



# Setting up the Environment for Creating or Extending SAP Fiori Apps

February 2014

# Copyright

© Copyright 2014 SAP AG. All rights reserved

SAP Library document classification: PUBLIC

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP AG. The information contained herein may be changed without prior notice.

Some software products marketed by SAP AG and its distributors contain proprietary software components of other software vendors.

Microsoft, Windows, Excel, Outlook, PowerPoint, Silverlight, and Visual Studio are registered trademarks of Microsoft Corporation.

IBM, DB2, DB2 Universal Database, System i, System i5, System p, System p5, System x, System z, System z10, z10, z/VM, z/OS, OS/390, zEnterprise, PowerVM, Power Architecture, Power Systems, POWER7, POWER6+, POWER6, POWER, PowerHA, pureScale, PowerPC, BladeCenter, System Storage, Storwize, XIV, GPFS, HACMP, RETAIN, DB2 Connect, RACF, Redbooks, OS/2, AIX, Intelligent Miner, WebSphere, Tivoli, Informix, and Smarter Planet are trademarks or registered trademarks of IBM Corporation.

Linux is the registered trademark of Linus Torvalds in the United States and other countries.

Adobe, the Adobe logo, Acrobat, PostScript, and Reader are trademarks or registered trademarks of Adobe Systems Incorporated in the United States and other countries.

Oracle and Java are registered trademarks of Oracle and its affiliates.

UNIX, X/Open, OSF/1, and Motif are registered trademarks of the Open Group.

Citrix, ICA, Program Neighborhood, MetaFrame, WinFrame, VideoFrame, and MultiWin are trademarks or registered trademarks of Citrix Systems Inc.

HTML, XML, XHTML, and W3C are trademarks or registered trademarks of W3C®, World Wide Web Consortium, Massachusetts Institute of Technology.

Apple, App Store, iBooks, iPad, iPhone, iPhoto, iPod, iTunes, Multi-Touch, Objective-C, Retina, Safari, Siri, and Xcode are trademarks or registered trademarks of Apple Inc.

IOS is a registered trademark of Cisco Systems Inc.

RIM, BlackBerry, BBM, BlackBerry Curve, BlackBerry Bold, BlackBerry Pearl, BlackBerry Torch, BlackBerry Storm, BlackBerry Storm2, BlackBerry PlayBook, and BlackBerry App World are trademarks or registered trademarks of Research in Motion Limited.

Google App Engine, Google Apps, Google Checkout, Google Data API, Google Maps, Google Mobile Ads, Google Mobile Updater, Google Mobile, Google Store, Google Sync, Google Updater, Google Voice, Google Mail, Gmail, YouTube, Dalvik and Android are trademarks or registered trademarks of Google Inc.

INTERMEC is a registered trademark of Intermec Technologies Corporation.

Wi-Fi is a registered trademark of Wi-Fi Alliance.

Bluetooth is a registered trademark of Bluetooth SIG Inc.

Motorola is a registered trademark of Motorola Trademark Holdings LLC.

Computop is a registered trademark of Computop Wirtschaftsinformatik GmbH.

SAP, R/3, SAP NetWeaver, Duet, PartnerEdge, ByDesign, SAP BusinessObjects Explorer, StreamWork, SAP HANA, and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG in Germany and other countries.

Business Objects and the Business Objects logo, BusinessObjects, Crystal Reports, Crystal Decisions, Web Intelligence, Xcelsius, and other Business Objects products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of Business Objects Software Ltd. Business Objects is an

SAP company.

Sybase and Adaptive Server, iAnywhere, Sybase 365, SQL Anywhere, and other Sybase products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of Sybase Inc.

Sybase is an SAP company.

Crossgate, m@gic EDDY, B2B 360°, and B2B 360° Services are registered trademarks of Crossgate AG in Germany and other countries. Crossgate is an SAP company.

All other product and service names mentioned are the trademarks of their respective companies. Data contained in this document serves informational purposes only. National product specifications may vary.

These materials are subject to change without notice. These materials are provided by SAP AG and its affiliated companies ("SAP Group") for informational purposes only, without representation or warranty of any kind, and SAP Group shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP Group products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

## Contents

Copyright.....	2
Setting Up the Developer Environment for Creating or Extending SAP Fiori Apps .....	4
1 Target Audience.....	4
2 Downloading Eclipse.....	4
3 Installing Eclipse IDE for Java EE Developer.....	5
4 Specifying Proxy and JDK Settings in Eclipse .....	6
5 Installing the Required Software .....	7
6 Configuring the Local Tomcat Server.....	8
6.1 Procedure.....	8
7 Enabling Backend Access for local testing.....	9
8 Creating or Extending an SAP Fiori App.....	10
9 Troubleshooting .....	10
9.1 Setup HTTPS .....	10

# Setting Up the Developer Environment for Creating or Extending SAP Fiori Apps

This document explains the steps required to set up the UI developer environment to create an SAP Fiori App from scratch and to extend an SAP Fiori app.

