Configuring ITSmobile for SAP EWM RFUI: How-To Guide

© 2011 SAP AG
Table of Contents

Copyright 3
SAP - Important Disclaimers 4
Coding Samples 4
Internet Hyperlinks 4
Accessibility 4
Gender-Neutral Language 4
Icons 5
1 Introduction 6
2 Display SAP EWM Dynpros on an RF Device 7
  2.1 Activating the Standard ITSmobile Service 7
    2.1.1 Creating a New Package 7
    2.1.2 Activating SAP Standard Services 7
    Setting Up the ITSmobile Service 7
    2.1.3 Creating Different Services for Different Devices 11
  2.2 Creating HTML Templates 11
    2.2.1 Creating Templates 11
    2.2.2 Publishing Templates 12
    2.2.3 Clearing the Cache 12
  2.3 Changing the Appearance of an RF Screen on the Device 12
    2.3.1 Changing the CSS 12
    2.3.2 Changing the Dynpros 12
    2.3.3 Logon Class 15
  2.4 Integrating Hardware Function Keys 15
  2.5 Activating Sounds 15
3 Examples for ITSmobile Implementation 16
4 Important Transactions 17
5 Tools 18
  5.1 Document Screen Design 18
  5.2 Function Keys and JavaScript Codes 18
6 More Information 20
  6.1 SAP Community Network 20
  6.2 SAP Notes 20
  6.3 RF Cookbook 20
  6.4 Internet 20
7 FAQs 21
8 Appendix A – Sample CSS 22
9 Appendix B – Sample JavaScript 33
Configuring ITSmobile for SAP EWM RFUI: How-To Guide

SAP - Important Disclaimers

SAP Library document classification: PUBLIC

This document is for informational purposes only. Its content is subject to change without notice, and SAP does not warrant that it is error-free. SAP MAKES NO WARRANTIES, EXPRESS OR IMPLIED, OR OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE.

Coding Samples

Any software coding and/or code lines / strings ("Code") included in this documentation are only examples and are not intended to be used in a productive system environment. The Code is only intended better explain and visualize the syntax and phrasing rules of certain coding. SAP does not warrant the correctness and completeness of the Code given herein, and SAP shall not be liable for errors or damages caused by the usage of the Code, except if such damages were caused by SAP intentionally or grossly negligent.

Internet Hyperlinks

The SAP documentation may contain hyperlinks to the Internet. These hyperlinks are intended to serve as a hint where to find supplementary documentation. SAP does not warrant the availability and correctness of such supplementary documentation or the ability to serve for a particular purpose. SAP shall not be liable for any damages caused by the use of such documentation unless such damages have been caused by SAP's gross negligence or wilful misconduct.

Accessibility

The information contained in the SAP Library documentation represents SAP's current view of accessibility criteria as of the date of publication; it is in no way intended to be a binding guideline on how to ensure accessibility of software products. SAP specifically disclaims any liability with respect to this document and no contractual obligations or commitments are formed either directly or indirectly by this document. This document is for internal use only and may not be circulated or distributed outside your organization without SAP's prior written authorization.

Gender-Neutral Language

As far as possible, SAP documentation is gender neutral. Depending on the context, the reader is addressed directly with "you", or a gender-neutral noun (such as "sales person" or "working days") is used. If when referring to members of both sexes, however, the third person singular cannot be avoided or a gender-neutral noun does not exist, SAP reserves the right to use the masculine form of the noun and pronoun. This is to ensure that the documentation remains comprehensible.
## Icons

<table>
<thead>
<tr>
<th>Icon</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>⚠️</td>
<td>Caution</td>
</tr>
<tr>
<td></td>
<td>Example</td>
</tr>
<tr>
<td></td>
<td>Note</td>
</tr>
<tr>
<td></td>
<td>Recommendation</td>
</tr>
<tr>
<td></td>
<td>Syntax</td>
</tr>
<tr>
<td></td>
<td>Tip</td>
</tr>
</tbody>
</table>
1 Introduction

This document describes the settings you must make to set up EWM to work with graphic-based mobile devices. To get an overview of the technology see the ITSmobile PDF on SAP Service Marketplace at http://service.sap.com/scm -> Warehousing -> Information on Extended Warehouse Management in SCM.
2 Display SAP EWM Dynpros on an RF Device

2.1 Activating the Standard ITSmobile Service

You can activate the standard ITSmobile service ITSMOBILE01 for testing purposes. If you want to configure the service for your individual business needs, such as with a special CSS file, you must create your own service. The first step is to create an ITSmobile service. The following sections describe the how to set up this service and its parameters.

2.1.1 Creating a New Package

To set up the ITS service you should create your own package, as in the following example:

- Package ZEWM_RF_ITS
- Short Text ITS Implementation
- Component HOME

1. Run transaction SE80.
2. Choose the package, enter the name of your package, and choose Enter.
3. If the system asks to create a new package, choose Yes.

If you have to register as a developer you can do this on SAP Service Marketplace.

2.1.2 Activating SAP Standard Services

See SAP Note 517484 Inactive Services in the Internet Communication.

