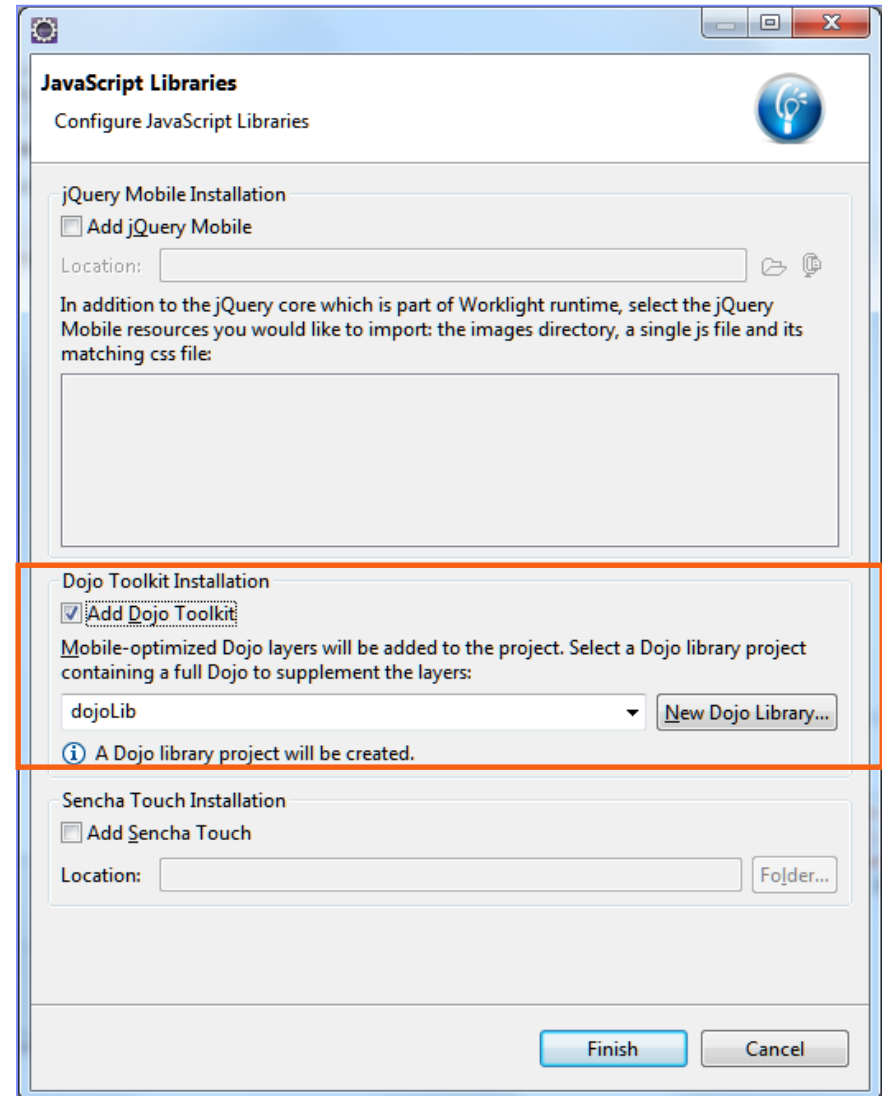
- Working with UI frameworks
- Using jQuery in a Worklight application
- Working with jQuery Mobile
- Working with Dojo Mobile
- Working with Sencha Touch

Working with Dojo Mobile

- You can use Dojo Mobile to rapidly develop mobile web applications on iPhone, iPod Touch, iPad, Android, and BlackBerry touch devices, with the appearance of the native device.
- Dojo Mobile is part of the Dojo Toolkit, which is developed and maintained by the Dojo Foundation.
 - For more information about the Dojo Toolkit, see the Dojo Toolkit website at <http://dojotoolkit.org/documentation/>.
- Worklight Studio includes a Dojo Toolkit package and tools that you can use to develop your mobile web applications.
- Use the sample project that you can find at the end of this module as a reference.

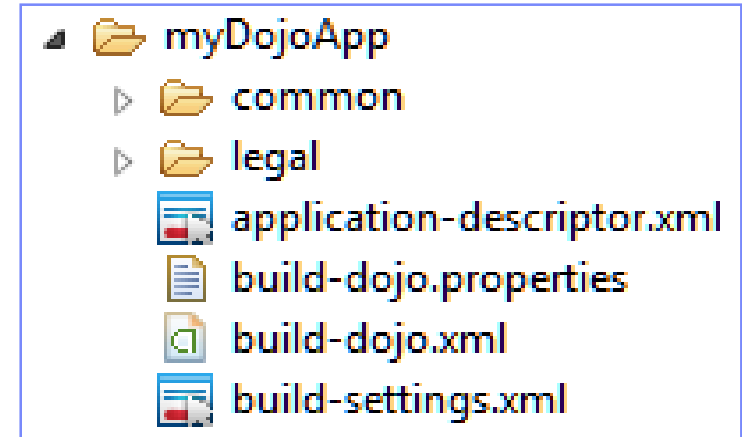
Working with Dojo Mobile

- When you create a new application, click **Configure JavaScript Libraries**. The **JavaScript Libraries** wizard opens.
- Select the **Add Dojo Toolkit** check box.
- Your project is initialized with mobile-optimized layers and resources.
- A new Dojo Library project is created that has a full Dojo Toolkit to supplement the mobile layers.



