

HATS APPLICATION DEVELOPMENT FOR A MOBILE DEVICE

The process for developing a Rational HATS Web application for a mobile device is the same as developing any Rational HATS Web application, with some considerations due to the different characteristics of the mobile device and its Web browser.

Create a Project

HATS Project
A HATS project is a set of resources used to transform host terminal applications.

Name:

Description: (optional)

Location: Use default location

Deployment
Select a deployment environment and configure options:

Web

Target server:

Enterprise application project:

Portlet API:

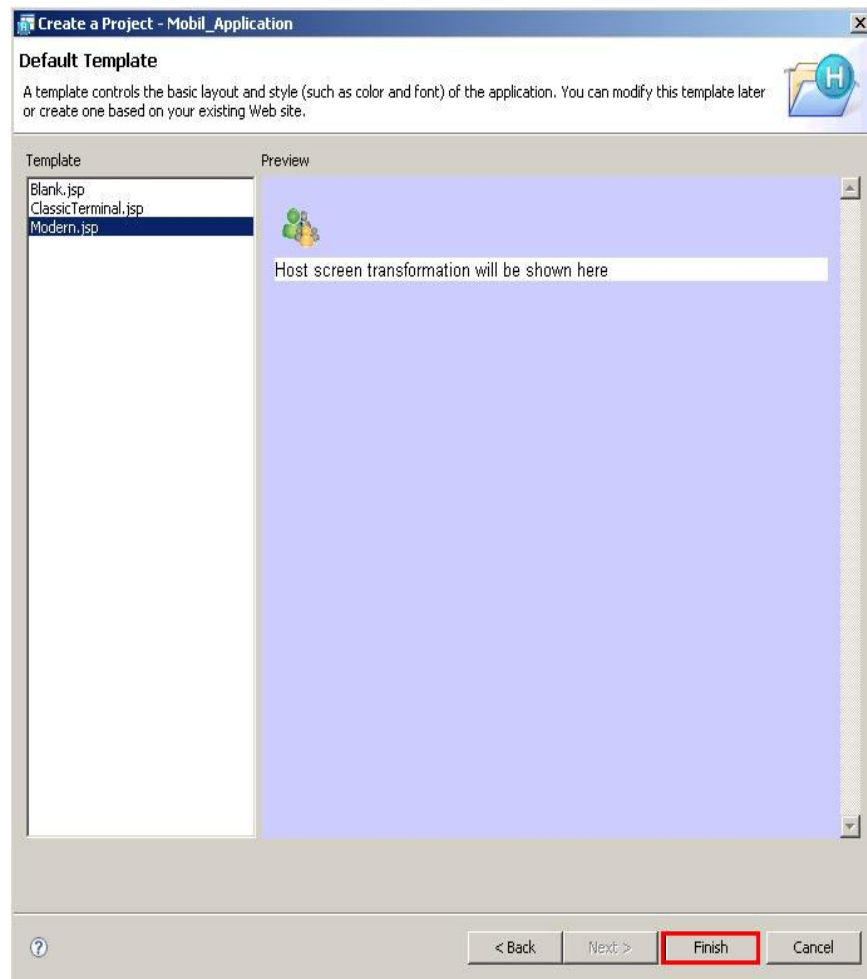
Optimize options for mobile devices

Add administrative console support

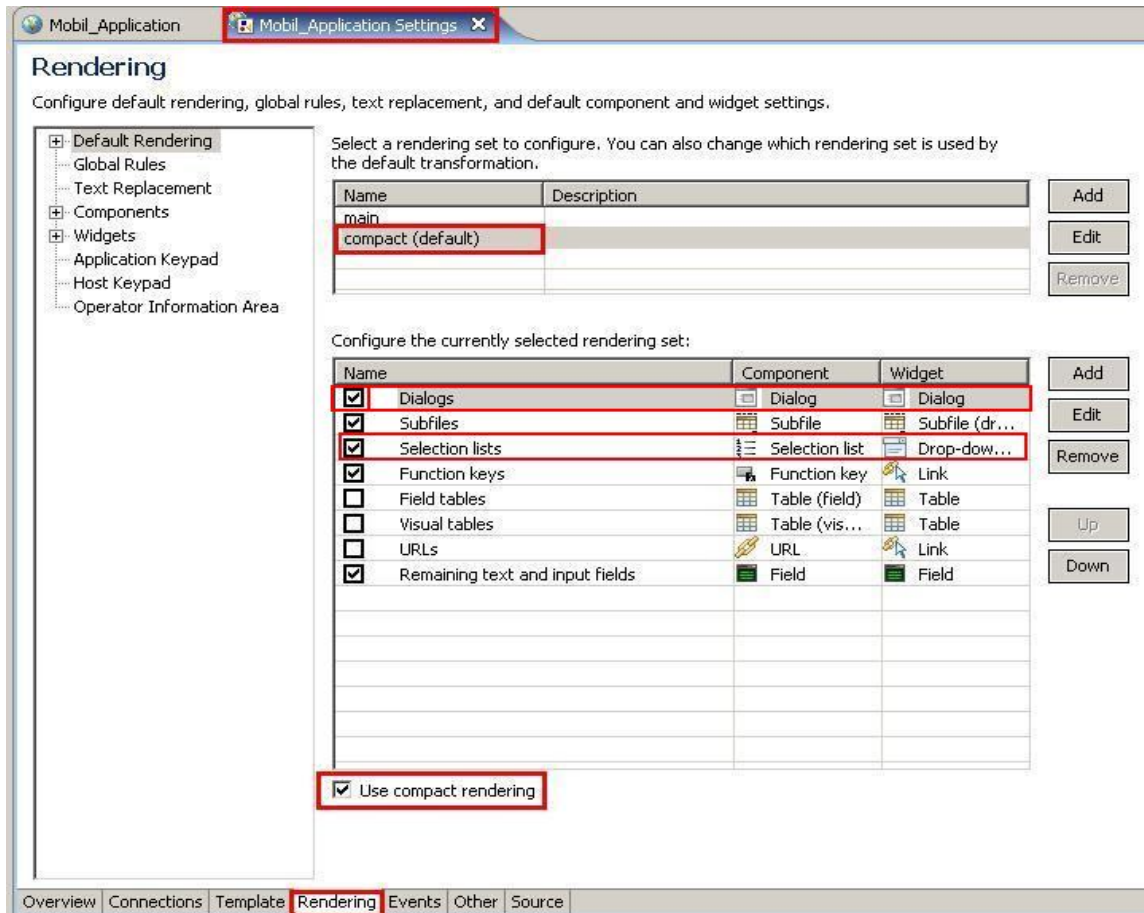
When you create a HATS project and select **Optimize options for mobile devices**, HATS initializes the project with options that work best for mobile devices. Some options, for example, printing, keyboard, asynchronous update, and other options, are not supported and therefore disabled.

Let us examine a sample HATS project that was created using the default settings, optimized for mobile devices.

On the **Default Template** panel, only 3 templates optimized for use with mobile devices are provided for use in the project as shown below.



When the studio finishes building the project, the **HATS Project View** opens with the project folders on the left, and **Settings** open in the **HATS Application Editor**.



