

Symbols

- @AllowsPassByReference 142
- @Authentication 297
- @Callback 123, 126, 155, 160
 - on field 155
 - on setter method 156
- @ComponentName, in Spring bean 182
- @Context 159, 168, 342
 - component context. *See* ComponentContext interface
 - on field 159
 - on setter method 159
 - request context. *See* RequestContext interface
- @Conversational 46, 128, 163, 165, 342
- @ConversationAttributes 164
 - maxAge 164, 166
 - maxIdleTime 164, 166
 - singlePrincipal 164, 166
- @ConversationID 164, 166
- @Destroy 152, 166
 - in Spring bean 182
- @EagerInit 152
- @EndsConversation 129, 163, 165, 343
- @Init 152, 166
 - in Spring bean 182
- @OneWay 121
- @PolicySets 304
- @Property 57, 135–136, 148, 341
 - explicit name 149
 - implicit name 149
 - in Spring bean 182
- name 149
 - on class constructor 148
 - on field 148
 - on setter method 148
 - required 150
- @Reference 23, 47, 135–136, 276
 - explicit name 146
 - implicit name 146
 - in Spring bean 182
 - injection 145
 - JavaScript 244
 - name 47, 146
 - on class constructor 145
 - on field 145
 - on setter method 145
 - required 54, 146
 - servlet 233
- @Remotable 16, 22–23, 44, 137
 - callback interaction 123
 - defining service 40
 - omitting 115–116
 - remote interaction 113
- @Requires 295, 297
- @Scope 129, 151
 - COMPOSITE 152
 - CONVERSATION 129, 152, 164–165
 - STATELESS 151
- @Service 40, 135–136, 142
 - alternatives 143
 - in Spring bean 182
- @WebFault 172
- @WebMethod 268
- @WebParam 268
- @WebResult 268
- @WebService 138, 268
- @XmlElement 270
- @XmlType 270
- <binding.atom> 247, 250, 253
- <binding.corba> 199, 212, 216
- <binding.ejb> 64, 228–229
- <binding.http> 242, 245
- <binding.jms> 64, 223, 225, 227
- <binding.jsonrpc> 242
- <binding.rmi> 199, 218–219, 221
- <binding.rss> 254
- <binding.sca> 68, 203
- <binding.ws> 39, 68, 205
 - authentication 294
 - on reference 64, 199, 207–208
 - on service 63, 199, 205
 - options 209
 - using WSDL 264
- <bindingType> 306
- <callback> 125
- <component> 16, 35
- <composite> 16, 19, 99
- <contribution> 73, 323
- <deployable> 74, 350
- <export.java> 74
- <export> 74
- <implementation.bpel> 35, 78, 183
- <implementation.java> 16, 19, 35, 133, 290
- <implementation.node> 325–326
- <implementation.pojo> 386, 388
- <implementation.resource> 244–245
- <implementation.script> 192
- <implementation.spring> 176

<implementation.web> 235, 241
 <implementation.widget> 241, 243
 <implementationType> 306
 <import.java> 74, 350
 <import> 74
 <include> 102, 324
 <interface.java> 42, 45
 <interface.wsdl> 42, 263–264, 274, 277
 <property> 58, 61–62, 99
 in Spring context 181
 <reference> 50, 53, 65, 99
 in Spring context 180
 <service> 99
 in Spring context 180
 <wire> 50
 <wsdl:definitions> 260
 <wsdl:message> 262
 <wsdl:operation> 262
 <wsdl:portType> 46, 262
 <wsdl:types> 260
 <xsd:schema> 260

A

access method 379
 ActiveMQ 223
 Address schema type 61
 AirportCodes class 38
 Ajax 232
 alwaysProvides attribute 306
 annotations 23, 135
 Ant 14, 411
 build.xml 14
 Apache Axis2 265
 Apache Geronimo 321
 Apache Jakarta 192
 Apache Software Foundation 4
 Apache2 license 4
 Apache Tuscany. *See* Tuscany
 API wrapping 28
 application
 model building 360, 368, 374
 model inheritance 373
 model loading 360–361, 368, 370
 model resolving 361, 368
 processing 358
 application assembler role 298
 appliesTo attribute 291, 298
 artifact 313, 368
 introspection 370
 Java model 371
 loading 371

model 368
 processing 371
 resolution 373
 ASF. *See* Apache Software Foundation
 assembly 4–5
 model. *See* SCA, Assembly Model
 AssemblyFactory interface 365
 asynchronous interaction 119, 122, 339–340
 Atom feed 233, 246–247, 252
 accessing 252
 publishing 247
 authentication 284, 294
 basic 293, 298, 303
 constant 297
 intent 294, 307, 345
 policy 293
 authenticationConfiguration policy 307
 authorize operation 259, 262
 autowire 51
 attribute 52
 multiplicity 55
 problems 52
 AXIOM 224, 265, 278, 280–281

B

basic authentication. *See* authentication, basic
 BasicAuthenticationPolicySet 298, 304
 Bean Scripting Framework 192
 See also Apache Jakarta
 BestValueCars component 38
 bidirectional interface. *See* interface, bidirectional
 billingAddress
 property 60–61
 property value 61–62
 schema global element 60
 binding 7, 9, 28, 63, 198, 282
 asynchronous 7
 callback 125–126
 configuration 277
 CORBA. *See* CORBA binding
 default 65, 69, 203
 See also binding.sca
 EJB. *See* EJB binding
 exception 170
 extension 277, 282, 397
 forward 125
 interoperable 65, 69, 203