Deployment configuration with Ant

- Worklight Studio automatically uses the `build-dojoxml` file to specify which parts of the Dojo Toolkit package, such as compressed layers and resources, must be deployed with your application.
- By default, all of the resources from the `www` folder are deployed.
- **Note:** The `build-dojoxml` file stores the configuration that must be deployed to run a basic Dojo Mobile application. You can modify this build file to add other layers to deploy with your application.

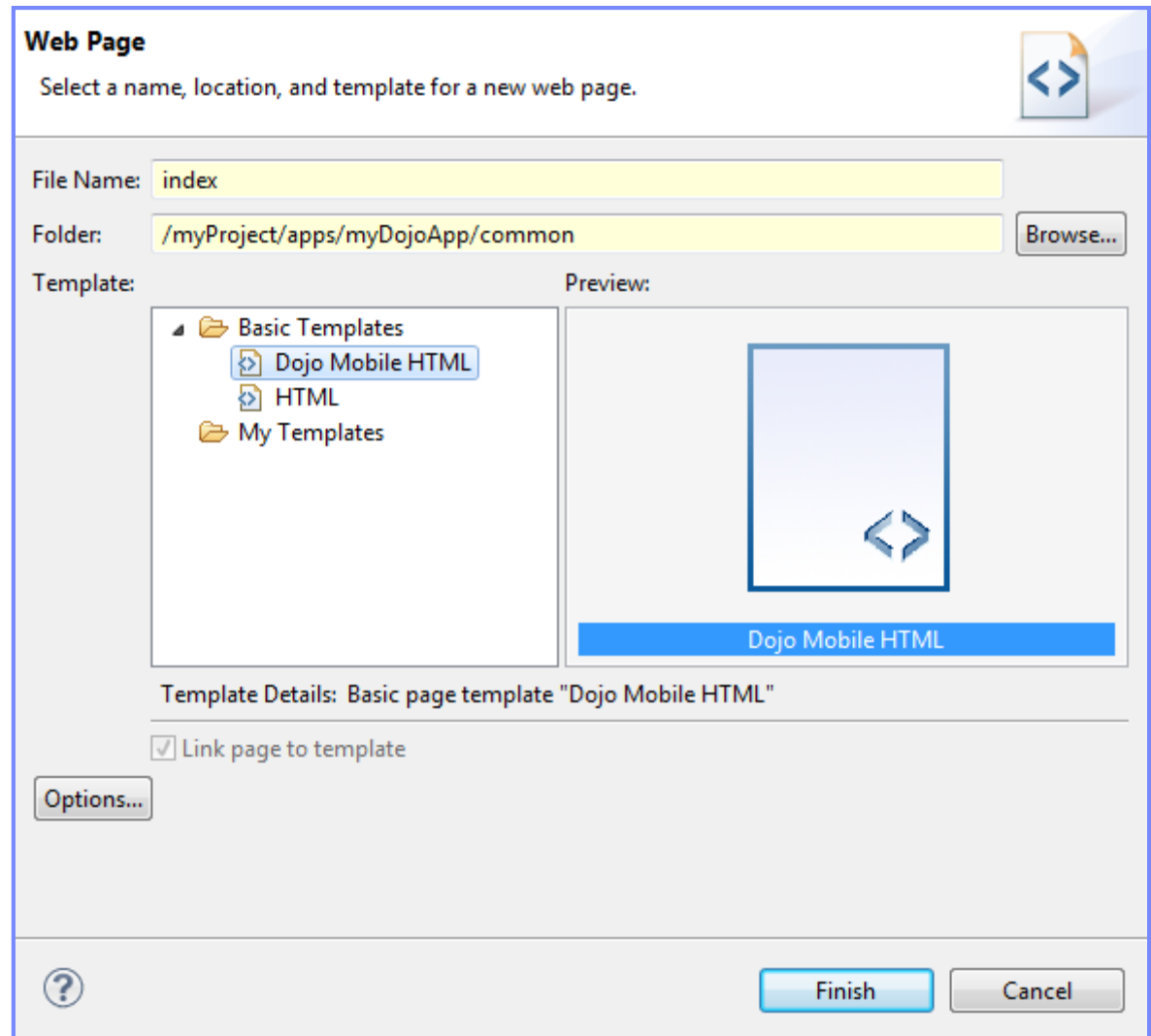


Create custom layers

- To create custom layers, you can use the full Dojo Toolkit that is part of the Dojo Library project.
- Update the `build-dojoproperties` file to indicate where to pick up the Dojo Toolkit files from.
 - Update the `dojo.workspaceRoot` property value to pick up the files from another directory in your project, or from another project in your workspace: `dojo.workspaceRoot=/myProject/dojo`
 - Use the `dojo.root` property instead if the directory is not in your workspace: `dojo.root=C\:/dojo`