1. Run transaction SICF, enter the name of the service, and choose Execute.
2. Open the folder default_host, choose the service and choose Activate Service.
3. The system asks if you really want to activate the service. Choose Activate Including Sub-Services.
4. The following services must be activated:
   - /default_host/sap/public/bc
   - /default_host/sap/public/bc/its (including all related services)
   - /default_host/sap/public/bc/ur
   - /default_host/sap/public/icman
   - /default_host/sap/bc
   - /default_host/sap/bc/gui
   - /default_host/sap/bc/gui/sap
   - /default_host/sap/bc/gui/sap/its
   - /default_host/sap/bc/gui/sap/its/test
   - /default_host/sap/bc/gui/sap/its/test/mobile (including all related services)

Setting Up the ITSmobile Service

1. Run transaction SICF.
2. Enter a path for your service. You must take the following into account when creating the ICF service:
   o You can enter any path. Use the service name that you have already used or created in transaction SE80 as the service name (the last part of the path).
   o Enter CL_HTTP_EXT_ITS (ITS Handler) as the handler.
   o The GUI connection checkbox must be selected for this service.
   o Make the following entries for the GUI configuration:
     - ~ITSMOBILE 1
     - ~TRANSACTION <your transaction>
     - ~THEME <your theme> (for example, 99)
   The ~ITSMOBILE setting defines the service as a mobile service and sets the corresponding ITS defaults. The ~TRANSACTION setting specifies the transaction to run. The ~THEME setting defines the theme for your service.

3. Activate the new service and choose Test Service from the context menu. The browser should start with your service.

Example: The internet service you created in SE80 is called MYTEST and you want it to be accessible under the URL /test/services. In this case, you should create the nodes /test and /services and the service MYTEST in transaction SICF. The URL will then be /test/services/MYTEST.

The following sections describe this procedure in detail.

2.1.2.1 Creating an Internet Service

1. Run transaction SICF.
2. Choose Execute.
3. Choose default_host and in the menu choose Service/Host -> Wizard: Create Service.
4. Choose Continue, and if you are on the selection screen choose Service and Continue.
5. Enter the service name and a description and choose Continue.
6. Enter handler CL_HTTP_EXT_ITS and choose Continue.
7. Choose Complete.

You also have to manually create a service in transaction SE80, as follows:

1. Choose Internet Service, enter the name of the service, and choose Enter.
2. If the system asks you for a transaction name, enter /SCWM/RFUI.

2.1.2.2 Setting Up Service Parameters

Service parameters influence the behavior and appearance of a service and the templates displayed in the service. You set them up as follows:

1. Run transaction SICF, enter the name of the service, and choose Execute.
2. Double click on the service.
3. For GUI Link choose Yes.
4. Choose GUI Configuration.
5. Enter the service parameters in the resulting dialog box. The following table gives an overview of the parameters used and their function.

<table>
<thead>
<tr>
<th>Service Parameters</th>
<th>Description</th>
<th>Example</th>
<th>Mandatory</th>
</tr>
</thead>
<tbody>
<tr>
<td>~ITSMOBILE</td>
<td>Tells the system that this is a mobile service.</td>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>~SOURCES</td>
<td>Specifies where the templates should be found. You can specify a sequence of services separated by a semicolon.</td>
<td>Name of the internet services</td>
<td>Yes</td>
</tr>
<tr>
<td>~THEME</td>
<td>Which theme the templates are stored in.</td>
<td>99</td>
<td>Yes</td>
</tr>
<tr>
<td>~TRANSACTION</td>
<td>Which SAP GUI transaction is executed.</td>
<td>/SCWM/RFUI</td>
<td>Yes</td>
</tr>
<tr>
<td>~ITSMOBILEDEVICEINCLUDE</td>
<td>Your own device include file.</td>
<td>A HTML site within the specified service (without the .html suffix).</td>
<td>No</td>
</tr>
<tr>
<td>~ITSMOBILECSSINCLUDE</td>
<td>Your own CSS file (without the .css suffix).</td>
<td>A CSS file name (has to be stored as a MIME object in SE80)</td>
<td>No</td>
</tr>
<tr>
<td>~ITSMOBILEJSINCLUDE</td>
<td>Your own JavaScript file</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>~ITSMOBILEMSGSOUND</td>
<td>Enables sounds for messages.</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>~ITSMOBILECUAINCLUDE</td>
<td>Your own template for the CUA area.</td>
<td>CUA area means the header line (the header line was included to get a spacer for device-specific buttons and symbols)</td>
<td>No</td>
</tr>
<tr>
<td>~RESP_CONTENT_TYPE</td>
<td>Application/XHTML and XML set the correct response type for voice enabled services.</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>~ITSMOBILEVOICEINCLUDE</td>
<td>Your own voice include file</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>~ITSMOBILEELEMFACTOR</td>
<td>Factor for the appearance of the HTML template on the RF device: defines the width of an icon (number or letter) on the display (see SAP Note 1316326).</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>~ITSMOBILEELEMUNITS</td>
<td>Units for the factor.</td>
<td>Pixels</td>
<td>No</td>
</tr>
</tbody>
</table>

Table 1 ITSmobile Service Parameters

2.1.2.3 Activating and Testing Internet Service

1. Run transaction SICF, enter the service name and choose Execute.
2. Mark the service and choose Activate Service from the context menu.
3. After the activation, choose Test Service to test the service in the browser of your PC.

2.1.2.4 Changing Logon Settings

1. Run transaction SICF, enter the service name and choose Execute.
2. Double-click the service name.
3. On the next screen choose the Logon Data tab and for the procedure choose Alternative Logon Procedure.
4. Under Logon Procedure List delete all entries except 1 - Fields Authentification.

2.1.2.5 Changing the Error Page

1. Choose the Error Pages tab and go to the Logon Errors sub tab.
2. Select the System Logon radio button.
3. Choose the Configuration button.
4. Make the settings as shown in the following screen shot and choose Enter.