JMS. *See* JMS binding
 listener 380
 node configuration 325
 policy 293
 protocol 113
 provider. *See* binding provider
 reference 64, 199
 remote 30
 RMI. *See* RMI binding
 service 63, 199
 type. *See* binding type
 URI 84
 Web Services. *See* Web Services binding
 XML model 398
 binding provider, starting and stopping 379
 binding type 63, 359, 383, 397
 binding.ws 306
 creating additional 64
 standard types 64
 binding-echo.xsd file 398
 binding.atom 383
 binding.corba 211
 See also CORBA binding
 binding.echo 383, 397
 binding.ejb 64, 228
 See also EJB binding
 binding.http, intents and policies 307
 binding.jms 31, 64, 104, 222, 383
 intents and policies 307
 jmsHeader policy 307
 See also JMS binding
 binding.jsonrpc 279, 335, 383
 binding.rmi 217
 See also RMI binding
 binding.sca 65, 82, 116–117, 294, 335
 choice of protocol 65
 Tuscany protocol 65
 See also binding, default
 binding.ws 31, 64, 104, 204, 340, 359
 basicAuthentication policy 307
 intents and policies 306
 SCA extension 383
 Tuscany extension 286, 306
 URI 115
 WS-Policy 307
 wsConfigParam policy 307
 See also Web Service binding
 black-box reuse 97
 Book service 290

- Bookings
 - interface 22, 40, 73
 - service 84
 - BookTrip service 99
 - bottom-up development 21, 352
 - BPEL 3, 7, 28–29, 183–184
 - activity 186
 - Apache ODE 192
 - if 186
 - invoke 186
 - myRole 186
 - onEvent 189
 - onMessage 189
 - partnerLink 185, 189
 - partnerRole 186
 - receive 186, 188
 - sequence 186
 - specifications 184
 - variable 186
 - BSF. *See* Bean Scripting Framework
 - business interface 260
 - business logic 281
- C**
-
- calculator sample. *See* Tuscany, calculator sample
 - Calendar
 - component 115, 117
 - interface 116
 - call graph 119
 - CallableReference
 - interface 159–160
 - getConversation() 164
 - isConversational() 164
 - callback 45, 153
 - binding 340
 - callable reference. *See* CallableReference interface
 - delegation 153, 160
 - flexibility 159
 - ID 153, 161
 - interaction 111, 122, 337
 - interface. *See* interface, callback
 - Java client programming model 157
 - Java programming model 155
 - proxy 153, 155
 - proxy injection 155
 - redirection 162
 - reference 125
 - service 126
 - service reference. *See* ServiceReference interface
 - callbackInterface attribute 45, 125
 - CarPartner component 49, 52, 54–56, 68, 337
 - CartStore component 128, 341–342
 - chain of responsibilities pattern 375
 - Checkout
 - interface 22
 - service 84, 99
 - class attribute 35
 - class-loading policy 321
 - ClassReference class 390
 - ClientNode node 92
 - clients, non-SCA. *See* sample non-SCA clients
 - cloud 325
 - computing 421
 - provisioning 422
 - cloud.composite file 324, 348
 - command line 311, 315, 328
 - communication
 - infrastructure 314
 - protocol 63, 198, 283, 397
 - See also* binding
 - component 5–6, 33, 176, 313
 - assembly 97
 - configured 58
 - configuring 37
 - definition. *See* component definition
 - deploying 80
 - implementation. *See* component implementation
 - instance management 362
 - interaction 368
 - introduction to 5
 - invocation 362
 - lifecycle 362, 375
 - locality 110
 - name 35
 - name collision 79
 - property 7
 - reference 50, 282, 406
 - reusing 96
 - scope 381
 - See also* @Scope
 - service 7, 49, 282, 404
 - type. *See* component type
 - component definition 36, 43
 - bindings 63, 65
 - default configuration 43
 - examples 37, 43, 68
 - interface type 43
 - multiplicity 54
 - property values 58, 60
 - services 43
 - wires 48
 - component implementation 7, 21, 34, 281–282, 380
 - lifecycle 392
 - starting 393
 - stopping 394
 - component implementer role 297
 - component type 36, 43, 133, 135, 137, 275–276, 391
 - defining 38
 - discovering 38
 - examples 39, 53, 58
 - file 39, 194, 391
 - introspected 39, 48
 - ComponentContext interface 168, 343
 - getServiceReference() 168, 343
 - componentType file. *See* component type, file
 - composite 5–6, 312, 333
 - activation 368
 - application. *See* composite application
 - building blocks 96
 - deployable 74, 88, 313, 317, 346
 - deployed 83, 92, 323–324
 - deploying 79, 89
 - domain composite. *See* domain, composite
 - executing 79
 - file 16, 73, 133, 139, 262, 360
 - See also* sample composites
 - implementation 97, 103
 - inclusion 79, 97, 101
 - introduction to 5
 - name 19, 88, 91
 - property. *See* property, composite
 - reference. *See* reference, composite
 - reusing 103
 - service. *See* service, composite
 - starting 368
 - stopping 368
 - wiring 79
 - See also* sample composites