*Note: This document focuses on creating or extending the UI for transactional apps and for analytical apps that use HANA Live and XS Odata.*

To see the general [SAP Fiori Extensibility documentation](#), see the Help Portal at [help.sap.com](http://help.sap.com).

The SAP Fiori Toolkit provides templates for creating SAP Fiori apps and automated extensibility options. For more information see <http://scn.sap.com/docs/DOC-50112>.

SAP Fiori app extensibility or creation involves the following phases:

Phase	Description
1	Setting up the UI developer environment <ol style="list-style-type: none"><li>Eclipse installation</li><li>SAP NetWeaver Gateway Productivity Accelerator (GWPA)</li><li>UI Development Toolkit for HTML5</li><li>Fiori Toolkit</li><li>Configuration</li></ol>
2	Creating a new application and testing it. See <a href="http://scn.sap.com/docs/DOC-50112">http://scn.sap.com/docs/DOC-50112</a> .
3	Extending the original application and testing it. See <a href="#">SAP Fiori Extensibility documentation</a> .

This document covers setting up the UI developer environment.

## 1 Target Audience

This document is targeted at UI developers. Some experience of working in Eclipse and in ABAP is required.

## 2 Downloading Eclipse

We recommend you use the Eclipse integrated development environment (IDE) when you are developing Fiori apps.

To download Eclipse, first go to [www.eclipse.org](http://www.eclipse.org), choose *Downloads* → *Eclipse IDE for Java EE Developer* → *Juno Packages*.

*Note: This is important because the Gateway (GW) tools require Juno, and not Kepler.*

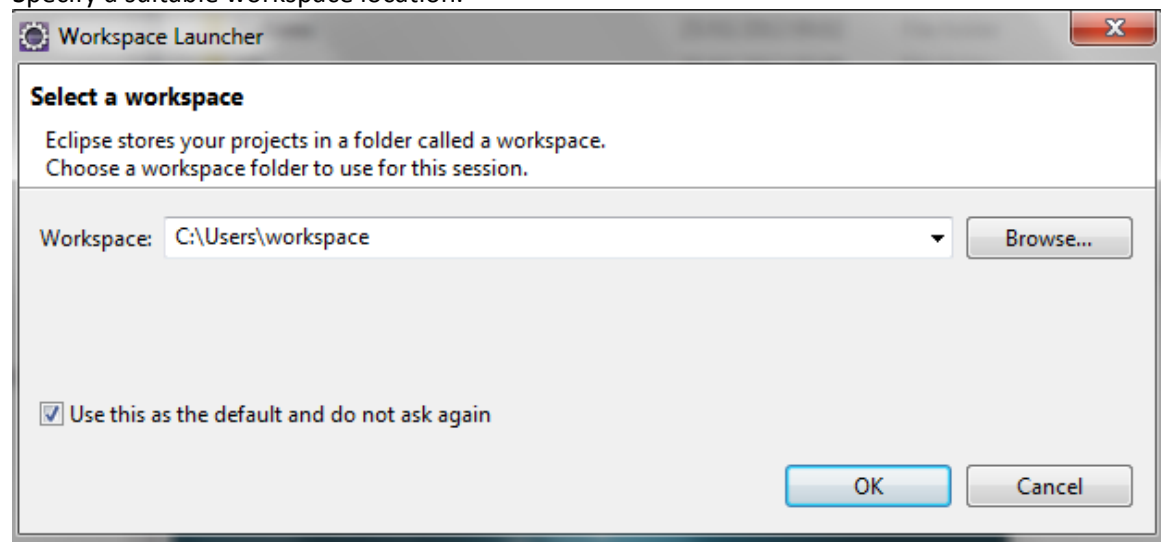
Change the end of the url from sr1 to sr2, and press Enter. Alternatively, use the following link ([Eclipse](#)). Then choose *Eclipse IDE for Java EE Developer* – 32 or 64 bit options, depending on your system.

Download the zip file to your local machine. Extract it to a specified location.

