



Universal Worklist with SAP NetWeaver Portal

- Learn to Easily Execute Business
 Tasks Using Universal Worklist
- Explore Expert Insights to Help You Configure UWL Functionality
- Find In-Depth Advice on how to Make SAP Workflows and Alerts Available
- ► Learn how to Include 3rd Party
 Workflows in SAP NetWeaver Portal

Table of Contents

F	Foreword 5 1 Introduction 7		
1			
2	Star	ndard Universal Worklist Configuration	13
	2.1	Connecting SAP Systems	14
	2.2	Overview of UWL Configuration	27
	2.3	Changing the Basic Look of UWL	30
	2.4	How Work Items are Launched	45
	2.5	Summary	57
3	Cus	tomizing the Universal Worklist	59
	3.1	Custom Attributes and Views	59
	3.2	Alternative Action Handlers	71
	3.3	Custom Work Item Handlers	80
	3.4	Summary	127
4	Oth	er UWL Workflow Types	129
	4.1	Ad-hoc Workflow	129
	4.2	Publishing Workflow	142
	4.3	Guided Procedures	158
	4.4	Third-Party Workflow	191
	4.5	Summary	200
5	UW	L Behind the Scenes	201
	5.1	Troubleshooting UWL	202
	5.2	UWL Performance Tuning	208
	5.3	How UWL Talks to SAP Business Workflow	216
	5.4	Technical Considerations	220
	5.5	Summary	223

6	Next	-Generation Workflow	225
	6.1	Business Processes and Enterprise Services	225
	6.2	Workshop: Workflow on a BlackBerry	227
	6.3	Duet: Business Processes in Microsoft Outlook	246
	6.4	Summary	249
Α	Sett	ing Up a UWL Development Environment	251
	A.1	SAP NetWeaver 7.0 ABAP Trial Version	251
	A.2	Setting Up an Organizational Plan for the Notification of Absence Example	264
	A.3	Configure the SAP Notification of Absence Workflow	266
	A.4	SAP NetWeaver 7.0 Java Trial Version	268
В	Refe	erences and Further Reading	273
	B.1	SAP Documentation	273
	B.2	SAP Community Network Content	277
	B.3	Useful SAP Notes	278
	B.4	SAP Business Workflow and UWL Function Modules	279
С	Sou	rce Code for Web Dynpro Action Handler	285
Α	The	Author	293
В	3 Index		295
С	Disc	laimer	302

2 Standard Universal Worklist Configuration

In this chapter you're going to learn two things. First, you'll see how easy it is to get the Universal Worklist (UWL) working with an SAP Business Workflow back-end (Section 2.1). Next, you'll see how UWL is configured (Section 2.2), and how to use this configuration to change the UWL's layout (Section 2.3) and to control what happens when users click on a workitem (Section 2.4). These make up the most common activities on any project involving the UWL.

The nerve centre for UWL configuration is in the SAP NetWeaver Portal (called "the portal" from now on) at SYSTEM ADMINISTRATION • SYSTEM CONFIGURATION • UNIVERSAL WORKLIST & WORKFLOW • UNIVERSAL WORKLIST—ADMINISTRATION (see Figure 2.1).

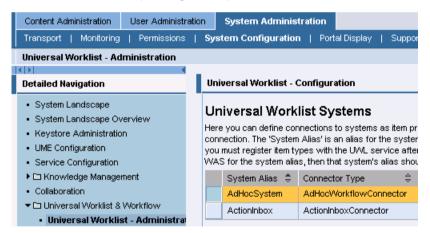


Figure 2.1: Where to find UWL configuration in the SAP NetWeaver Portal

The UWL comes configured out of the box with two connected systems, both based in the Portal. The ADHOCSYSTEM entry refers to the Ad Hoc workflow feature of the Portal (see Section 4.1) which allows users to assign tasks to each other, and the ACTIONINBOX refers to the workflow used for the approval of documents in the Portal's Knowledge Management (KM) component (see Section 4.2). These system entries are spe-

cial cases and hard-coded—you can't create new systems with these types, and you shouldn't change the system types of these entries.

2.1 Connecting SAP Systems

Most of the time, the first thing you will want to do with UWL is to connect it to an ABAP-based system so you can bring work items from SAP Business Workflow through to the portal. This is particularly important when you are using the portal to access more than one SAP system's workflow—users don't want to have to log into one system (SAP SRM) to approve purchase requisitions and then log into another system (SAP ERP) to approve the resulting invoices for payment. In this section, you'll see how to set up connections to a workflow system and find out some of the things you have to look out for when you're doing the configuring.