- composite application 9, 16, 104
 - building blocks 104
 - customization 104
 - designing 10
 - distributed execution 85
 - example 134
 - implementation.java 132
 - implementing 14
 - in the cloud 421
 - internal structure 96
 - recursive composition 104
 - running 71
 - single process 72
 - Tuscany node 313
 - Tuscany runtime 312, 358, 360
 - composite attribute 74
 - COMPOSITE scope 381
 - CompositeActivator interface 377, 381
 - CompositeDocumentProcessor class 371
 - confidentiality 284
 - intent 307
 - constrains attribute 291
 - constructor injection. *See* injection, constructor
 - contribution 15, 17, 73, 313, 317, 361, 368
 - contents 73
 - dependency 26, 89
 - directory 14–15, 25
 - exports 74, 77, 89
 - imports 26, 74, 77, 89
 - installed 88, 312–313, 323
 - installing 78, 87
 - JAR 25
 - location 88
 - packaging 15
 - processing 362, 370
 - relative path 88
 - scanning 370
 - URI 88
 - zip 25
 - See also* sample contributions
 - ContributionScanner interface 362, 368, 370
 - ContributionScannerExtension-Point 362, 371
 - conversation ID 129, 342
 - automatic 343
 - manual 343
 - Conversation interface 164
 - end() 164
 - getConversationID() 164
 - CONVERSATION scope 381
 - conversational
 - interaction 111, 127
 - interface. *See* interface, conversational
 - conversations 163
 - controlling 166
 - starting 164
 - stopping 164
 - CORBA 211
 - client 213
 - IDL 41, 212
 - Name Service 215
 - CORBA binding 198, 211
 - accessing references 214
 - configuration options 216
 - exposing services 211
 - IDL 212
 - idlj command 213
 - IOR 213
 - coupling
 - loose 112, 119, 421
 - tight 117
 - createSCANode() 75, 78
 - contribution order 76
 - createSCANodeFromURL() 94
 - CreditCardDetails class 269, 271
 - CreditCardDetailsType class 270, 273
 - CreditCardPayment 258
 - authentication 293–294, 298
 - component 6, 134, 177, 263, 344
 - composite 312
 - interface 260, 262, 267, 273
 - service 136, 294
 - WSDL 271
 - creditCardPayment reference 199, 203, 296
 - CreditCardPaymentImpl class 264
 - currency property 99
 - CurrencyConverter
 - component 56, 118, 200, 340
 - CORBA binding 211
 - IDL 212
 - interface 57, 118, 201
 - JMS binding 223
 - RMI binding 218
 - service 200, 205, 211, 218, 223
 - Web Services binding 205
 - WSDL 206
 - CurrencyConverterImpl class 57
 - CurrencyConverterServlet class 234
 - Customer component 60, 62
 - CustomerImpl class 60–61
 - CustomerInfo interface 60
 - CustomerRegistry component 134, 344
 - customerRegistry reference 199, 203
- ## D
-
- DAS. *See* Data Access Service data
 - agreement 263
 - binding. *See* databinding
 - compatibility 282
 - conversion 280
 - decoupling 260
 - description 259, 262
 - exchange 257, 259, 376
 - format 265, 282, 398, 404
 - handling 280, 282
 - marshalling 265
 - representation 257–258, 265, 274, 279, 282–283
 - requirement 266
 - structure 262
 - transformation 257, 259, 279, 283, 362, 398
 - type 266, 281
 - unmarshalling 265
 - Data Access Service 4
 - databinding 9, 274, 281, 398, 404
 - AXIOM 9
 - data transformation 141
 - framework 9, 141, 259, 280, 283
 - interceptor. *See* interceptor, databinding
 - JAXB 9
 - SDO 9
 - transformer 281
 - type 383
 - DataTransformationInterceptor class 376
 - default binding. *See* binding, default
 - default interaction. *See* local interaction
 - DefaultBeanModelProcessor class 401, 407
 - definitions.xml file 285–286, 290–291, 295, 301, 306
 - deliveryAddress
 - property 61
 - property value 62

- deliveryMode intent 307
 - dependency injection 378, 393
 - deployable composite. *See* composite, deployable
 - deployed composite. *See* composite, deployed
 - deployment 25, 139, 285, 319, 322, 330, 361
 - composite 315
 - deployment descriptor 321–322
 - destination attribute 227
 - distributed domain. *See* domain, distributed
 - DOM 278, 281
 - domain 66, 76, 312, 419
 - binding.sca 117
 - boundary 78
 - cloud.composite. *See* cloud.composite file
 - cloud.composite file
 - composite 79, 97, 312, 314
 - configuration 81
 - contribution repository 77
 - default binding 66
 - defining 323
 - deploying composites 77
 - deployment 361
 - distributed 80–81, 83, 330, 346, 419
 - domain.composite. *See* domain.composite file
 - domain.composite file
 - external resources 79
 - external services 79
 - installing contributions 77
 - local 80–81
 - manager. *See* domain manager
 - node mapping 315
 - policy configuration 286
 - remote endpoint 84
 - scope 80
 - standalone 330
 - Tuscany runtime 312
 - TuscanySCAHotels 66
 - TuscanySCATours 66
 - visibility 78
 - wire 66, 79
 - workspace.xml. *See* workspace.xml file
 - domain manager 81, 314, 328, 346, 419
 - adding nodes 91
 - Atom feed 92–93
 - binding types 85
 - cloud 91
 - configuration files 95
 - deploying composites 89
 - endpoint changes 85
 - endpoint information 84
 - GUI 87, 322
 - installing contributions 88
 - network configuration 95
 - restarting 95
 - saved configuration 95
 - starting 86
 - domain.composite file 324, 348
 - DomainManagerLauncher class 86
- E**
-
- EchoBinding interface 399, 407
 - EchoBindingFactory interface 400, 407
 - EchoBindingInvoker class 406–407
 - EchoBindingProviderFactory class 402–403, 407
 - EchoReferenceBindingProvider class 405, 407
 - EchoServiceBindingProvider class 403, 408
 - EchoServiceListener class 404, 408
 - Eclipse 351
 - project 359
 - EJB binding 64, 198, 228
 - accessing references 229
 - configuration options 230
 - exposing services 229
 - ejb-link-name attribute 231
 - ejb-version attribute 231
 - element attribute 61–62
 - EmailGateway
 - component 134, 344
 - Spring bean 177
 - emailGateway reference 199, 203
 - embedded 311, 316, 327
 - encryption 288
 - endpoint 326
 - EndpointReference element 209
 - Enterprise JavaBeans. *See* EJB binding
 - Enterprise Service Bus 31
 - ESB. *See* Enterprise Service Bus
 - EURJPYConverter component 58
 - exceptions
 - business 169
 - remotable 170
 - SCA runtime 169, 173
 - execution node. *See* node
 - export. *See* contribution, exports
 - extension 7, 176
 - binding 9
 - code 383
 - configuration 383
 - databinding 9
 - discovery 360
 - implementation 9, 176
 - instance 383
 - interface 9
 - invocation 383–384
 - Java model 384
 - packaging 396, 409
 - point. *See* extension point
 - policy 9
 - provider 384
 - type 362, 383, 410
 - XML schema 384
 - extension point 9, 410
 - registry 363, 369–370
 - See also* Tuscany, extension point
 - ExtensionPointRegistry interface 364, 369, 392, 403
- F**
-
- feed
 - Atom. *See* Atom feed
 - Collection interface 248
 - Data API 248
 - getAll() 248
 - RSS. *See* RSS feed
 - field injection. *See* injection, field
 - FlightPartner component 49, 52, 337
 - forward interface. *See* interface, forward
 - forward-only interaction 111
- G**
-
- GoodValueTrips 11, 14
 - goodvaluetrips.com host 83
 - granularity
 - coarse 112, 119
 - fine 117
 - Groovy 192
- H**
-
- hardware component 36
 - homeInterface attribute 231
 - host attribute 216, 221