![System Logon Configuration](image)

Figure 1 Changing Error Page Settings

5. Go to the Application Errors sub tab and select the Explicit Response Time checkbox.
6. Go to the Logoff Page sub tab and select the Redirect URL radio button.
7. Enter the URL of the internet service.
8. Enter the URL of the productive system. Note that the settings will be transported.
9. Go to the Not Accessible sub tab and select the Explicit Response Time radio button.
10. Save your settings.
2.1.3 Creating Different Services for Different Devices

If different hardware devices are being used, you must create different services, because the devices will require different style sheets (due to differing screen resolutions, browsers, and so on) and different activation of function keys.

2.2 Creating HTML Templates

2.2.1 Creating Templates

1. Run transaction SE80 and choose the function group for which you want to create templates. Hint: If you want to create templates only for some specific RF transactions, run transaction /SCWM/RFUI, navigate to the logical transaction, and choose Ctrl+Shift+F1. Here you can see the necessary technical information (function group and screen number).
2. Open the folder screens and choose the screens for which you want to create templates.
3. In the context menu choose Other Functions -> Create Template.
4. Enter the names of the internet service and theme and choose Generating Style MOBILE4.
5. Enter the required transports.

In the standard setup, all the general screens used in RF are in the following function groups:

- /SCWM/RF_TMPL
- /SCWM/RF_SSCR
- /SCWM/RF_GENERAL
- /SCWM/RSRC_DYNPRO

The application-related screens are in the following function groups:

- /SCWM/RF_ADHOC
- /SCWM/RF_ADHOC_CREATE
- /SCWM/RF_GENERAL
- /SCWM/RF_INQUIRY
- /SCWM/RF_INVENTORY
- /SCWM/RF_LOADING
- /SCWM/RF_PACKING
- /SCWM/RF_PICKING
- /SCWM/RF_PUTAWAY
- /SCWM/RF_PUTAWAY_EN
- /SCWM/RF_QM
- /SCWM/RF_REPL
- /SCWM/RF_SPREADING
2.2.2 Publishing Templates
1. Go to Internet Service in SE80.
2. Mark the internet service and in the context menu choose Publish -> Complete Service.

2.2.3 Clearing the Cache
1. Run transaction SITSPMON.
2. Go to the tab Template & MIME Cache.
3. In the screen area Invalidate Template Caches, choose System-Wide.
4. In the screen area Invalidate MIME Cache, choose System-Wide.

2.3 Changing the Appearance of an RF Screen on the Device
You can influence the appearance of the HTML screens on the RF devices by changing the following:
- HTML template
- HTML converter (change the ABAP coding)
- CSS (Cascading Style Sheet)
- Dynpros

If you want to change the appearance of the HTML screens, we recommend that you change the CSS. It is easy to change and influences the appearance of all HTML sites within a service. We do not recommend that you change a single template because after each recreation of the template, the system overwrites the changes. This document describes how you can change the CSS and the dynpros.

2.3.1 Changing the CSS
By changing the CSS file you can change the following attributes:
- Colors
- Font sizes
- Padding
- Borders
- Text align

In transaction SE80 you can modify the CSS directly. The CSS file has to be stored in the service as a MIME object. See Appendix A for a sample CSS file.

To change the size of fields, the alignment of objects, or the general aspect ratio, you must change the dynpros.

2.3.2 Changing the Dynpros
If you want to change the dynpros you should copy them into new function groups similar to the existing ones, for example, ZRF_PACKING. This might be necessary if the aspect ratio of the device differs from the standard aspect ratio of the dynpros (8 lines x 40 columns).

Use the following data to change the aspect ratio:

<table>
<thead>
<tr>
<th>Display (pixels)</th>
<th>Device</th>
<th>SAP Template Dynpro Dimension (lines x columns)</th>
</tr>
</thead>
</table>
Table 2 Screen Resolution/Aspect Ratio

<table>
<thead>
<tr>
<th>Screen Resolution</th>
<th>Display Profile</th>
<th>Screen Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>240 x 320</td>
<td>Symbol MC9000</td>
<td>12 x 19</td>
</tr>
<tr>
<td>320 x 320</td>
<td>Symbol MC3000</td>
<td>12 x 25</td>
</tr>
<tr>
<td>800 x 600</td>
<td>Symbol MC9090G</td>
<td>8 x 40 (handled with standard dimension and adapted CSS)</td>
</tr>
</tbody>
</table>

You can use the screen painter functionality in SE80 to make further changes as follows:

1. Check if the screen is already included in the device-specific function group. If not, copy the screen to the relevant function group in Customizing.
2. Run transaction SE80, choose the screen and choose the Screen Painter button.
3. Change the screen.
4. Save and activate the screen.
5. Recreate the templates for all changed screens (see Creating HTML Templates).

The following sections describe in detail how to change screens.

2.3.2.1 RF Dynpro Basics

The dynpro which is shown when you run transaction /SCWM/RFUI consists of two screens; the template screen and the service sub-screen.

The template is the frame where the buttons and error messages are displayed. There is one template for each display profile.

The service sub-screen is contained within the template screen. This is where the different application screens (such as WT confirmation or HU maintenance) are displayed.

2.3.2.2 Copying the Standard RF Screens

1. In Customizing for Extended Warehouse Management, go to Mobile Data Entry -> RF Framework -> RF Screen Manager.
2. Use one of the following methods to copy the screens:
   - Copy all screens from standard to a new display profile (but all screens will be copied into only one function group).
   - Copy specific screens into a specific function group.

