BEAAquaLogic
Service Bus ™

Glossary

Glossary

This glossary defines terms that are used in the documentation for BEA AquaLogic Service Bus. Terms displayed in `blue, other than URLs,` are defined in this glossary.

See also: WebLogic Server Glossary.

A

action

The elements of a pipeline stage or message flow node that define the handling of messages as they flow through a proxy service. For information about the actions supported in AquaLogic Service Bus message flow stages and nodes, see Proxy Services: Actions in *Using the AquaLogic Service Bus Console.*

administration console

The browser-based interface used by a system administrator to perform configuration and monitoring tasks.

AquaLogic Service Bus

BEA AquaLogic Service Bus is part of BEA's new AquaLogic family of Service Infrastructure Products. AquaLogic Service Bus manages the routing and transformation of messages in an enterprise system. Combined with its monitoring and administration capability, AquaLogic Service Bus provides a unified software product for implementing and deploying your Service-Oriented Architecture (SOA).

AquaLogic Service Bus Console

An HTML-based graphical user interface used by an administrator to configure, manage, and monitor the entities and resources required for your BEA AquaLogic Service Bus applications. The AquaLogic Service Bus Console is a Web application hosted on the administration server. Once you have created a domain that supports AquaLogic Service Bus, it is used to perform tasks that are specific to managing AquaLogic Service Bus solutions.

archive directory

A directory in which files are archived.

asynchronous

Characteristic of events that occur at different times such that the relationship between the times when those events occur is unpredictable. In distributed application architectures such as Web services, clients invoke methods (or send messages to) servers and servers respond. If a client is blocked from performing other work while waiting for a server to respond, the interaction is described as synchronous because the client is synchronized with the server. If an interaction is designed such that a client can continue performing other work while the server prepares its response, and the server can notify the client when the response is ready, the interaction is described as asynchronous. An asynchronous architecture is useful in event-driven scenarios, in which an event can arrive at any time and the receiver can handle it whenever it arrives.

asynchronous web service

A Web service that provides asynchronous functionality, either by using asynchronous methods or by using synchronous methods and callbacks in an asynchronous manner. Interactions in asynchronous Web services are designed to allow the client to continue performing other work while the server prepares its response. The server notifies the client when the response is ready. An asynchronous architecture is useful in event-driven scenarios where the receiver handles the event whenever it arrives.

See synchronous web service.

authentication

Process whereby the identity of users or system processes are proved or verified. Authentication also involves remembering, transporting, and making identity information available to various components of a system when that information is needed. Authentication typically involves username/password combinations, but can also be done using tokens.

See authentication type.

authentication type

The type of process whereby the identity of users or system processes are proved or verified. Authentication types include: Basic, One-Way, One-Way with Basic, Mutual.

See authentication.

authorization

Process whereby the interactions between users and resources are limited to ensure integrity, confidentiality, and availability. Authorization controls access to resources based on user identity or other information. In the WebLogic Server environment, a process whereby a user's access to a WebLogic resource is permitted or denied based on the user's security role and the security policy assigned to the requested WebLogic resource.

See authorization provider, security policy, uniform resource locator (URL), and WebLogic resource.

authorization provider

In the WebLogic Server environment, a security provider that controls access to WebLogic resources based on the user's security role and the security policy assigned to the requested WebLogic resource.

See security provider, user, and WebLogic resource.

B

basic authentication

A type of authentication.

See authentication and authentication type.

BEA WebLogic Integration

See WebLogic Integration.

BEA WebLogic Server

See WebLogic Server.

BEA AquaLogic Service Bus

See AquaLogic Service Bus.

BEA XQuery Mapper

See XQuery Mapper.

BEA Format Builder

See Format Builder.

binding

A concrete protocol and data format specification for a particular Port Type.
Binds a Port Type to a packaging type and transport type. Some bindings are standardized
while others are not. A WSDL binding is local to a WSDL file.

binding name

The name used to identify the binding within the system. The name must be unique within
the trading partner profile.

branch node

A branch node is a node in a message flow that allows processing to proceed down exactly
one of several possible paths. Branching is driven by a simple lookup table with each branch
tagged with a simple but unique string value. A variable in the message context is designated
as the lookup variable for that node, and its value is used to determine which branch to
follow. If no branch matches the value of the lookup variable, then the always-present default
branch is followed. See message flow.