- hosting
 - environment 311, 314, 327, 359, 362
 - options 328
 - Hotel component 112, 120–122, 126
 - HotelOffers component 68
 - HotelPartner component 49, 52, 65–66, 68, 337
 - HTML 233, 245
 - HTTP 63, 114, 320
 - header 300, 303
 - HttpServlet class 234
- I**
-
- IDE 311
 - implementation 7, 9, 28
 - extension 281
 - inheritance 373
 - instance 378, 381, 394
 - intent 290
 - invoker 380
 - language 7
 - model 386
 - policy 285
 - type. *See* implementation type
 - XML processing 386
 - See also* component implementation
 - implementation type 34, 43, 132
 - creating additional 35, 385
 - HTML 241
 - implementation.bpel 35, 41
 - implementation.composite 101
 - implementation.java 35, 40
 - mixing 344
 - standard types 35
 - Tuscany extension 359, 383
 - Tuscany support 176
 - implementation.bpel 132, 175, 183, 330, 383
 - callback 188
 - component type 188, 190
 - error handling 191
 - introspection 190
 - limitations 191
 - partner link roles 188
 - reference 188, 190
 - service 188–189
 - WSDL 188
 - implementation.composite 101, 353
 - implementation.java 110, 132, 146, 291, 335, 383
 - implementation.osgi 420
 - implementation.pojo 383, 385, 396
 - implementation.script 29, 133, 175, 192, 330, 383
 - component type 194
 - error handling 195
 - Groovy 192
 - interface 194
 - property 194
 - property mapping 195
 - Python 192
 - reference 194
 - reference mapping 195
 - Ruby 192
 - service 194
 - service mapping 194
 - implementation.spring 132, 175–176, 291, 330, 344, 383
 - ClassPathXMLApplication-Context 183
 - error handling 176
 - explicit component type 180
 - explicit property 181
 - explicit reference 180
 - explicit service 180
 - FileSystemXmlApplication-Context 183
 - implicit component type 179
 - implicit property 181
 - implicit reference 177
 - implicit service 177
 - location 178
 - location directory 178
 - location file 178
 - MANIFEST.MF file 182
 - property 181
 - reference 177, 179
 - reference name 179
 - SCA tags 177, 180
 - service 178
 - service name 179
 - Spring context location 182
 - Spring wiring 180
 - implementation.widget 29, 334
 - ImplementationProvider
 - interface 392
 - createInvoker() 394
 - start() 393
 - stop() 394
 - ImplementationProviderFactory 392
 - import. *See* contribution, imports
 - inbound invocation 398
 - incremental development 8
 - infrastructure 326, 358
 - initialContextFactory attribute 227
 - injection
 - constructor 48, 57
 - field 48, 57
 - property 57, 135
 - reference 47, 135
 - setter 48, 57
 - installed contribution. *See* contribution, installed
 - instance management 381
 - integration 79
 - technology 359
 - integrity 284
 - intent 307
 - intent 284–285
 - authentication. *See* authentication, intent
 - confidentiality. *See* confidentiality, intent
 - default 306
 - deliveryMode. *See* delivery-Mode intent
 - field level 297
 - implementation. *See* implementation, intent
 - integrity. *See* integrity, intent
 - method level 297
 - profile. *See* profile intent
 - qualifiable. *See* qualifiable intent
 - qualified. *See* qualified intent
 - interaction pattern 110
 - interaction policy 285–286, 293
 - interceptor 288, 299–300, 374
 - chain 287
 - databinding 287–288
 - interface 288
 - See also* Interceptor interface
 - logging policy 289
 - operation 288
 - policy. *See* policy, interceptor
 - Interceptor interface 375
 - interface 7, 9, 40, 259
 - bidirectional 45, 50, 124, 126–127, 153
 - callback 45, 50, 122, 126, 158, 339
 - compatibility 50, 52, 140, 145
 - compatible subset 140
 - configuration 275, 278
 - conversational 46, 342