*Note: You can also access the UI5 Tools via HANA Studio. However, this is not covered in this document. You either use standard Eclipse or the SAP HANA Studio as basis installation and install the SAPUI5 and Gateway Tools on top. A link to the HANA Studio Download is available at <https://tools.hana.ondemand.com/>.*

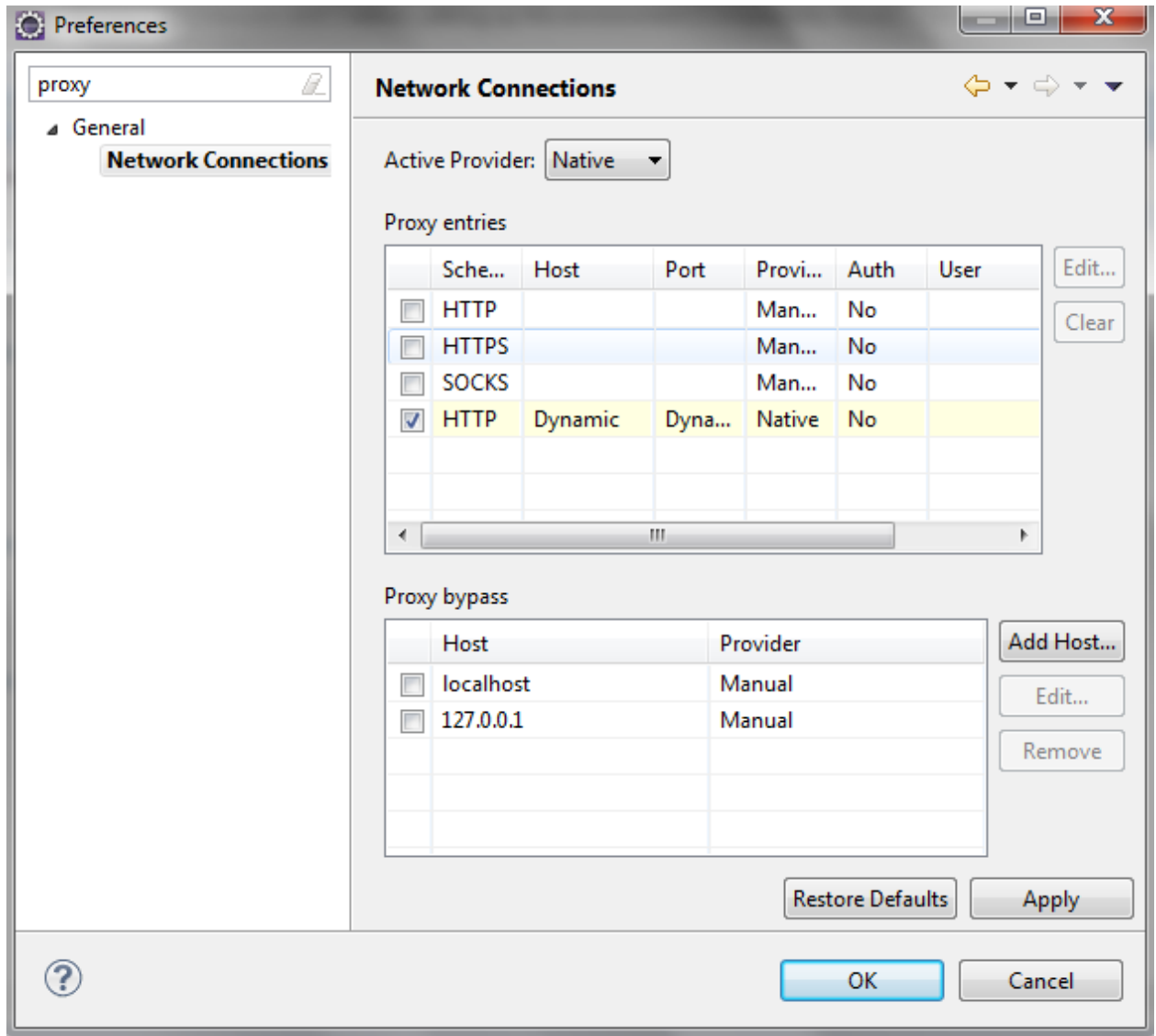
### 3 Installing Eclipse IDE for Java EE Developer

Open the extracted files location, and then run *Eclipse.exe*.  
Specify a suitable workspace location.



## 4 Specifying Proxy and JDK Settings in Eclipse

You may need to specify the proxy settings according to your organization's policies. You do this in the *Preferences* dialog box. Choose *Window* → *Preferences* → *Search*, and then type *Proxy* and choose *Network Connections*.