business calendars

Business calendars represent the operating hours of a business. A business calendar specifies
a time zone and a set of time period rules. The time period rules determine the days, dates,
and hours that are free (available for business activities) and busy (unavailable for business
activities).

business ID

Identifier for a trading partner. The value is used to identify the partner in message
exchanges.

business logic

Principles and instructions that perform a function specific to your business, such as order
processing.

business message

Basic unit of communication between trading partners in a conversation. A multipart MIME
message that consists of business documents and attachments.

business process

A set of related business operations, such as order processing, that is automated in whole or in part. When a business process is executed, information is passed to a particular participant at a particular time, according to a set of intelligent business rules that enable computers to perform most of the work, leaving humans to deal only with exceptions.

business protocol

Set of rules that governs the electronic exchange of business information between enterprises across a network. A business protocol specifies the structure of business messages, the method for processing the messages, and the method for routing them to the appropriate recipients. Trading partners can use the business protocol to send and receive business messages.

business protocol definition

Set of logic plug-ins that implements a business protocol.

See business protocol.

business service

Any service registered with AquaLogic Service Bus that is not implemented by an AquaLogic Service Bus message flow. It is an interface to a conversation definition. For example, a trading partner offers a business service to other trading partners who may want to interact with it. See also proxy service.

C

callback authorization policy

The roles authorized to invoke the process callback. If the callback authorization policy is not defined, everyone is authorized.

certificate

See digital certificate.

certificate authentication

Method of providing a confident identification of a client by a server through the use of digital certificates. Certificate authentication is generally preferred over password authentication because it is based on what the user has (a private key), as well as what the user knows (a password that protects the private key).

See authentication and digital certificate.

certificate based authentication

> A type of authentication.
>
> See authentication.

client

> Program that performs the following steps:
>
> 1) Collects requests for services from users through a user interface.
>
> 2) Transmits those requests to servers.
>
> 3) Receives the servers' responses and passes them to the users.
>
> If a client is located on a machine that belongs to the domain to which the target servers also belong, then the client is called a native client. If the client is located on a machine outside that domain, then the client is called a remote client or a Workstation client.

client callback properties

> The properties used to dynamically configure the callback to a client.

client certificate

> A statement that associates a particular client with a name or other attributes that are used to identify the client. It allows the confident identification of a client by a server. The statement is digitally signed by a certificate authority. Therefore, by trusting the certificate authority to sign only true statements, you can trust that the client is the entity named in the certificate.
>
> See digital certificate, certificate authentication.

client certificate alias

> In process configuration, the name always used for a particular client certificate in certificate-based authentication.
>
> See client certificate, digital certificate, certificate authentication.

client certificate password alias

> In process configuration, the password always used for a particular client certificate in certificate-based authentication.
>
> See client certificate, digital certificate, certificate authentication.

cluster

> Group of WebLogic Server instances that work together to provide an application platform that is more powerful and reliable than a single server. A cluster appears to its clients as a single server but it is, in fact, a group of servers acting as one. If properly designed and configured, a cluster can provide both availability and scalability. New processes and

machines can be added dynamically to a cluster, to handle increased load without shutting down the cluster. Individual servers can be removed from the cluster periodically so that maintenance can be done without affecting cluster performance.

clustering

Clustering allows BEA AquaLogic Service Bus to run on a group of servers that can be managed as a single unit. In a clustered environment, multiple machines share the processing load. AquaLogic Service Bus provides load balancing so that resource requests are distributed proportionately across all machines. An AquaLogic Service Bus deployment can use clustering and load balancing to improve scalability by distributing the workload across nodes. Clustering provides a deployment platform that is more scalable than a single server.

commit

To complete a transaction so that changes are recorded and stable. Protected resources are released. Declaration or process of making a transaction's updates and messages visible to other transactions. When a transaction commits, all its effects become public and durable. After commitment, the effects of a transaction cannot be reversed automatically.

See transaction.

configuration

1) Set of hardware, hardware options, software, and software setup on a computer or on a network.

2) In the trading partner management module, this allows administrators to configure the resources required and to set system defaults.

configuration wizard

An interactive, graphical user interface (GUI) that facilitates the creation of a new AquaLogic Service Bus domain.You can use it to create the appropriate directory structure for your AquaLogic Service Bus domain, a basic `config.xml` file, and scripts that you can use to start the servers in your domain.

context variable

The AquaLogic Service Bus message context is a set of properties that holds message context as well as information about messages as they are routed through AquaLogic Service Bus. These properties are referred to as context variables—for example, service endpoints are represented by predefined context variables.