- interface (*continued*)
 - decoupling 271
 - defining 41
 - explicit 139
 - forward 45, 122
 - implicit 139
 - introspected 43
 - Java 176
 - language 42–43
 - local 44, 137, 203
 - mapping 50, 140, 264, 266
 - message transformation 141
 - operation 7, 140
 - remotable 44, 117, 123, 137, 142, 203, 273
 - sharing 337
 - subsetting 43
 - type. *See* interface type
 - WSDL 176
 - interface attribute 42, 45
 - interface type 42–43, 383
 - changing 43
 - different technologies 42, 50
 - interface.java 42–44
 - interface.wsdl 42–44
 - mapping 50
 - interface.java 46, 124–125, 140–141
 - interface.wsdl 46, 114, 116, 124, 140–141, 191
 - remotable 116
 - interoperability 260
 - interoperable binding. *See* binding, interoperable
 - IntroducingLauncher class 75
 - introspection 38
 - invocation chain 374–375, 377, 380
 - InvocationChain interface 375
 - Invoker interface 288, 375, 406
 - invoker order 376
- J**
-
- JAR file 359
 - Java
 - annotations 135
 - artifact introspection 372
 - callback 153
 - class 266, 350
 - component instance 151
 - error handling 169
 - exception 169
 - implementation 133, 137
 - interface 41, 137, 263
 - local interface 137
 - package export 74
 - package import 74
 - parameter mapping 140
 - property 137, 147
 - reference 137, 144
 - remotable interface 137
 - request context. *See* Request-Context interface
 - service 137, 142
 - unannotated interfaces 143
 - Java API for XML Web Services (JAX-WS) 50, 63, 138, 140, 170, 206, 266, 269
 - annotations 268
 - exceptions 171
 - generated interface 139
 - remotable interface 138
 - wsimport. *See* wsimport tool
 - Java Architecture for XML Binding (JAXB) 140–141, 258
 - data representation 265, 278
 - generated Java type 270
 - Java object 279–280
 - type mapping 50, 60–61
 - Java EE. *See* Java Enterprise Edition
 - Java Enterprise Edition 7, 29, 232–233, 311, 326
 - JavaClassVisitor interface 372
 - JavaImplementationProvider class 378
 - JavaInterfaceVisitor interface 372
 - JavaScript 233, 241, 335, 343
 - JAX-WS. *See* Java API for XML Web Services
 - JAXB. *See* Java Architecture for XML Binding
 - jaxws-maven-plugin 267
 - JDK 411
 - jdkLogger policy 292, 307
 - JDKLoggingPolicyInterceptor class 289, 292
 - Jetty 311
 - JIRA. *See* Tuscanry, bug database
 - JMS 3, 7, 63, 222
 - client 223
 - endpoint 104
 - JMS binding 64, 113, 198, 222
 - accessing references 225
 - accessing using clients 223
 - configuration options 227
 - exposing services 222
 - message broker 224
 - JMSServiceListener interface 404
 - JMSTours component 103
 - jndiURL attribute 227
 - JoesCars component 55–56
 - JSON 241, 278–279
 - JSON-RPC 3, 9, 241, 278
 - binding 332
 - JSP 25, 232, 238
 - deploying 240
 - servlet filter 239
 - tag library 238
 - web.composite file 239
 - JSR 222. *See* Java Architecture for XML Binding (JAXB)
 - JSR 224. *See* Java API for XML Web Services (JAX-WS)
 - JSR 250 297, 305
 - jumpstart 14
 - JUnit 27, 318
 - JVM 113, 115, 312
- K**
-
- KensCars component 55–56
- L**
-
- launcher 15, 75
 - running 76
 - See also* sample launchers
 - LDAP 300
 - lifecycle 319
 - See also* component, lifecycle
 - lightweight 381
 - local domain. *See* domain, local
 - local interaction 111, 115
 - local interface. *See* interface, local
 - logging
 - intent 307
 - policy interceptor. *See* interceptor, logging policy
 - See also* policy, logging
 - logLevel 292
- M**
-
- managed container 327
 - many attribute 150
 - Maven 14, 411
 - artifact 359
 - pom.xml 14
 - mayProvide attribute 306

message 115
 callback 111, 125–126
 conversation 128
 exchange 111
 forward 111, 125
 marshal 114
 stateful 111
 stateless 111
 transformation 141
 unmarshal 114

Message interface 288, 375–376
 body 376
 factory. *See* MessageFactory
 interface
 header 376

message-oriented middleware
 121

MessageFactory interface 363,
 376

messaging API 397

META-INF directory 73

META-INF/services
 directory 365

ModelFactoryExtensionPoint
 363, 389, 395, 407

ModelResolver interface 372,
 390

ModelResolverExtensionPoint
 372

ModuleActivator interface 369

monitoring 284

MTOM intent 306

multiplicity 53
 attribute 53
 autowire 55
 <reference> 54
 reference 53
 <wire> 55

mustSupply attribute 150

MyTours component 101–102

N

name attribute
 <component> 35
 <property> 58

namespace
 OSOA. *See* OSOA, namespace
 Tuscany. *See* Tuscany,
 namespace

node 75, 83, 312
 API 317
 communication 81
 configuration 93, 313–314,
 316, 326, 367

creating 75
 defining 323
 entire domain 81
 launcher 93, 316
 lifecycle 314, 318, 327
 local interface 117
 name 91
 part of domain 81, 315
 separate 125, 300
 starting 93
 stopping 321
 Tuscany runtime 312, 369
 URI 91

NodeLauncher class 93

Notification
 component 201–202, 208,
 214, 220, 226, 229
 interface 202

O

OASIS 4, 419
 Open CSA 4, 418

one-way interaction 111, 119,
 337

one-way invocation 406

open source 4

OSGi 7, 311, 326, 418
 Remote Service Admin 420
 runtime enablement 419
 SCA Configuration Type 420