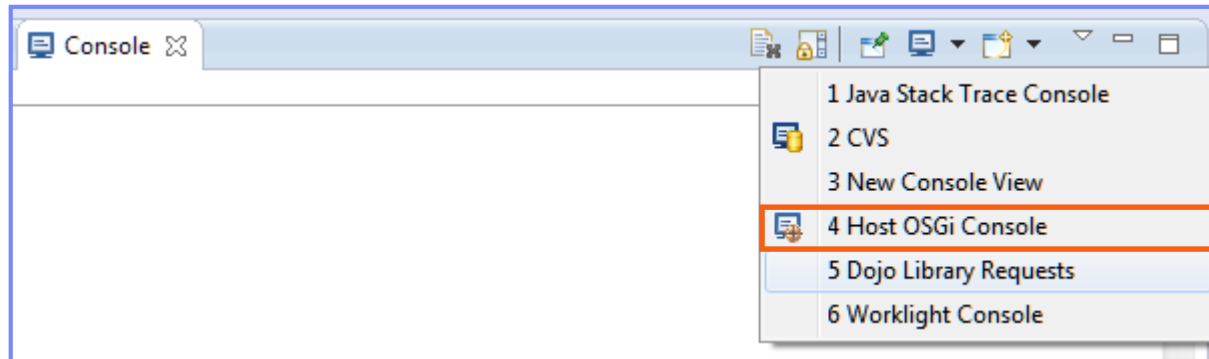
Using a predefined Dojo Mobile HTML template

- You can create mobile web pages with a predefined Dojo Mobile HTML template.
- Using this template prepares the web page to use Dojo Mobile.



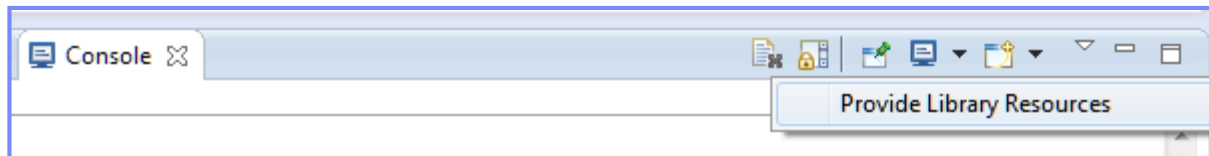
Using Dojo Library resources

- The Dojo Library provides resources that supplement mobile development.
- The Dojo Library Requests console logs which resources were used that are not deployed in your application.



Deploying to a device

- When the development is done, you must have the used resources in your application (either copied loosely or as layers) to run properly.
- To configure the application to use local resources only, toggle the **Provide Library Resources** action in the console and redeploy.



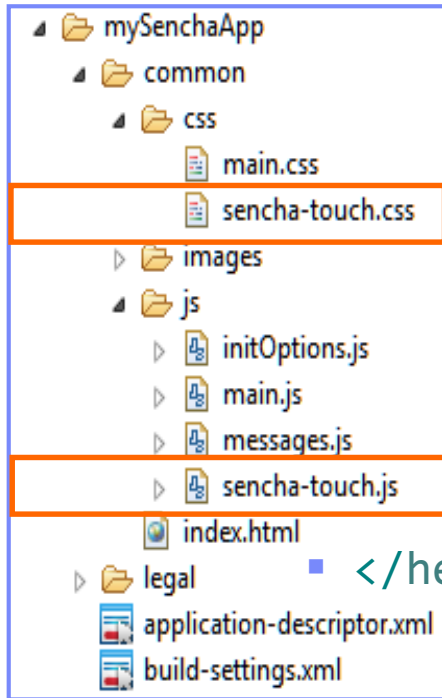
Agenda

- Working with UI frameworks
- Using jQuery in a Worklight application
- Working with jQuery Mobile
- Working with Dojo Mobile
- Working with Sencha Touch

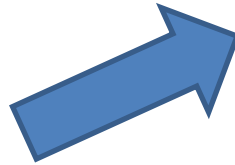
Working with Sencha Touch

- With Sencha Touch, developers can build mobile web apps on iPhone, Android, and BlackBerry touch devices, with the appearance of the native device.
- Sencha Touch is developed and maintained by Sencha Inc.
- To download the Sencha Touch package, go to <http://www.sencha.com/products/touch/>.
- Although the Sencha Touch package consists of many files, you need only two of them to begin development: `sencha-touch.js` and `sencha-touch.css`
- Use the sample project that you can find at the end of this module as a reference.