D

data transformation

The mapping and conversion of data from one format to another.

database administrators

Database administrators provide in-depth technical and operational knowledge about database systems deployed in an organization. They have experience in the following areas:

- Hardware and platform knowledge
- Expertise in managing all aspects of a relational database (RDBMS), including installation, configuration, monitoring, security, performance tuning, troubleshooting, and other administrative tasks

deactivation time

For non-versioned processes, the date and time the process is to become inactive.

delimiter

Sequence of bytes that denotes the end of a field or group of data.

delivery semantics

The reliable message service behavior: Best effort; Once and only once reliable messaging; At least once reliable messaging; or At most once reliable messaging.

deployment

Process of placing an application in a distributed environment and making it available for use. This process may include tasks such as the installation, configuration, and administration of various parts of the application.

deployment specialist

A role that is needed to deploy an integrated solution successfully. Deployment specialists coordinate the deployment effort. They are knowledgeable about the product features of BEA AquaLogic Service Bus. They provide expertise in designing the deployment topology for an integration solution, based on their knowledge of how to configure various AquaLogic Service Bus features on one or more servers. Deployment specialists have experience in the following areas:

- Resource requirements analysis
- Deployment topology design
- Project management

digital certificate

Digital certificates are electronic documents used to identify principals and objects as unique entities over networks such as the Internet. A digital certificate securely binds the identity of a user or object, as verified by a trusted third party known as a certificate authority, to a particular public key. The combination of the public key and the private key provides a unique identity for the owner of the digital certificate.

See digital signature, and public key.

digital signature

String of bits used to protect the security of data being exchanged by two entities by verifying the identities of those entities. Specifically, this string is used to verify that the data came from the sending entity of record and was not modified in transit. A digital signature is computed from an entity's signed data and private key. It can be trusted only to the extent that the public key used to verify it can be trusted.

document definition

Schema, such as a Document Type Definition (DTD), that specifies the prerequisites for a valid document. AquaLogic Service Bus document definitions are provided in XML DTDs. Each document definition includes two attributes: System ID (a DTD system identifier); and URL, which specifies the location of the document definition.

document exchange

Definition of the method through which a document is exchanged. A document exchange defines a business protocol and some run-time parameters.

See business process.

Document Type Definition (DTD)

File that defines the format (grammar and syntax) to be used for associated messages or files written in either XML or SGML. Specifically, a DTD file defines how the markup tags in an XML or SGML document should be interpreted by the application that is presenting that document, so that the document is displayed or printed as intended. The definition conforms to the rules of the Standard Generalized Markup Language (SGML). DTDs are part of the W3C XML specification.

See schema.

domain

A server domain includes one or more instances of WebLogic Server and may include WebLogic Server clusters.

See WebLogic Server domain.

dynamic binding

The process of setting control attributes through a combination of look-up rules and look-up values. In dynamic binding, the process developer specifies look-up rules, and the administrator defines the look-up values. This design pattern allows control attributes to be reconfigured for a running application, without redeployment.

dynamic client callback properties

These properties allow you to define the selector values and properties required to dynamically configure a callback to a client.

dynamic controls

Dynamic controls provide the means to dynamically set control attributes through a combination of look-up rules and look-up values. This process is known as dynamic binding. In dynamic binding, the process developer specifies look-up rules, and the administrator defines the look-up values. This design pattern allows control attributes to be reconfigured for a running application, without redeployment.

dynamic properties

For certain controls, you can use dynamic properties to override class-level annotations of the control.

E

EAR file

See Enterprise JavaBeans (EJB).

Echo Node

This is a node in a message flow that routes (or echoes) a message from the end of a request pipeline to the start of a response pipeline. The message is not routed from the proxy service to another service. It stays within the message flow. See message flow.