### JDK Configuration

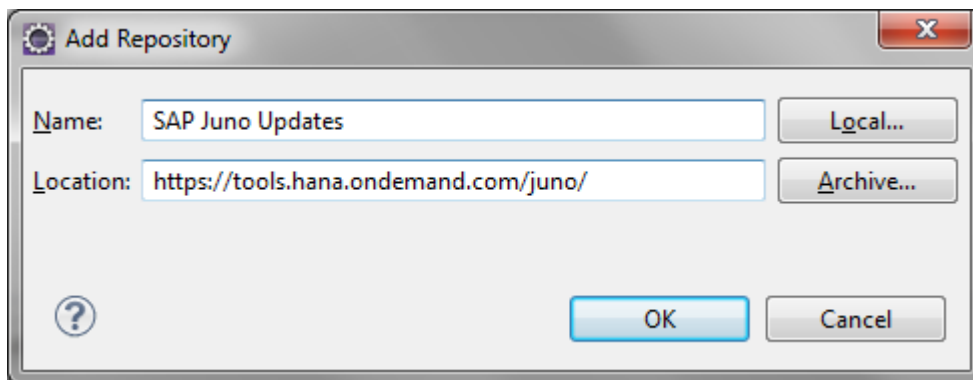
You also need to select the JDK directory in Eclipse. TO do this, open Eclipse and choose *Windows* → *Preferences* → *Java* → *Installed JREs* → *Add* → *Standard VM*, and choose the *JDK* directory.

## 5 Installing the Required Software

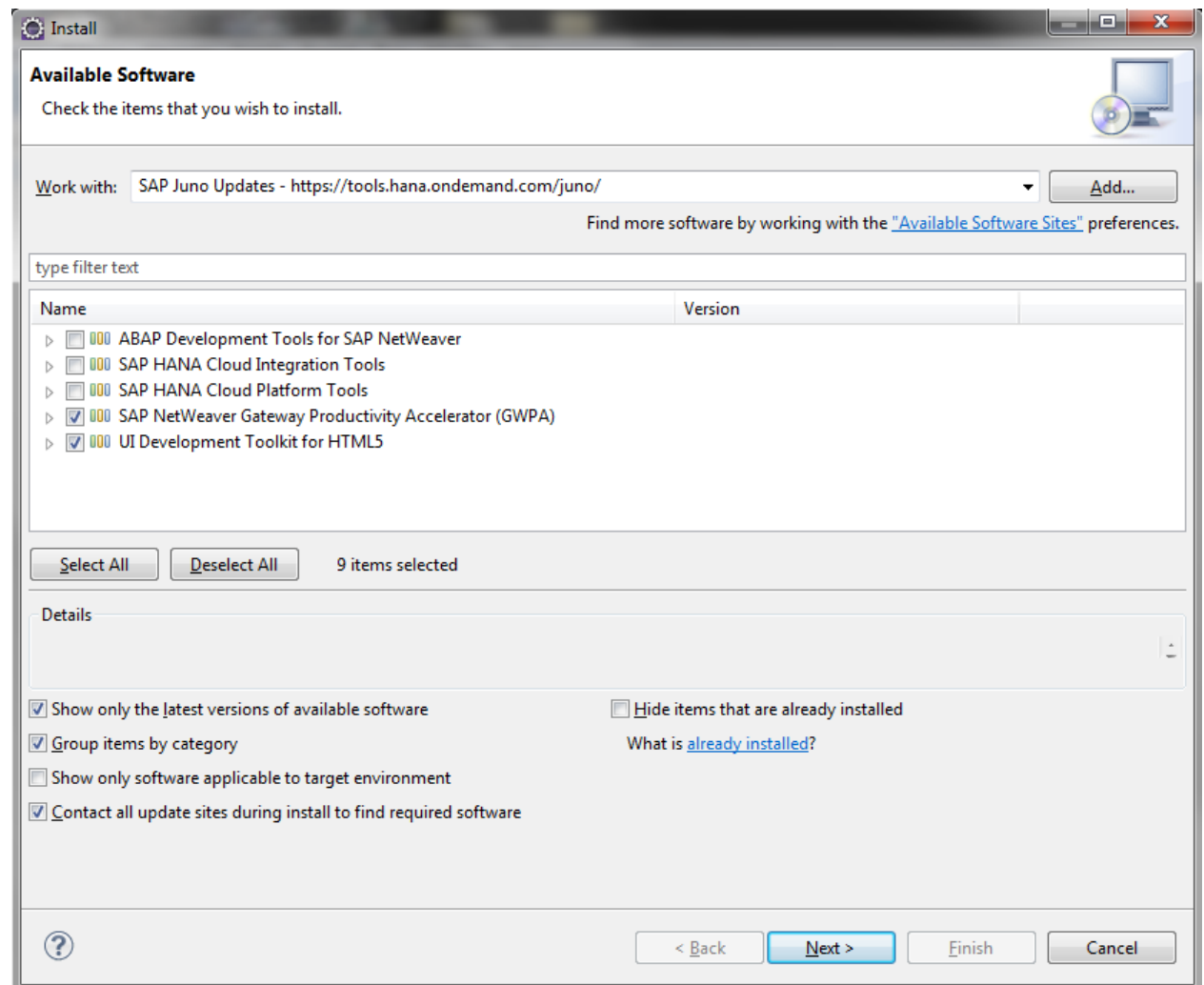
Now you want to use Eclipse to install the software required for extending and creating SAP Fiori apps. This software includes the *SAP NetWeaver Gateway Productivity Accelerator (GWPA)* and the *UI Development Toolkit for HTML5*.