Throughout this section, we'll set up a connection to client 100 of a SAP Business Workflow system "NSP" (a SAP NetWeaver Trial Version instance), which is system number 00 and whose web interface is accessed with the URL http://workflow.fortybeans.com:8000.

2.1.1 Portal System Definitions

You need to create an entry in the Portal System Landscape entry for each back-end system that you want to get work items from by going to the menu System Administration • System Configuration • System Landscape and then right-clicking in the Portal Content Directory (PCD) on the desired location for the system entry and selecting New • System (FROM TEMPLATE), as shown in Figure 2.2.

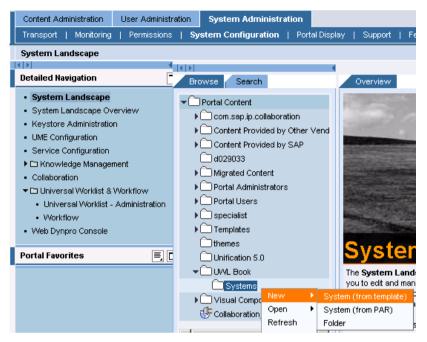
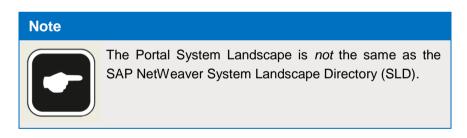


Figure 2.2: Create a system definition in the portal's System Landscape



There are three types of system entry which you can use:

- SAP system using dedicated application server
- ► SAP system with load balancing
- ▶ SAP system using connection string

The property categories you need to fill in to work with the Universal Worklist are CONNECTOR (which is used to get the work items from the back end), ITS (to launch back-end based task handlers using the default SAP GUI for HTML or IACs) and WAS (for task handlers using BSP technology or Web Dynpro).

IAC



IACs are Internet Application Components. You can find more information in IACs in the SAP Help Portal at ITS ADMINISTRATOR'S GUIDE • INTERNET TRANSACTION SERVER (ITS) • INTERNET APPLICATION COMPONENT (IAC).

We'll start by looking at the different ways of setting up connector (depending on the type of system entry you choose) and then we'll move on to setting up ITS and WAS property categories.

Choosing the right kind of system definition



The template you choose primarily depends on how the portal to back-end communication works for fetching work items. The simplest one to set up for development and testing purposes is usually the SAP SYSTEM USING DEDICATED APPLICATION SERVER template. For productive

use, the SAP SYSTEM WITH LOAD BALANCING template will often be the most suitable.

If you have configured the UWL to launch back-end task handlers using the SAP GUI for Windows (see "SAP GUI—Wind, Web, or Java" in Section 2.4) and your users access the back-end system via a SAProuter connection, then you will probably want to use a SAP SYSTEM USING CONNECTION STRING template.

Connector settings

Figure 2.3 to Figure 2.5 show examples of the minimum information necessary to establish a connection for each of the three templates. Here are the settings you need to use:

SAP system using dedicated application server

APPLICATION HOST: the host name or IP address of the SAP Business Workflow system, as seen from the portal server

SAP CLIENT: the workflow system's client number

SAP SYSTEM ID (SID)

SAP SYSTEM NUMBER

SYSTEM TYPE: Usually SAP_R3 unless this is a BW or CRM system, in which case SAP_BW or SAP_CRM, respectively.

Property Editor - Application Server		
Property Category: Connector		
▶ Application Host	workflow.fortybeans.com	
▶ S AP Client	100	
▶ SAP System ID (SID)	NSP	
▶ 	00	
▶ System Type	SAP_R3 ▼	

Figure 2.3: Minimal settings for Dedicated Application Server

SAP system with load balancing:

GROUP: the login group (of application servers) to use

MESSAGE SERVER: the host name or IP address of the SAP Business Workflow system's message server, as seen from the portal server

SAP CLIENT: the workflow system's client number

SAP SYSTEM ID (SID)

SAP SYSTEM NUMBER

SYSTEM TYPE: Usually SAP_R3 unless this is a BW or CRM system, in which case SAP BW or SAP CRM, respectively.