2.3.2.2.1 Copying All Screens

1. Go to the Display Profile tab, enter the profile you want to copy (the standard profile) and choose Copy.
2. The display profile is used to assign different screens to different devices. Run transaction /SCWM/PRDVC to maintain a presentation device and assign a display profile to the presentation device (the display profile has to be specified for each resource in transaction /SCWM/RSRC).
3. Enter all necessary data, such as display profile and attributes. If you want to copy or convert the service sub-screens, select the relevant radio button. If you select Convert Screens, the system automatically converts the screens so that they will fit in the defined template size.

Note that all service sub-screens will be copied or converted to one function group. You must check the result of the conversion. Particularly if you change the aspect ratio completely and convert the
service sub-screens, the result may not be sufficient. In this case you will have to change it manually.
The original numbering of the screens is not preserved; it is changed to an ascending numbering.
Note that the menu item length must be smaller than the screen width.

4. Choose Enter and enter the relevant transports, packages, and so on. The system copies the
screens and changes the Customizing. You can then change the screens with the Screen Painter.

2.3.2.2.2 Copying Specific Screens

1. Before you can copy specific screens you have to create a new display profile. The display profile is
used to assign different screens to different devices. Run transaction /SCWM/PRDVC to maintain a
presentation device and assign a display profile to the presentation device (the display profile has to
be specified for each resource in transaction /SCWM/RSRC).
2. In Customizing for Extended Warehouse Management go to Mobile Data Entry -> RF Framework ->
RF Screen Manager. Go to the Display Profile tab, enter your display profile and choose Create.
Specify all attributes and deselect the checkbox Create Sub-Screens. Choose Enter.
3. Go to the Screens tab, enter your display profile and choose Search. The Customizing table shows
which screen is displayed for which application, display profile, logical transaction, and so on. This
means that for the same logical transaction but different display profiles, different screens are shown.
The fields Line Defic. and Column Defic. show a number if the screen is too large for the template
specified for the display profile.
4. Mark the entry for your display profile and switch to change mode.
5. Mark the screens you want to copy or convert and choose Convert or Copy as appropriate.
6. We recommend that you copy the standard screens that are included in one function group to a new
function group. For example, copy all screens that are included in the function group
/SCWM/SAPLRF_GENERAL_EN to a new function group ZRF_GENERAL_EN. We also recommend that
you keep the original numbering.
Note that if you use a customer name space you must use Customizing to manually input SAPL into
the function group name. For example, for the function group /XYZ/RF_PICKING you have to enter
/XYZ/SAPLRF_PICKING in Customizing.

2.3.2.3 Screen Painter

You can access the Screen Painter in Customizing as follows:

1. In Customizing for Extended Warehouse Management go to Mobile Data Entry -> RF Framework ->
RF Screen Manager.
2. Go to the Screens tab, enter your display profile, and choose Search.
3. Change to edit mode, mark the screen you want to change and choose the Edit Screen button.

Alternatively you can access the Screen Painter using SE80 as follows:

1. Choose Function Group, enter the name of the function group, and choose Display.
2. Mark a screen in the folder screens and choose Layout. This starts the screen painter.
2.3.3 Logon Class

If you want to change the appearance of the logon screen, you have to change the mobile logon class CL_MOBILE_SYSTEM_LOGIN. You cannot change it by changing the CSS.