Working with Sencha Touch



```
<link rel="stylesheet" href="css/sencha-touch.css">
<script src="js/sencha-touch.js"></script>
```




■ </head>

Working with Sencha Touch

- When you are working with the Sencha Touch framework, you build your application UI by using JavaScript.

```
new Ext.Application({
  launch: function() {
    new Ext.Panel({
      fullscreen: true,
      dockedItems: [{
        xtype: 'toolbar',
        title: 'Sencha Touch App'
      }],
      layout: fit,
      styleHtmlContent: true,
      html: '<h2>This is a simple Sencha Touch App'
    });
  }
});
```



- For more information about Sencha Touch resources and learning center, see <http://www.sencha.com/learn/touch/>.

Notices

- Permission for the use of these publications is granted subject to these terms and conditions.
- This information was developed for products and services offered in the U.S.A.
- IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.
- IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:
 - IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.
- For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:
 - Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan Ltd.
1623-14, Shimotsuruma, Yamato-shi
Kanagawa 242-8502 Japan
- **The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:** INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.
- This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.
- Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.
- IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.
- Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:
 - IBM Corporation
Dept F6, Bldg 1
294 Route 100
Somers NY 10589-3216
USA

- Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.
- The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.
- Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

COPYRIGHT LICENSE:

- This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs.
- Each copy or any portion of these sample programs or any derivative work, must include a copyright notice as follows:
 - © (your company name) (year). Portions of this code are derived from IBM Corp. Sample Programs.
© Copyright IBM Corp. _enter the year or years_. All rights reserved.

Privacy Policy Considerations

- IBM Software products, including software as a service solutions, ("Software Offerings") may use cookies or other technologies to collect product usage information, to help improve the end user experience, to tailor interactions with the end user or for other purposes. In many cases no personally identifiable information is collected by the Software Offerings. Some of our Software Offerings can help enable you to collect personally identifiable information. If this Software Offering uses cookies to collect personally identifiable information, specific information about this offering's use of cookies is set forth below.
- Depending upon the configurations deployed, this Software Offering may use session cookies that collect session information (generated by the application server). These cookies contain no personally identifiable information and are required for session management. Additionally, persistent cookies may be randomly generated to recognize and manage anonymous users. These cookies also contain no personally identifiable information and are required.
- If the configurations deployed for this Software Offering provide you as customer the ability to collect personally identifiable information from end users via cookies and other technologies, you should seek your own legal advice about any laws applicable to such data collection, including any requirements for notice and consent. For more information about the use of various technologies, including cookies, for these purposes, see IBM's Privacy Policy at <http://www.ibm.com/privacy> and IBM's Online Privacy Statement at <http://www.ibm.com/privacy/details> the sections entitled "Cookies, Web Beacons and Other Technologies" and the "IBM Software Products and Software-as-a-Service Privacy Statement" at <http://www.ibm.com/software/info/product-privacy>.

Support and comments

- For the entire IBM Worklight Foundation documentation set, training material and online forums where you can post questions, see the IBM website at:
 - <http://www.ibm.com/mobile-docs>
- **Support**
 - Software Subscription and Support (also referred to as Software Maintenance) is included with licenses purchased through Passport Advantage and Passport Advantage Express. For additional information about the International Passport Advantage Agreement and the IBM International Passport Advantage Express Agreement, visit the Passport Advantage website at:
 - <http://www.ibm.com/software/passportadvantage>
 - If you have a Software Subscription and Support in effect, IBM provides you assistance for your routine, short duration installation and usage (how-to) questions, and code-related questions. For additional details, consult your IBM Software Support Handbook at:
 - <http://www.ibm.com/support/handbook>
- **Comments**
 - We appreciate your comments about this publication. Please comment on specific errors or omissions, accuracy, organization, subject matter, or completeness of this document. The comments you send should pertain to only the information in this manual or product and the way in which the information is presented.
 - For technical questions and information about products and prices, please contact your IBM branch office, your IBM business partner, or your authorized remarketer.
 - When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate without incurring any obligation to you. IBM or any other organizations will only use the personal information that you supply to contact you about the issues that you state.
 - Thank you for your support.
 - Submit your comments in the IBM Worklight Developer Edition support community at:
 - <https://www.ibm.com/developerworks/mobile/worklight/connect.html>
 - If you would like a response from IBM, please provide the following information:
 - Name
 - Address
 - Company or Organization
 - Phone No.
 - Email address

Thank You