OSOA 4
 namespace 19, 183

outbound invocation 397

P

packaging scheme 362, 370

pass-by-reference 44, 117, 142

pass-by-value 44, 115, 142

password 300

Payment
 authentication 293
 bindings 199
 BPEL process 77, 184
 component 6, 133–135, 199,
 258, 263, 330, 334
 composite 133, 176, 178, 312,
 358
 implementation.spring 176
 service 199
 Spring application context
 179–180
 Spring bean 177

payment.bpel file 77

PaymentImpl class 264, 270

phase 376

PhaseExtensionPoint 377

POJOImplementation
 interface 386–387, 395

POJOImplementationFactory
 interface 387, 395

POJOImplementationInvoker
 class 393–394

POJOImplementationProcessor
 class 388, 394–395
 file 390

POJOImplementationProvider
 class 393, 395

POJOImplementationProvider-
 Factory class 392, 395

policy 9, 284
 configuration 285
 framework 284, 287
 framework specification 285
 implementation. *See* imple-
 mentation, policy
 in contributions 286
 in extensions 286
 incoming message 287
 intent 285
 interaction. *See* interaction
 policy
 interceptor 287
 logging 284
 outgoing message 287
 policy set. *See* policy set
 reference 286
 service 286
 subject 300
 type 383

policy set 285, 291

port attribute 216, 221

portType 41–43, 46, 50

priority intent 307

problems. *See* troubleshooting

profile intent 305

promote attribute 100

promotion 100

property 7, 56, 137
 advantages 59
 complex type 149
 composite 100
 configuring 58
 default value 100
 defining 57
 external configuration 59
 immutable 149
 injection 148

property (*continued*)
 JAXB 149
 managing 59
 many 147, 150
 many valued 150
 multiplicity 150
 multiplicity summary 150
 mustSupply 147, 150
 mutable 149
 name 147, 149
 optional 150
 required 150
 SDO 149–150
 simple type 149
 single valued 150
 type. *See* property type
 value 7, 58, 101, 148
 XML 149
 XPath expression 100
 property type 147, 149
 complex 59
 schema global element 60
 schema type 61
 simple 58
 protocol stack 398
 protocol. *See* communication,
 protocol
 prototyping 349
 ProviderFactoryExtensionPoint
 377, 395, 402, 407
 provides attribute 291, 304
 proxy pattern 372
 proxy. *See* reference, proxy
 ProxyFactoryExtensionPoint 378
 Python 192

Q

qualifiable intent 305
 qualified intent 303, 305
 quality of service 284–285

R

recursive composition 104, 352
 reference 5, 7, 46, 137
 array 146
 binding 64, 398
 See also binding
 binding provider. *See* binding
 provider
 callback 126
 collections 146
 composite 100

default binding 65
 defining 47–48
 exposed 100
 implicit 139
 injection 23, 145
 interface 144
 introduction to 5
 invocation 379
 multiplicity 53, 144, 146
 multiplicity 0..1 146
 multiplicity 0..n 146
 multiplicity 1..1 146
 multiplicity 1..n 146
 multiplicity summary 147
 name 23, 98, 144, 146
 optional 54
 passing 167
 promotion. *See* promotion
 proxy 23, 47, 115, 117, 119,
 145, 378–379
 re-injection 145
 target 20, 144
 target name 20
 wire 20
 ReferenceBindingProvider
 interface 402, 405
 createInvoker() 406
 getBindingInterfaceContract-
 () 406
 start() 406
 stop() 406
 supportsOneWayInvocation()
 406
 remotable interface. *See* inter-
 face, remotable
 remote interaction 111–112
 request response
 interaction 111, 118, 122
 RequestContext interface 158
 getCallback() 159
 getServiceReference() 162
 requires attribute
 SCA intent 290, 294
 <wsdl:portType> 46
 response attribute 228
 RMI 9, 137, 217
 client 219
 registry 219
 remotable interface 137
 RMI binding 198, 217
 accessing references 219
 accessing using clients 219
 configuration options 221
 exposing services 218
 RMI-IIOP 278

RPC API 397
 RSS feed 233, 246, 252
 accessing 254
 publishing 250
 Ruby 3, 7, 192
 runtime 8
 core 9
 environment 358
 extension 9
 hosting 10
 native 4
 SPI 10

S

sample. *See* travel sample
 sample composites
 blog-feed.composite 250
 creditcard.composite 301,
 344, 348
 currency-converter.compo-
 site 200
 feed-logger.composite 252,
 254
 fullapp-bespoketrip.compo-
 site 337, 340, 350
 fullapp-coordination.compo-
 site 336–337, 339
 fullapp-currency.composite
 341
 fullapp-packagedtrip.compo-
 site 337
 fullapp-shoppingcart.compo-
 site 333, 341
 fullapp-ui.composite 333–335
 help-pages.composite 245
 notification.composite 202
 payment.composite 77, 199,
 203, 344, 350
 tours-appl.composite 103
 tours-impl-include.composite
 102
 tours-impl.composite 101
 tours.composite 19, 73, 99,
 104
 trips.composite 16
 sample contributions
 blog-feed 247–248, 250
 buildingblocks 99, 101–103
 car 330
 common 330
 creditcard-payment-jaxb 134
 creditcard-payment-jaxb-
 policy 293, 301, 330, 344,
 346