2.4 Integrating Hardware Function Keys

For some devices and operating systems, you must include a JavaScript file in the service to activate the function key features. You can find an example of such a file in the standard service ITSMOBILE01, file DEVINCLUDE_SYMBOL3090.

```html
<!-- Only for Windows Mobile OS (operating system). When using Windows CE, these meta tags are not required, because javascript in ITSMOBILE/99/SCRIPTS/ALL/MOBILE.JS can be interpreted by the Microsoft browser (higher JavaScript version). -->
<!-- key mapping F1 - F10 using ITSmobile javascript functions -->
<!-- With this mapping the key buttons 0 to 9 will act as function keys -->
<!-- F1 to F10. Use blue FUNC button to input numbers into edit fields -->
<!-- key mapping F1 - F10 using ITSmobile javascript functions -->
<META HTTP-Equiv="OnKeydispatch0x3b" content="Javascript:setFKey('1');">  
<META HTTP-Equiv="OnKeydispatch0x3c" content="Javascript:setFKey('2');">  
<META HTTP-Equiv="OnKeydispatch0x3d" content="Javascript:setFKey('3');">  

Note that this is only necessary for the Windows Mobile operating system. When using Windows CE, meta tags are not required, because JavaScript in ITSMOBILE/99/SCRIPTS/ALL/MOBILE.JS can be parsed by the Microsoft browser.

For sample JavaScript files, see Appendix B

2.5 Activating Sounds

To activate sounds you must include sound files in your service. You can copy them from the standard service ITSMOBILE into your internet service or upload .wav files as MIME objects. Mark the sound and choose Copy in the context menu. Enter your service and all related data. Choose the same folder structure as is used in ITSMOBILE.

In transaction /SCWM/PRDVC you can specify which sound is played in which case for each presentation device.

For more information, see the following SAP Notes:

- SAP Note 1428050 ITSmobile: new feature: ~CURRDYNPRO.MESSAGESOUND
- SAP Note 1260592 ITSmobile: Added support for NOTIFY_BELL_SIGNAL
3 Examples for ITSmobile Implementation

Figure 2 ITSmobile – Main Menu

Figure 3 ITSmobile – Repack HU Item

Figure 4 ITSmobile – Source Bin Verification
4 Important Transactions

- Package SITS_ABAP
- Maintain Templates: SE80
- Publicize Service: SICF
- ITS Internal Monitor: SITSPMON (clear ITS cache)
- ICM Monitor: SMICM (clear ICM cache)
- Import Field To System: Report SIAC_UPLOAD
5  Tools

5.1  Document Screen Design


5.2  Function Keys and JavaScript Codes

The following is an overview of the JavaScript codes.

<table>
<thead>
<tr>
<th>Taste</th>
<th>Key Code</th>
<th>Taste</th>
<th>Key Code</th>
<th>Taste</th>
<th>Key Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>backspace</td>
<td>8</td>
<td>tab</td>
<td>9</td>
<td>enter</td>
<td>13</td>
</tr>
<tr>
<td>shift</td>
<td>16</td>
<td>ctrl</td>
<td>17</td>
<td>alt</td>
<td>18</td>
</tr>
<tr>
<td>pause/break</td>
<td>19</td>
<td>caps lock</td>
<td>20</td>
<td>escape</td>
<td>27</td>
</tr>
<tr>
<td>page up</td>
<td>33</td>
<td>page down</td>
<td>34</td>
<td>end</td>
<td>35</td>
</tr>
<tr>
<td>home</td>
<td>36</td>
<td>left arrow</td>
<td>37</td>
<td>up arrow</td>
<td>38</td>
</tr>
<tr>
<td>right arrow</td>
<td>39</td>
<td>down arrow</td>
<td>40</td>
<td>insert</td>
<td>45</td>
</tr>
<tr>
<td>delete</td>
<td>46</td>
<td>0</td>
<td>48</td>
<td>1</td>
<td>49</td>
</tr>
<tr>
<td>2</td>
<td>50</td>
<td>3</td>
<td>51</td>
<td>4</td>
<td>52</td>
</tr>
<tr>
<td>5</td>
<td>53</td>
<td>6</td>
<td>54</td>
<td>7</td>
<td>55</td>
</tr>
<tr>
<td>8</td>
<td>56</td>
<td>9</td>
<td>57</td>
<td>a</td>
<td>65</td>
</tr>
<tr>
<td>b</td>
<td>66</td>
<td>c</td>
<td>67</td>
<td>d</td>
<td>68</td>
</tr>
<tr>
<td>e</td>
<td>69</td>
<td>f</td>
<td>70</td>
<td>g</td>
<td>71</td>
</tr>
<tr>
<td>h</td>
<td>72</td>
<td>i</td>
<td>73</td>
<td>j</td>
<td>74</td>
</tr>
<tr>
<td>k</td>
<td>75</td>
<td>l</td>
<td>76</td>
<td>m</td>
<td>77</td>
</tr>
<tr>
<td>n</td>
<td>78</td>
<td>o</td>
<td>79</td>
<td>p</td>
<td>80</td>
</tr>
<tr>
<td>q</td>
<td>81</td>
<td>r</td>
<td>82</td>
<td>s</td>
<td>83</td>
</tr>
<tr>
<td>t</td>
<td>84</td>
<td>u</td>
<td>85</td>
<td>v</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>w</td>
<td>87</td>
<td>x</td>
<td>88</td>
<td>y</td>
<td>89</td>
</tr>
<tr>
<td>z</td>
<td>90</td>
<td>left window key</td>
<td>91</td>
<td>right window key</td>
<td>92</td>
</tr>
<tr>
<td>select key</td>
<td>93</td>
<td>numpad 0</td>
<td>96</td>
<td>numpad 1</td>
<td>97</td>
</tr>
<tr>
<td>numpad 2</td>
<td>98</td>
<td>numpad 3</td>
<td>99</td>
<td>numpad 4</td>
<td>100</td>
</tr>
<tr>
<td>numpad 5</td>
<td>101</td>
<td>numpad 6</td>
<td>102</td>
<td>numpad 7</td>
<td>103</td>
</tr>
<tr>
<td>numpad 8</td>
<td>104</td>
<td>numpad 9</td>
<td>105</td>
<td>multiply</td>
<td>106</td>
</tr>
<tr>
<td>add</td>
<td>107</td>
<td>subtract</td>
<td>109</td>
<td>decimal point</td>
<td>110</td>
</tr>
<tr>
<td>divide</td>
<td>111</td>
<td>f1</td>
<td>112</td>
<td>f2</td>
<td>113</td>
</tr>
<tr>
<td>f3</td>
<td>114</td>
<td>f4</td>
<td>115</td>
<td>f5</td>
<td>116</td>
</tr>
<tr>
<td>f6</td>
<td>117</td>
<td>f7</td>
<td>118</td>
<td>f8</td>
<td>119</td>
</tr>
<tr>
<td>f9</td>
<td>120</td>
<td>f10</td>
<td>121</td>
<td>f11</td>
<td>122</td>
</tr>
<tr>
<td>f12</td>
<td>123</td>
<td>num lock</td>
<td>144</td>
<td>scroll lock</td>
<td>145</td>
</tr>
<tr>
<td>semi-colon</td>
<td>186</td>
<td>equal sign</td>
<td>187</td>
<td>comma</td>
<td>188</td>
</tr>
<tr>
<td>dash</td>
<td>189</td>
<td>period</td>
<td>190</td>
<td>forward slash</td>
<td>191</td>
</tr>
<tr>
<td>grave accent</td>
<td>192</td>
<td>open bracket</td>
<td>219</td>
<td>back slash</td>
<td>220</td>
</tr>
<tr>
<td>close bracket</td>
<td>221</td>
<td>single quote</td>
<td>222</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6 More Information

6.1 SAP Community Network

http://wiki.sdn.sap.com/wiki/display/HOME/ITSmobile

6.2 SAP Notes

1031074 ITSmobile 1.1: Supplements and improvements
1030685 Control for exiting transaction /SCWM/RFUI
1055009 Control for exiting transaction /SCWM/RFUI 2
1048461 ITSmobile, system login for mobile services
1039335 Incomplete logoff from an ITS WebGUI application
1058529 Incomplete logoff for ITS applications
1048461 ITSmobile, system login for mobile services
1070064 Comparison of Web SAP Console with SAP ITSmobile

6.3 RF Cookbook

See the RF_Cookbook PDF on SAP Service Marketplace at http://service.sap.com/scm -> Warehousing -> Information on Extended Warehouse Management in SCM.

6.4 Internet

http://de.selfhtml.org/
7 FAQs

Problems that typically occur in relation to ITS templates include the following:

**Keys not working**
Check whether all standard services are activated and check the activation of the necessary services in SE80.

**Publishing**
Changes in templates are not generated, or are not visible. When you make changes to a template, always remember to publish it to the internal site. You should also check whether the integrated ITS is selected in SE80 under Utilities -> Settings -> Transaction Server -> Publish.

**Instance/application server not the same**
If your template changes are not generated, even though you have published the changes, check whether the template changes and the service test were performed on the same application server. Synchronizing the application servers may require more time than expected.