B Index

Α	attributes	
AbsenceBean 116 action handler Function Module 76 Terminating Event 74 Updating Container 75 User Decision 71	standard 60 attributes UME 67 Authentication 100 authorisation 23	
User Decision 72 Web Dynpro 81 action handlers 71 action handlers 45 Action Item 133 actions 39 Actions 160 Actions 174 Active Directory 248 Ad Hoc workflow 13 Ad-hoc Workflow 129 Alerts 24 alias 199 Anonymous Responses 137 Approval 134 Approval Callable Object 161 Approval Workflow 143 approval.jsp 118 ApproveAbsenceView 92 ApproveAbsenceView 96 attachments 41 Attachments 132	background jobs 209 bean 107 BlackBerry 227, 249 device simulator 229 BlackBerry Email Service Simulator 229 BlackBerry Mobile Data Service Simulator 230 Block 160 BPEL4People 227 BPML 227 Bugzilla 192, 198 Business Logic 161 Business Logic 172 Business Object 137 Business Object Repository 60 business objects 41 business process 133, 158 business process expert 135	
attributes Business Object Repository 61 container 67 UME 60 workflow container 61	cache 67 cache 215 Caching 214 Callable Object 161, 170	

Central User Administration 209 Delta-Pull Mechanism 208 certificate 272 deploy 199 chained execution 220 Deploying 122 client 258 Design Time Gallery 162 Client Copy 258 Design Time Gallery 175 collaboration 141 Design Time Gallery 181 Collaboration 158 Developer Studio 269 Collaboration Tasks 208 **Development Component 106** columns 34 doInitialization 113 comments doProcessBeforeOutput 117 work item 71 Duet 246 Component Controller 88, 94, F 98 Composite Applications 165 email 238 Configuration Groups 211 email 189, 232 confirmation.jsp 119 email 246 connection error 211 Email 236 connection pool 215 email notification 236 Consolidate Roles 181 **Email Templates 164** Consolidating Parameters 178 Enterprise SOA 225 Context mapping 86, 87, 88 Evaluation Software 251 context parameters 183 execution mode 215 context parameters 162, 163 executionUrl 198 createConfirmQuestion 95, 119 External Service 161 **CRM 228** F CRM 243 custom attribute 196 Feedback 143 custom attributes File download 221 XML configuration 67 File upload 221 Custom Attributes 59 FORMABSENC 159, 167, 171, 172, 173, 189 D function module Data Input Form 162 RPY EXISTENCE CHECK C Date Format 34 LAS 217 SAP_WAPI_CREATE_EVENT debugging 184 77, 219 debugging 44, 101 SAP_WAPI_DECISION_READ debugging 205 72 Delta Pull SAP_WAPI_GET_HEADER refresh period 210 218 delta-link 39, 47, 213

SAP WAPI GET OBJECTS UWL GET ITEMS PROXY 85, 218 218 SAP WAPI GET WORKITEM UWL SWO INVOKE 218 DETAIL 85 functoin module SAP_WAPI_READ_CONTAIN SAP WAPI SUBSITUT* 218 ER 218 SAP_WAPI_READ_CONTAINE G R 62 getFormDetails 115 SAP WAPI SET WORKITEM aetFormId 115 COMPLETD 219 SAP WAPI SUBSTITUTES G getItemDetails 113 ET 217 getItemDetails() 89 SAP WAPI WORKITEM CO aetItems 195 MPLETE 85 aetUrl 198 SAP WAPI WORKITEM CO aetUserId 195 NFIRM 219 getWorkitemDescription 115 SAP WAPI WORKITEM DES CRIPTION 85, 218 getWorkitemDetail 115 SAP WAPI WRITE CONTAI Guided Procedures 249 NER 219 Guided Procedures 135, 158, SWF DEMO FORMABS CR 227 EATE 169, 172, 182 Guided Procedures 251 SWF DEMO FORMABS CR **EATE 178** GuidedProceduresConnector SWF_DEMO_FORMABS_CR 191 **EATE 189** SWF_VMD_METADATA_GET Н ALL 217 **HTML 164** SWK DEMO FORMABS PR HTMLB 105 OC_WRITE 85 HTTPS 19 SWK DEMO FORMABS RE AD 85 SWLWP COMP GET LH UR L 217 inbox 246 SWN_UWL_GET_WORKLIST Inbox 220 217 instance parameters 253 SWN UWL SERVER TYPE DATA_GET 217 isLauncher 199 USER NAME GET 217 Item Display 197 UWL ASSIGN USER CHAN ITS 19 **NEL 218 ITS 15** UWL_CREATE_SERVICE_US iView 40, 47, 212 ER 209, 217 iView 28, 37 UWL DETECT BWF DELTA JOB 217 iView 51 iView 124