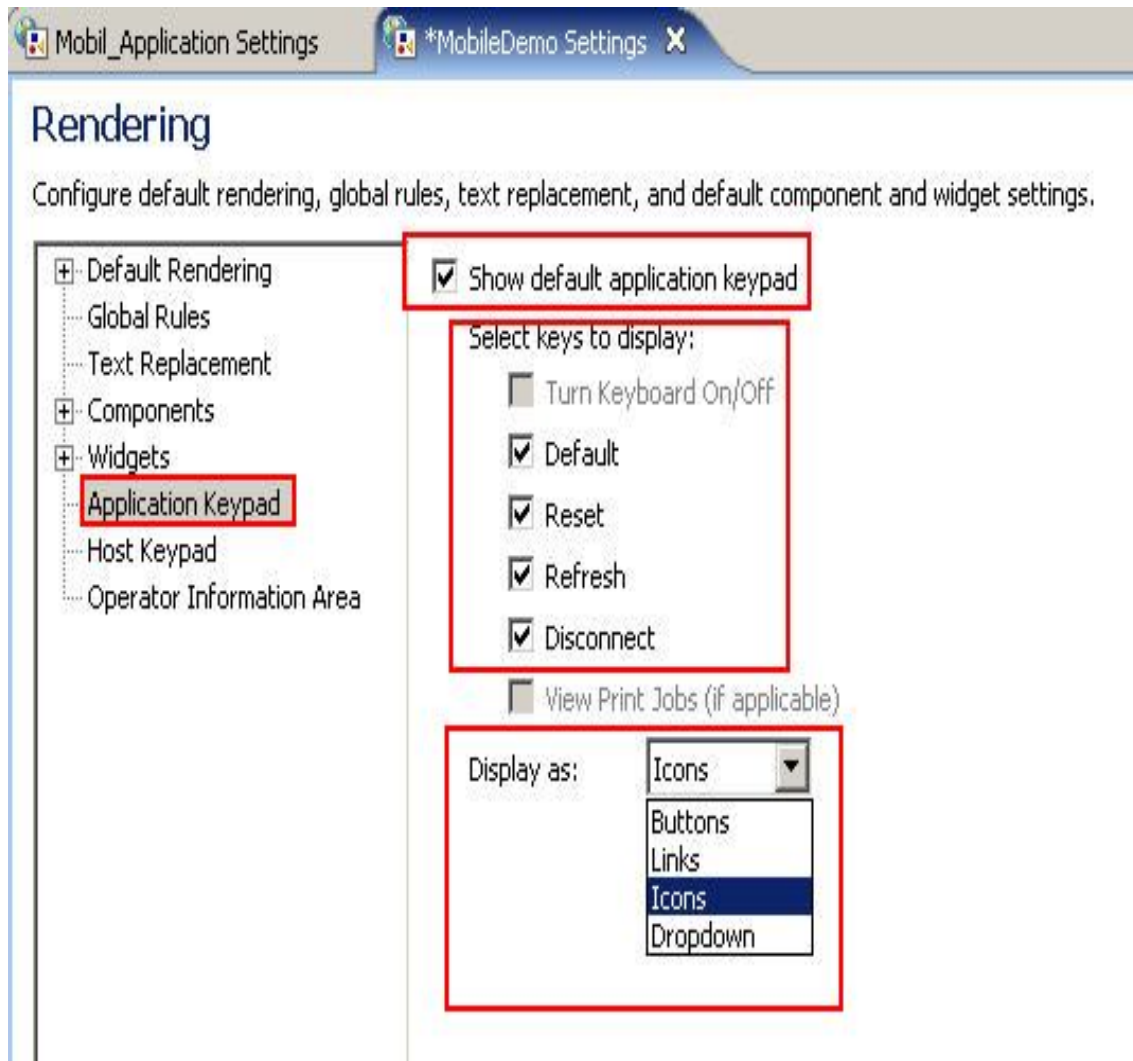
Notice some of the differences from a project for a typical Web application in the rendering tab. For example, in the project settings, a second rendering set (named **compact**) is created and set as the default, and the **Use compact rendering** option is selected, as shown below

In general, the default rendering set attempts to preserve the original host screen structure while extending functionality by automatically adding GUI controls (such as links, buttons, and tables) to improve user productivity. However, to allow default rendering of host screens to be displayed on mobile devices, the Use compact rendering option is supplied to allow certain amount of compacting. With compacting, the amount of HTML and blank space is reduced, which may possibly display a different structure of the original host screen.

Notice that in the compact rendering set, recognition and transformation of dialogs is activated, as shown in the above figure.

In the compact rendering set, notice that the Drop-down (selection) widget, instead of the Link widget, is used in default rendering for selection lists. This is done to preserve space on what is presumed to be a small screen mobile device.

The Application keypad option (in the left panel) shows that by default, the application keypad is displayed as icons in mobile device projects, but it can be changed to the Buttons, Links, and Dropdown as well. Another option is given about which keys should be displayed.