**BHTML syntax errors**
If your changed templates contain BHTML syntax errors, they will not become apparent until the template/service is executed. Syntax errors lead to an ABAP short dump. You can obtain more information about the error in transaction ST22. If possible, the ABAP short dump lists the template number, line number, and column that were identified as containing errors by the BHTML interpreter. You should check the modified lines of the specified error line in particular.

**Resetting the Affected Caches**
Remember that the following caches are involved in HTML-based services

- **ITS Template Cache**
  This cache contains a runtime version of the template that is required to optimize performance. If necessary, you can reset the cache manually using transaction SITSPMON (tab Template and MIME Cache).

- **ICMAN Cache**
  This cache optimizes access to static content, for example, JavaScript and .gif files. You can reset the cache in transaction SMICM by choosing Goto -> HTTP Plugin -> HTTP Server Cache.

- **Browser Cache**
  If you make changes in JavaScript files, for example, you must reset the browser cache to ensure that the modified JavaScript files are transferred again to the browser.
8 Appendix A – Sample CSS

/* GENERAL PAGE */
/*----------------------------------*/
/*
All values used in this stylesheet were optimized for the device ML 7090
that has a screen resolution of 240(width) x 320 (height) pixel and
runs Symbol Browser 2.02 (build 007)

----------------------------------
Regarding UI element widths:
----------------------------------
To make the best use of the available screen width of this device
(240px), two service parameters were set for this service:
~ITSMOBILLELEMFACTOR=8 and ~ITSMOBILLELEMUNITS=px.
This will cause the assignment of appropriate width values to
all UI elements on screen to prevent an unexpected
wrapping of UI elements over more than one line.

----------------------------------
Height values
----------------------------------

Important settings regarding the height of screen elements:

The dynpro this service is based on consists of 13 lines
of content of the same height. All lines together should fill the screen
heightwise.
11 of the 13 lines are reserved for the subscreen rendered in
the center of the screen. 2 lines are reserved for button rows
(at the bottom of the screen).

Additionally, the CUA bar at the top of the screen needs some space (15px).

320 / 13 ~ 66px, but we use 65px to have a little bit more space for layout
purposes.
The height of a line is defined in ".MobileRow" below and
in elements like buttons or input fields.

To fill the whole screen vertically completely we work with padding values
(padding-top and padding-bottom) in ".MobileSubScreen". This allows us to:
a) avoid gaps at the lower end of the screen
b) avoid unnecessary vertical scrollbars
c) have a balanced padding between the top row, the subscreen and the bottom row.

*/

/* --- MOBILE BODY attributes of the header SAP Logo-----------------*/
.MobileBody
{
    background-color:#F5F9FC;
    padding: 0px;
    margin: 0px;
    border-width: 0px;
    font-size: 10px;
    font-family:helvetica,arial;
    font-weight:bold;
    /*next line hides vertical scrollbar in msie if inactive*/
    overflow: auto;
}

  td {
    vertical-align: top;
  }

/* --- MOBILE SCREEN -------------*/
.MobileScreen
{
    background-color:#F5F9FC;
    padding:0px;
    margin:0px
    font-size:10px;
    border:0px;
    overflow: hidden;
}

/*----------------------------------*/
/* Main Areas of Mobile Screen     */
Configuring ITSmobile for SAP EWM RFUI: How-To Guide

/************************/

/* --- CUA AREA ---------------*/
/* attributes of the top status bar*/

.MobileCuaArea
{
    height:15px;
    width:100%;
    background-color:#D9E5F2;
    padding:0px;
    margin:0px;
    border-bottom-style:solid;
    border-bottom-width:2px;
    border-bottom-color:#B3C3CF;
}

/* --- USER AREA --> attributes of the fields and buttons on the subscreens-----
-----------------------------*/
.MobileUserArea
{
    padding: 0px;
    padding-left: 1px;
    margin: 0px;
    overflow-x:auto;
    overflow-y:auto;
}

/************************/
/* CUA AREA ELEMENTS */
/************************/

/* --- MESSAGE ---------------*/
.MobileMessageScreen
{
    background-color:#F5F9FC;
    padding:0px;
    margin:0px;
    border-style:solid;
    border-color:#C40026;
    border-top-width:0px;
Configuring ITSmobile for SAP EWM RFUI: How-To Guide

border-left-width:0px;
border-right-width:0px;
border-bottom-width:2px;
}

.MobileMessageLine
{
}

/* --- MESSAGE ---------------------*/
.MobileMessageLogo
{
  vertical-align:middle;
  padding-left:3px;
  padding-right:3px;
}

/* --- TITLE -----------------------*/
.MobileWindowTitle
{
  font-weight:bold;
  font-style:italic;
  font-size:10pt;
  padding-left:7px;
}

/* --- LOGO im Header ---------------*/
.MobileHeaderLogo
{
  background-color:#D9E5F2;
  vertical-align:middle;
  height:20px;
  border:0px;
  margin-left:5px;
  margin-right:2px;
}

/* --- Include Frame ----------------*/
/* Main Size Arrangements */
/* --------------------------------- */

/* --- Basic Row ------------------- */
.MobileRow
{
    padding: 0px;
    margin: 0px;
    height: 21px;
}

/* ---------------------------------- */

/* DYNPRO ELEMENTE */
/* ---------------------------------- */

/* --- SUBSCREENS ------------------- */
.MobileSubScreen
{
    background-color:#F5F9FC;
    vertical-align: top;
    /* change padding-top value to alter the gap between top button row and
       subscreen content*/
    /* change padding-bottom value to alter the gap between top button row and
       subscreen content*/
    padding-top: 2px;
    padding-bottom: 0px;
    padding-right: 0px;
    padding-left: 0px;
    margin-left: 2px;
    margin-right: 0px;
    margin-top: 0px;
    margin-bottom: 0px;
    border: 0px;
Configuring ITSmobile for SAP EWM RFUI: How-To Guide

height: 252px;
}

/* --- STEPLEOPS -------------------*/
/*steploops are not used*/
.MobileStepLoop
{
  width:100%;
  padding: 2px;
  margin:0px;
  border:0px;
}

/* --- FRAME -----------------------*/
.MobileFrame
{
  background-color: #D9E5F2;
  padding:0px;
  margin:0px;
}

.MobileFrameHeader
{
  background-color:#A3C1E4;
  font-weight:bold;
  padding:0px;
  margin:0px;
  border:0px;
}

.MobileFrameHidden
{
  width:100%;
}

/* *********************************** */
/* --- BUTTON ----------------------- */
/* *********************************** */
/* general settings that are shared by enabled and disabled button */
Configuring ITSMobile for SAP EWM RFUI: How-To Guide

.MobileButton,
.MobileButtonDisabled
{
  padding: 0px;
  margin: 0px;
  vertical-align: top;
  text-align: left;
  alignment: left;
}

/*height of buttons outside of the subscreen*/
.MobileButton,
.MobileButtonDisabled
{
  height: 20px;
  /* font-size: 12px;
  line-height: 15px;*/
}

/*height of buttons inside the subscreen*/
.MobileSubScreen .MobileButton,
.MobileSubScreen .MobileButtonDisabled{
  height: 22px;
  padding-left: 1px;
  /* font-size: 15px;
  line-height: 12px;
  font-family: condensed, sans-serif;*/
}

/* --- ACTIVE BUTTON ----------------*/

.MobileButton
{
  background-color:#FF09E;
}

/* --- DISABLED BUTTON ---------------*/

.MobileButtonDisabled
Configuring ITSmobile for SAP EWM RFUI: How-To Guide