- sample contributions (*continued*)
 - creditcard-payment-sdo 257
 - creditcard-payment-webapp 312
 - currency 200, 233, 330
 - currency-corba 211
 - currency-jms 223
 - currency-jsp 238–239
 - currency-rmi 218
 - currency-servlet 234–236
 - currency-ws 205
 - databinding-client 257
 - feed-logger 252–255
 - flight 330
 - fullapp-bespoketrip 330
 - fullapp-coordination 330
 - fullapp-currency 330
 - fullapp-packagedtrip 330
 - fullapp-shoppingcart 330
 - fullapp-ui 243, 330
 - help-pages 245
 - hotel 330
 - introducing-client 73, 88, 94
 - introducing-tours 73, 87
 - introducing-trips 73, 88
 - notification-corba 214
 - notification-ejb 229
 - notification-jms 226
 - notification-rmi 220
 - notification-ws 208
 - payment-bpel 77, 186
 - payment-bpel-process 77, 186, 189
 - payment-groovy 193
 - payment-java 133–134, 257, 350, 358
 - payment-java-callback 154
 - payment-java-policy 293, 301
 - payment-python 193
 - payment-spring 177
 - payment-spring-policy 330, 344, 346
 - payment-spring-scatag 180
 - policy-client 301
 - shoppingcart 330, 341
 - travelcatalog 330
 - trip 330
 - trip-policy 289
 - tripbooking 330
 - usingsca 34, 39, 47–62, 64, 68
- sample launchers 312
 - blog-feed 249, 251
 - currency-converter 201
 - currency-converter-corba 212
 - currency-converter-rmi 219
 - currency-converter-ws 205
 - databinding 257
 - feed-logger 254–255
 - fullapp 244, 330–331, 346, 416
 - fullapp-domain 330, 347
 - fullapp-nodes 330, 347
 - help-pages 246
 - introducing 27, 75–76
 - introducing-client 94
 - introducing-tours 93
 - introducing-trips 94
 - jumpstart 17, 415
 - notification-corba 216
 - notification-ejb 230
 - notification-jms 226
 - notification-rmi 220
 - notification-ws 208
- sample non-SCA clients
 - currency-converter-corba 212
 - currency-converter-jms 223
 - currency-converter-rmi 219
 - currency-converter-ws-jaxws 206
- sample non-SCA services
 - smsgateway-corba 215
 - smsgateway-ejb 230
 - smsgateway-jaxws 208
 - smsgateway-jms 226
 - smsgateway-rmi 220
- sample-implementation-pojo.xsd file 385
- SCA 4
 - API 9, 24
 - Assembly Model 5, 7, 9, 62, 368
 - basics 5
 - compliance tests 419
 - composite application. *See* composite application
 - contribution. *See* contribution domain. *See* domain
 - extension model 383, 410
 - Java in-memory model 361
 - notation 7
 - programming model 358, 360, 362, 368, 375
 - specifications 4, 35, 133, 135, 175–176, 183, 192
 - specifications v1.0 4, 418
 - specifications v1.1 4
 - standard 418
 - taglib. *See* JSP, tag library
 - XML configuration model 361
- sca_jsp.tld. *See* JSP, tag library
- sca-contribution.xml file 73, 320, 350
- SCAClient. *See* Tuscany API, SCAClient interface
- SCAContribution. *See* Tuscany API, SCAContribution class
- SCANode. *See* Tuscany API, SCANode interface
- SCANodeFactory. *See* Tuscany API, SCANodeFactory class
- SCATours component 334
- SCAToursBooking component 335
- SCAToursCart component 335
- SCAToursSearch component 335
- SCAToursUserInterface component 334
- schema validation. *See* XML, schema validation
- scope. *See* @Scope
- ScopeContainer interface 381
- SDO. *See* Service Data Objects
- Search
 - interface 113, 121
 - service 125, 290
- SearchCallback interface 123
- security 284, 293
- service 5, 7, 39, 137
 - binding 63, 398
 - See also* binding
 - binding provider. *See* binding provider
 - composite 100
 - configuring 43
 - consumer 257, 283
 - default binding 65
 - defining 40
 - endpoint 124, 313
 - exposed 100
 - implicit 139
 - interaction 12
 - interaction pattern 109
 - interface 7, 15, 41, 258
 - introduction to 5
 - invocation 380

- service (*continued*)
 - listener 398
 - local. *See* local interaction
 - moving 44
 - name 7, 16, 98
 - naming 143
 - operations 41
 - promotion. *See* promotion
 - provider 257, 283
 - proxy. *See* reference, proxy
 - remotable 115
 - remote 113
 - See also* remote interaction
 - remote call 44
 - Service Data Objects (SDO) 4, 50, 141, 258, 266, 271, 278, 280
 - service provider
 - discovery 366
 - implementation 365
 - interface 365
 - pattern 364
 - ServiceBindingProvider
 - interface 402–403
 - getBindingInterfaceContract() 404
 - start() 404
 - stop() 404
 - supportsOneWayInvocation() 405
 - serviceName attribute 221
 - ServiceReference interface 161, 166–167
 - getCallbackID() 161
 - getConversationID() 164
 - getService() 163, 169
 - parameterized type 168
 - setCallback() 162
 - setCallbackID() 161
 - setConversationID() 164, 166, 343
 - ServiceRuntimeException class 173
 - services
 - composing 96
 - non-SCA. *See* sample non-SCA services
 - reusing 96
 - servlet 232–233, 404
 - deploying 237
 - filter 236, 320–321
 - servlet-mapping element 236
 - web.composite file 235
 - web.xml file 236
 - session-type attribute 231
 - setter injection. *See* injection, setter
 - ShoppingCart component 11, 18, 23, 128
 - checkout operation 343
 - detailed description 341
 - distributed domain 84
 - local domain 82
 - payment reference 334
 - side file. *See* component type, file
 - small footprint 359, 381
 - SMS gateway 202, 208, 215, 220, 226, 230
 - SMSEGateway interface 202
 - smsGateway reference 202, 208, 215, 220, 226, 229
 - SOA 3, 5, 28, 184
 - SOAP 9, 63, 113–114, 264–265, 277, 398
 - See also* Web Services binding
 - SOAP intent 306
 - SOAP.1_1 intent 210, 306
 - SOAP.1_2 intent 306
 - source attribute
 - <property> 100
 - <wire> 50
 - Spring 7, 29, 176
 - application context 176, 178
 - bean 176
 - standalone 311, 315
 - stateless interaction 111
 - STATELESS scope 381
 - StAX. *See* Streaming API for XML
 - StAXArtifactProcessor
 - file 401
 - getArtifactType() 388
 - getModeType() 388
 - interface 371, 388
 - read() 389
 - resolve() 390
 - write() 389
 - StAXArtifactProcessorExtension
 - Point 363, 365, 394, 407
 - Streaming API for XML 281, 388
 - structural inheritance 373
 - synchronous interaction 339
- T**
-
- target attribute
 - <reference> 50, 54, 65
 - <wire> 50
 - technology choice 359
 - testing 351
 - Tomcat 311
 - top-down development 21, 349, 352
 - TopLuxuryCars component 38
 - TourProvider component 104
 - ToursNode node 92
 - travel sample 5, 414
 - binaries directory 415
 - clients directory 415
 - contributions 415
 - See also* sample contributions
 - contributions directory 415
 - directory structure 415
 - distribution directory 415
 - domainconfig directory 415
 - downloading 414
 - launchers 416
 - See also* sample launchers
 - launchers directory 415
 - non-SCA clients 416
 - See also* sample non-SCA clients
 - non-SCA services 416
 - See also* sample non-SCA services
 - README file 5, 416
 - services directory 415
 - testdomain directory 415
 - testing installation 415
 - util directory 415
 - travel-booking application 10
 - See also* travel sample
 - TravelCatalog component 122, 336, 339
 - Trip component 289, 292, 415
 - TripBooking component 11–12, 18, 336
 - autowire 52
 - bindings 63, 65
 - deployment 80
 - distributed domain 84
 - local domain 82
 - multiple domains 66, 68
 - reference definition 46
 - service definition 40
 - target attribute 49
 - <wire> 51
 - TripBookingImpl class 40, 47–48
 - TripPartner component 337