The Host keypad option (in the left panel) shows that by default, the host keypad is displayed as a drop-down list but it can be changed to the Buttons and Links as well. You can select which keys to display in the Host Keypad, as shown below. At a minimum, you should include the Enter key for the default transformation and all custom transformations, because keyboard support is disabled in mobile projects.

Rendering

Configure default rendering, global rules, text replacement, and default component and widget settings.

Show default host keypad

Select keys to display:

<input checked="" type="checkbox"/> Attention	<input checked="" type="checkbox"/> Clear	<input checked="" type="checkbox"/> Enter	<input checked="" type="checkbox"/> PA1
<input checked="" type="checkbox"/> PA2	<input checked="" type="checkbox"/> PA3	<input checked="" type="checkbox"/> Page up	<input checked="" type="checkbox"/> Page down
<input checked="" type="checkbox"/> Print (if applicable)	<input checked="" type="checkbox"/> System request	<input checked="" type="checkbox"/> Alternate view	<input checked="" type="checkbox"/> Help
<input checked="" type="checkbox"/> Reset	<input checked="" type="checkbox"/> Field exit (if applicable)	<input checked="" type="checkbox"/> Field plus (if applicable)	<input checked="" type="checkbox"/> Field minus (if applicable)
<input checked="" type="checkbox"/> F1	<input checked="" type="checkbox"/> F2	<input checked="" type="checkbox"/> F3	<input checked="" type="checkbox"/> F4
<input checked="" type="checkbox"/> F5	<input checked="" type="checkbox"/> F6	<input checked="" type="checkbox"/> F7	<input checked="" type="checkbox"/> F8
<input checked="" type="checkbox"/> F9	<input checked="" type="checkbox"/> F10	<input checked="" type="checkbox"/> F11	<input checked="" type="checkbox"/> F12
<input checked="" type="checkbox"/> F13	<input checked="" type="checkbox"/> F14	<input checked="" type="checkbox"/> F15	<input checked="" type="checkbox"/> F16
<input checked="" type="checkbox"/> F17	<input checked="" type="checkbox"/> F18	<input checked="" type="checkbox"/> F19	<input checked="" type="checkbox"/> F20
<input checked="" type="checkbox"/> F21	<input checked="" type="checkbox"/> F22	<input checked="" type="checkbox"/> F23	<input checked="" type="checkbox"/> F24

Caption	Mnemonic

Add Edit Remove

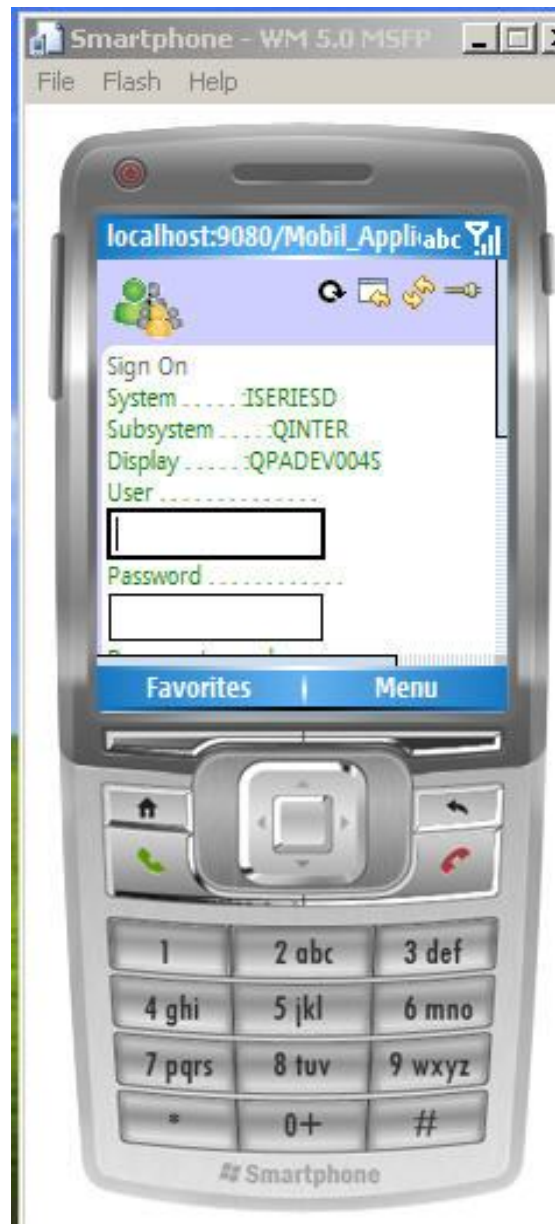
Display as: **Dropdown** Select All Deselect All