```javascript
{
  background-color:#FFD9E6;
}

/** ********************************************************** */
/** --- EDIT FIELDS -------------------------------*/
/** ********************************************************** */

/* the following block of general settings
   is valid for all edit field types,
   individual settings for specific edit field
types can be made in the blocks below */

.MobileEdit,
.MobileEditDisabled,
.MobileEditRequired,
.MobileEditRequiredDisabled,
.MobileEditRequiredHighlighted,
.MobileEditRequiredHighlightedDisabled,
.MobileEditHighlighted,
.MobileEditHighlightedDisabled
{
  height: 18px;
  font-size: 11px;
  font-weight:bold;
  vertical-align: top;
  margin: 0px;
  padding: 0px;
}

.MobileSubScreen .MobileEdit,
.MobileSubScreen .MobileEditDisabled,
.MobileSubScreen .MobileEditRequired,
.MobileSubScreen .MobileEditRequiredDisabled,
.MobileSubScreen .MobileEditRequiredHighlighted,
.MobileSubScreen .MobileEditRequiredHighlightedDisabled,
.MobileSubScreen .MobileEditHighlighted,
.MobileSubScreen .MobileEditHighlightedDisabled
{

```
Configuring ITSmobile for SAP EWM RFUI: How-To Guide

.padding-left: 1px;
.height: 18px;
.font-size: 14px;
.line-height: 15px;
}

.MobileEdit
{
    color: #000000;
    background-color:#FF09E;
}

.MobileEditDisabled
{
    background-color:#F4FFFF;
}

/* required */
.MobileEditRequired
{
    border-color:blue;
}

/* required disabled*/
.MobileEditRequiredDisabled
{
    border-color:blue;
}

/* required + highlighted */
.MobileEditRequiredHighlighted
{
    border-color:blue;
    color:blue;
}

.MobileEditRequiredHighlightedDisabled
{
    border-color:blue;
    color:blue;
Configuring ITSmobile for SAP EWM RFUI: How-To Guide

}/* highlighted */
.MobileEditHighlighted
{
  color:blue;
}

.MobileEditHighlightedDisabled
{
  color:blue;
}

/* ************************************************** */
/* --- LABEL FIELD ------------------*/
/* ************************************************** */
/* the following block of general settings
 is valid for all label variants,
 individual settings for specific edit field
 types can be made in the blocks below */
.MobileLabel,
.MobileLabelHighlighted
{
  white-space:nowrap;
  font-family:helvetica,arial;
  font-size:13px;
  font-weight:bold;
  margin-right:0px;
  margin-left:0px;
  padding:0px;
}

.MobileLabel
{
}

.MobileLabelHighlighted
Configuring ITSmobile for SAP EWM RFUI: How-To Guide