- TripProvider component 11, 14, 16, 18
 - composite inclusion 102, 104
 - deployment 80
 - distributed domain 84
 - local domain 82
 - test version 101
 - Trips
 - interface 16
 - service 85
 - TripsNode node 92
 - troubleshooting 417
 - Tuscany 4
 - 1.x 4, 418
 - 2.x 4, 418, 422
 - API. *See* Tuscany API
 - architecture. *See* Tuscany architecture
 - binary distribution 411
 - bug database 417
 - builder 374
 - building block 358–359, 361
 - calculator sample 413
 - command line 413
 - commits mailing list 416
 - community 416, 418
 - core 360
 - core module 359–360
 - developer mailing list 416
 - distribution JARs 359
 - distributions 411
 - domain manager. *See* domain manager
 - downloading 411
 - embedding 357
 - extending 357
 - extension 358
 - extension module 359–360
 - extension point 360–363, 365, 367, 372, 383, 410
 - extension type 359
 - futures 418
 - installing 411
 - mailing list archives 417
 - mailing lists 416
 - module 359
 - See also* Tuscany modules
 - module activator 369
 - namespace 175
 - node. *See* node
 - plugin code 360–361, 364
 - project 416
 - runtime. *See* Tuscany runtime
 - sample output 413
 - samples 413
 - source distribution 412
 - SPI 362, 366
 - testing installation 412
 - user mailing list 416
 - using from IDE 414
 - website 4
 - Tuscany API 362
 - SCAClient interface 18, 76, 94
 - SCAContribution class 18, 317
 - SCANode interface 18, 76, 94, 315, 317, 330, 333
 - SCANodeFactory class 93–94, 315, 317, 330
 - Tuscany architecture 358–359, 381
 - behavioral perspective 359
 - extensibility 358–359, 362, 381, 410
 - flexibility 359
 - modularity 358–359, 381
 - pluggability 359
 - structural perspective 359
 - Tuscany modules
 - binding-ws 359
 - binding-ws-axis2 359
 - binding-ws-xml 359
 - core-spi 360
 - policy-security 295
 - Tuscany runtime 311–312, 320, 357–358, 382
 - application processing 368
 - binding provider 375, 377
 - bootstrapping 360, 367, 369
 - data transformation
 - provider 375
 - extending 382
 - implementation
 - provider 375, 377–378
 - policy provider 375, 377
 - shutdown 368–369
 - Web Services extension 359
 - TUSCANY_HOME environment variable 414
 - tuscany-sdo-plugin 272
 - TuscanySCAHotels domain 66, 68
 - TuscanySCATours
 - domain 66–67
 - full application 329–330
 - sample application 113, 133, 176, 244–245, 329
 - See also* travel sample
 - travel agency 10–11, 233, 247
 - tuscanyscatours.com host 83
 - type attribute 62
-
- ## U
-
- Updates interface 22
 - uri attribute 63
 - URLArtifactProcessor
 - interface 371
 - URLArtifactProcessorExtension-Point 371
 - USDGBPConverter
 - component 58
 - user interface 334
 - username 300
-
- ## V
-
- ValidationSchema file 399
 - ValidationSchemaExtension-Point 395, 407
-
- ## W
-
- WAR 319, 322
 - Web 2.0 29, 232, 334
 - Web application 319–320, 322, 328
 - web browser 335
 - web container 321
 - Web Services 3, 7
 - client 207
 - endpoint 104
 - Web Services binding 63, 66, 198, 204, 264, 334
 - accessing references 207
 - accessing using clients 206
 - callback interaction 125
 - configuration options 209
 - exposing services 205
 - HTTP port 332
 - intents 210
 - interaction policy 293
 - policy set 210
 - remote interaction 113
 - SOAP 210
 - WSDL-First 210
 - WSDL-Last 210
 - web-enabled 232
 - web.xml file 320–321

WebBooking component 43
WebSphere 311
white-box reuse 97
wire 7, 48, 50, 104
 callback 122
 composite inclusion 103
 default binding 116
 forward 122
 interface compatibility 50
 interface mapping 50
 local domain 82
 multiplicity 54
 <reference> 50
 same domain 66, 69, 79

 separate deployment 51
 <wire> 50
wire format 278, 398
wiring 48
 automatic. *See* autowire
workspace.xml file 323, 348
WSDL 8–9, 206, 259–271, 274
 contribution 25, 350
 fault 169
 interface 140, 277
 location 264
 portType. *See* portType
 WSDL-First 210
 WSDL-Last 210

wsdlElement attribute 209–210,
 277
wsdlLocation attribute 209–210
wsimport tool 171, 207, 267, 352
WSTours component 103

X

XML 141, 258
 namespace export 74, 77
 namespace import 74, 77
 schema 262, 266
 schema validation 386–387
XSD. *See* XML, schema