When Eclipse opens, you need to specify the location to install the required software to begin creating Fiori apps. To begin, choose *Help* → *Install New Software...* In the *Work with:* field, add the following address: <https://tools.hana.ondemand.com/juno/> and then choose *Add*.

Add the name *SAP Juno Updates* in the *Add Repository* pop-up and choose *OK*.



Select the following two options: *SAP NetWeaver Gateway Productivity Accelerator (GWPA)* and *UI Development Toolkit for HTML5*, and choose *Next*.



Choose *Next* and *Next* again.

On the subsequent screen, review and accept the terms of the license agreement, and then select *Finish*.

If security pop-ups appear, select *Ignore*.

Finally, restart *Eclipse* when prompted.

## 6 Configuring the Local Tomcat Server

The next task is to ensure the local Tomcat webserver is configured to work with SAPUI5 Eclipse.

Although a Jetty server is embedded in the Eclipse package, we recommend that you set up a Tomcat server for testing purposes. Install the Tomcat server before configuring it in Eclipse.

### 6.1 Procedure

- First download the Tomcat server from <http://tomcat.apache.org/download-70.cgi>.



- In the Java EE perspective (the default perspective), click the *Servers* tab. If there are no servers available, choose the **new server wizard** link. Alternatively, right-click and select *New → Server*
- Choose *Apache → Tomcat 7.0*
- Add a new server runtime by specifying the folder where you unzipped the Tomcat files.
- When you finish the wizard you should see a Tomcat v7.0 server in the *Servers* view
- Finally, open the configuration overview by double-clicking the *Tomcat v7.0 server* in the *Servers* view.
- There you need to select the server option: *Serve modules without publishing*, and then save the changes.

Note: Alternatively, open the *New Server* wizard, choose *Apache*, choose the latest Tomcat version, and then choose *Next*. Click *Download and Install* and follow the instructions. This does not work for Macs.

### Adding Arguments to the Tomcat Server

You also need to add some arguments to the local Tomcat server for testing a SAP-delivered app. The arguments to be added are:

```
-Dsun.net.http.allowRestrictedHeaders=true
```

```
-Dorg.apache.tomcat.util.buf.UDecoder.ALLOW_ENCODED_SLASH=true
```

To add them, double-click the Tomcat server in the *Servers* view. Then open the *Launch Configuration* and paste the two arguments directly into the file. You then need to restart the server.

## 7 Enabling Backend Access for local testing

To successfully test on the local system, you have to set up a proxy to access an OData service in a ABAP system.

For instructions on how to do this, see UI5 docu [here](#).

Also, see chapter 1.1.3.20.2 *Test Your SAPUI5 Application on a Java Web Server* in the *Developer's Guide* (<http://help.sap.com/nw-uiaddon#section3>).

## 8 Creating or Extending an SAP Fiori App

For creating an SAP Fiori project from scratch, see the SAP Fiori Toolkit documentation at: <http://scn.sap.com/docs/DOC-50112>.

For extending an SAP Fiori app, see [SAP Fiori Extensibility documentation](#).

## 9 Troubleshooting

### 9.1 Setup HTTPS

You may need to make configure access to HTTPS systems. For more information, see <https://sapui5.hana.ondemand.com/sdk/docs/guide/TestingInEclipse.html#https>.