```html
{  
  color:blue;
}

/* *********************************** */
/* ---------------------------------- */
/* * *********************************** */

.MobileRadioButton
{
}

.MobileRadioLabel
{
  white-space:nowrap;
  font-size: 8pt;
  font-weight:bold;
}

/* *********************************** */
/* ---------------------------------- */
/* * *********************************** */

.MobileCheck
{
  font-size: 8pt;
  font-weight:bold;
}

.MobileCheckLabel
{
  white-space:nowrap;
  font-size: 8pt;
  font-weight:bold;
}
```
9 Appendix B – Sample JavaScript

<!-- ----------------------------------------------------------- -->
<!-- SYMBOL POCKET BROWSER MC3090 -> operating system Windows CE -->
<!-- ----------------------------------------------------------- -->

<meta http-equiv="cache-control" content="no-cache">
<meta http-equiv="pragma" content="no-cache">

<!-- setting best fitting text size for ITSmobile -->
<META HTTP-Equiv="TextSize" Content="Medium">

<!-- Only for Windows Mobile OS (operating system). When using Windows CE, 
these meta tags are not required, because javascript in 
ITSMOBILE/99/SCRIPTS/ALL/MOBILE.JS can be interpreted by the Microsoft 
browser (higher JavaScript version). -->
<!-- key mapping F1 - F10 using ITSmobile javascript functions -->
<!-- With this mapping the key buttons 0 to 9 will act as function keys -->
<!-- F1 to F10. Use blue FUNC button to input numbers into edit fields -->
<!-- battery indicator, color blue -->

<META HTTP-Equiv="battery" Content="show">
<META HTTP-Equiv="battery" Content="right_growfromleft">
<META HTTP-Equiv="battery" Content="rgb:00,00,80">
<META HTTP-Equiv="battery" Content="x=255">
<META HTTP-Equiv="battery" Content="y=5">

<!-- wireless signal meter, color blue -->
<META HTTP-Equiv="signal" Content="show">
<META HTTP-Equiv="signal" Content="left_growfromright">
<META HTTP-Equiv="signal" Content="rgb:00,00,80">
Configuring ITSmobile for SAP EWM RFUI: How-To Guide

<!-- SYMBOL POCKET BROWSER MC7090 --> Operating System Windows Mobile

<!-- setting best fitting text size for ITSmobile -->
<!-- META HTTP-Equiv="TextSize" Content="smaller" -->

<!-- Only for Windows Mobile OS (operating system). When using Windows CE, these meta tags are not required, because javascript in ITSMOBILE/99/SCRIPTS/ALL/MOBILE.JS can be interpreted by the Microsoft browser (higher JavaScript version). -->

<!-- key mapping F1 - F10 using ITSmobile javascript functions -->

<!-- With this mapping the key buttons 0 to 9 will act as function keys -->

<!-- F1 to F10. Use blue FUNC button to input numbers into edit fields -->

<head>

<!--
<META HTTP-Equiv="OnKey0x70" content="Javascript:setFKey(1)">
<META HTTP-Equiv="OnKey0x71" content="Javascript:setFKey(2)">
<META HTTP-Equiv="OnKey0x72" content="Javascript:setFKey(3)">
<META HTTP-Equiv="OnKey0x73" content="Javascript:setFKey(4)">
<META HTTP-Equiv="OnKey0x74" content="Javascript:setFKey(5)">
<META HTTP-Equiv="OnKey0x75" content="Javascript:setFKey(6)">
<META HTTP-Equiv="OnKey0x76" content="Javascript:setFKey(7)">
<META HTTP-Equiv="OnKey0x77" content="Javascript:setFKey(8)">
<META HTTP-Equiv="OnKey0x78" content="Javascript:setFKey(9)">
<META HTTP-Equiv="OnKey0x79" content="Javascript:setFKey(10)">
</head>
Configuring ITSmobile for SAP EWM RFUI: How-To Guide

<!-- wireless signal meter, color blue -->
<META HTTP-Equiv="signal" Content="show">
<META HTTP-Equiv="signal" Content="left_growfromright">
<META HTTP-Equiv="signal" Content="rgb:00,00,80">
<META HTTP-Equiv="signal" Content="x=5">
<META HTTP-Equiv="signal" Content="y=2">

<!-- for testing purposes, text zoom and quit button -->
<META HTTP-Equiv="Textbutton" Content="show">
<META HTTP-Equiv="Textbutton" Content="x=90">
<META HTTP-Equiv="Textbutton" Content="y=0">
<META HTTP-Equiv="quitbutton" Content="show">
<META HTTP-Equiv="quitbutton" Content="x=110">
<META HTTP-Equiv="quitbutton" Content="y=0">

<META HTTP-Equiv="SIPbutton" Content="show">
<META HTTP-Equiv="SIPbutton" Content="x=130">
<META HTTP-Equiv="SIPbutton" Content="x=130"=

© 2011 SAP AG