iView 202 Microsoft 246 IViewLauncher 53 Microsoft 221 iViews 161 Microsoft Office 249 Microsoft Outlook 191 J multi-step tasks 133 Java 203, 229 N Java 191 Java 206 navigation 202 Java 221 Navigation Node 32 Java 222 NetWeaver 7.0 Trial Version 251 Java 228 NetWeaver ABAP 251 Java 251 NetWeaver Developer Studio Java 268 229 Java iView 105 Notifications 143 JavaGUI 222 JCA 108 О JCo 101 onActionApproveClicked 94 JSPDynPage 105 onActionOKClicked 98 K onActionRejectClicked 95 onClickApprove 119 Knowledge Management 13 onClickOK 120 onClickReject 119 Optimistic execution mode 215 license key 257 Organizational Plan 264 limitations 201 Outlook 246 Log Configurator 206 Log file 205 P Log Viewer 206 page 51 Log Viewer 203 PAR 122 logging categories 207 PAR Upload 199 logging locations 207 Parameter Consolidation 178 login module 243 parameter groups 179 Logs 203 performAction 199 М performance 201 Performance Tuning 208 Mercury Mail Transport System permission 132 232 Permissions 21, 147 Merge ID 213 Personalize Tasks 65 Merge Priority 213

Pessimistic execution mode	roles 209
215	roles 161
PHP 50	roles 214
POP3 232	Roles 211
POP3 server 230	RSS 191
Portal Application 106	RSWNUWLSEL 209
portal component 191	Runtime Views 184
Portal System Landscape 195	
position 266	S
Prerequisites 23 priority 29	SAP Community Network 159 251
Process Flow 182	SAP ERP 182
Process Information 189	SAP ERP HCM 159
Process Integration (PI) 227	SAP GUI 46, 49, 220, 251
processAbsence 98, 120	SAP GUI for HTML 19
Publishing Workflow 142	SAP GUI for HTML 15
	SAP GUI for HTML 220
Q	SAP GUI for HTML 221
Quick Response Option 137	SAP GUI for Java 222
Б	SAP GUI for Windows 222
R	SAP NetWeaver Trial Version
radio buttons 79	14
RAR files 252	SAP Office 191
registration 24	SAP system 16
Remote Function Call (RFC)	application server 16
161	message server 17 SAProuter 18
report 262	SAP Systems 14
RHSOBJCH 262 SWN_SELSEN 238	SAProuter 223
Request for Feedback 137	Security 132
Request for Nomination 140	service-oriented architecture
Research in Motion 230	158
Result State 172	Simple Process 176
result.jsp 121	Single Instantiation 186
RFC 201	single sign-on 242
RFC Callable object 167	single sign-on 228
RIM 227	single sign-on 269
role 26	Single sign-on 23
Role 37	Single Sign-On 168
role consolidation 181	SMTP 232

SMTP 236	SWDD 238, 268		
SMTP server 230	SWFVISU 103, 126, 217		
SOAP 226	SWK1 219		
sorting 34	SWNADMIN 236		
SRM 246, 248	SWU3 261, 262, 264		
Standalone Task 129	SWXF 127, 240, 268		
Substitution 42	transaction		
Sun 221	PFTC_DIS 62		
support information 201	SE37 62 SWFVISU 30, 41, 54		
SWFVISU 24	SW01 61		
	SWU3 25		
System Alias 20, 191	WF_EXTSRV 51		
System Alias 22	WF_HANDCUST 51		
System Configuration Groups 212	Troubleshooting 202		
System Landscape 14	U		
System Landscape 199	UDDI 226		
system profiles 253	UME 159		
systems 214	Universal Worklist		
-	Administration 212		
Т	Universal Worklist API 191		
task 62, 64	user 202		
task type 203	User Decision Handler 220		
Testing 185	User Management 171		
Third Party Workflow 191	_		
Third-Party Connector 227	User Management Engine 60		
transaction	User Selection 146		
OOCU 267	UWL Custom Connector 192		
PPOC 264	V		
RZ10 253, 270	-		
SA38 209	verify.der 271		
SBWP 268	View 88		
SCC4 258	View 67		
SCCL 258 SCOT 236	Visual Administrator 206		
SE37 216, 218, 279	Visual Approval 163		
SE38 209, 238, 262	Voice 249		
SLICENSE 258			
SPRO 267	W		
STRUSTSSO2 271	Web Dynpro 15, 19		
SU01 209, 260, 264	context 86		
SLIGR 259	Interface Controller 84		

Web Dynpro 42
Web Dynpro 55
Web Dynpro 161
Web Dynpro 234
Web Dynpro 234
Web Dynpro 251
WebGUI 221
Windows 222
wizards 30
WML 228
work item
comments 71

workflow agent 59 workflow container 61 workflow verification 26 Workflow-related Task 136 WSDL 226 WSDL 191

X

XML configuration 201 XML configuration 29, 51, 197 XML configuration 202