Buttons Links **Dropdown**

Overview Connections Template **Rendering** Events Other Source

Running the Application

Rational HATS mobile device applications can be tested in the same way as traditional Rational HATS Web applications, using the internal Web browser provided with the Rational Software Delivery Platform, or external Web browsers. But It is recommended that mobile device emulators (for example, Microsoft Device Emulator V2 or later) should be used to create a more realistic mobile device testing environment.



Application Keypad and Host Keypad:

Additional options have been added to both the Application Keypad and Host Keypad settings. Note that by default, the application keypad is displayed as icons in mobile device projects as shown below:



Note that by default, the host keypad is displayed as a drop-down list as shown below:



Depending on the mobile device, when the host keypad drop-down list widget is selected, the host keys that are defined for the default transformation may be displayed on a separate page, as shown below:



Considerations and limitations for mobile devices

When a HATS project is created and **Optimize options for mobile devices** is selected, HATS initializes the project with options that work best for mobile devices. Some options, for example, printing, keyboard, asynchronous update, and other options, are not supported and therefore disabled. Keep in mind that the following considerations and limitations may apply as you develop your application for mobile devices.

- There is not an automated option that allows you to convert a HATS project that is not optimized for mobile devices to one that is optimized for mobile devices, or vice-versa.
- The option to specify a project theme is not provided. Instead, options are automatically initialized to work best for mobile devices.
- Only templates that are optimized for mobile devices are provided for use in the project.
- A second rendering set, named compact, is created in the project. This rendering set is specified as the default rendering set. It also has the Use compact rendering option selected which reduces the amount of HTML and blank space in default rendering, which in turn may display a different structure of the original host screen.
- The HATS preference, include a Free Layout Table, that takes effect when you create a new blank transformation, has as additional modifier, Except when the project is optimized for mobile devices. This modifier is selected by default. Therefore, blank transformations added to your mobile project will not include a free layout table by default.
- The Field widget provides a Separated layout option to render output using inline span tags, instead of using a table, to differentiate between fields. The goal of using this option is to reduce the amount of HTML and blank space. This is the default for mobile projects.
- HATS provides Columns placement support for subfile and table widgets. This is useful when displaying table data on a mobile device by allowing the arrangement and exclusion of columns from the display, as well as by allowing expandable details sections so the table can fit into a smaller space.

The details section, when expanded, is displayed directly below the row containing the primary columns of data. Once a particular row of interest is identified by the user, the details of that row, when expanded, are displayed in a format that flows down the screen rather than to the right. This enables small displays to view the needed details of an arbitrary number of columns without resorting to horizontal scrolling.

In addition to options that HATS automatically disables, the following functions are not supported and should not be implemented in HATS applications for mobile devices:

- Migrated projects (use new HATS 7.1 projects only).
- Rich client applications.
- Portal applications (JSR 168 or IBM).
- Interoperability with WebFacing.
- Bidirectional language support.
- Accessibility features.
- Any device with screen sizes smaller than 320x240.
- Keyboard host key support, for example, using a keyboard works as a normal Web keyboard, host keys are not sent, instead the F1 key brings up the browser help, and the Enter key is not mapped to the host Enter key.

- Field specific help, right justify, capitalizes, or other attributes.
- HATS administrative console page access by a mobile device.
- The disconnectOnClose connection parameter.
- Screen combinations.
- Calendar widget.
- Tabbed folder support.
- Spreadsheet support.

Reference: IBM InfoCenter

(<http://publib.boulder.ibm.com/infocenter/hatshelp/v71/index.jsp?topic=/com.ibm.hats.doc/doc/javadoc/com/ibm/hats/transform/widgets/package-tree.html>)



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