EJB

See Enterprise JavaBeans (EJB).

element

A unit of XML data. An element can enclose other elements.

encoder

Component that transforms a message, as necessary, to support the required business protocol, and then forwards the message to the transport service.

encryption

Process of algorithmically scrambling data to prevent (or hinder) unauthorized disclosure, while still preserving access to the original data by authorized users. To read an encrypted file, a recipient must have access to a secret key or password that enables the recipient to decrypt it. Unencrypted data is called plaintext; encrypted data is referred to as ciphertext.

encryption certificate

An encryption certificate is used to encrypt and decrypt messages.

endpoint

The transport URL for a service. See Web Services Description Language (WSDL).

endpoint binding

Binds an endpoint URL to the router that implements it. See Web Services Description Language (WSDL).

Enterprise JavaBeans (EJB)

Java API that defines a component architecture for multitier client/server systems. Specifically, the EJB specifies an architecture for the development and deployment of object-oriented, distributed, enterprise-level applications. Applications written using the EJB architecture are scalable, transactional, and secure.

entity

Something that exists independently as a particular and discrete unit. Persons, corporations, and objects are examples of entities.

envelope type

The packaging format for a message. Examples are SOAP11, SOAP12. See also Web Services Description Language (WSDL).

error count

For HTTP event generators, the number of errors since the error counter was last reset or the server was last restarted. The number is the total across all channel rules (an error directory is configured for each channel rule).

error directory

The file system directory to which you write a file if there is a problem reading it or publishing its contents to the Message Broker channel.

error handler

An error handler in AquaLogic Service Bus is a pipeline that allows you to perform actions such as logging, transformation, and publishing to handle errors appropriately.

error reset time

For HTTP event generators, the time the error counter was last reset.

exception

A field that displays the exception content for an aborted or frozen instance.

exception path

The definition of how exceptions are handled within a business process or a portion of a business process. Exception paths can be associated with individual nodes, a group of nodes, or with the entire business process (global). When an exception is thrown, an exception handler associated with the node on which the exception occurs is executed first. If no exception path exists for the node, or if the exception path for the node throws an exception, the exception is caught by an exception handler on a group in which the node is contained. If an exception path on a group does not catch or handle the exception, it is caught by the global exception handler. An exception path associated with a Start node defines the global exception handler for a process.

execution thread pool

The execution thread pool controls the number of threads that can execute concurrently on WebLogic Server. A setting that is too low results in sequential processing and possible deadlocks. A setting that is too high results in excessive memory consumption and may cause thrashing. Set the execution thread pool high enough so that all candidate threads run, but not so high that performance is hampered due to excessive context switching in the system. The number of execute threads also determines the number of threads that read incoming socket messages (socket-reader threads). This number is, by default, one-third of the number of execute threads. A number that is too low can result in contention for threads for reading sockets and can sometimes lead to a deadlock.

eXtensible Markup Language (XML)

Metalanguage (a language for describing languages) that you can use to define customized markup languages. It is composed of a subset of standardized general markup language (SGML). XML facilitates the development of user-defined document types and the creation of programs that can use data from documents of such types. It is rapidly becoming a universal standard for defining, validating, and sharing data formats and documents. Because XML is text-based (that is, it is not written in binary format), and it uses syntax rather than

binary markers to organize data, it can be deployed across heterogeneous and potentially incompatible systems and platforms.

eXtensible Stylesheet Language (XSL)

Language for specifying the format of an XML document.

eXtensible Stylesheet Language Transformations (XSLT)

XML language designed for transforming one XML document into another. An XSLT document, or stylesheet, describes data transformations that are to be performed on nodes of an XML document. Using XSLT, an XML document can be transformed into a variety of text formats, such as XML, HTML, and PDF.

F

file event generator

Polls for files in file systems (local directory or FTP server) and publishes the contents (or a reference to an archived location) to Message Broker channels as XML or binary objects. File pattern matching, as well as other handling criteria, are specified in the channel rules for the event generator.

firewall

Software that monitors traffic between an internal network and the Internet, and that regulates the type of network traffic that can enter and leave the internal network. A firewall can be connected to the Internet or set up within a company's network to prevent unauthorized access to the network. Firewalls protect information on computers and information that is being carried over the network. Firewalls use various types of filters to prevent access, including limiting the types of protocols allowed and restricting access from network nodes by IP addresses and DNS node names.

Format Builder

The BEA Format Builder tool allows you to create descriptions of non-XML data records. Format Builder allows you to describe the layout and hierarchy of the non-XML data so that it can be transformed to or from XML. You can launch Format Builder from the Eclipse development environment.

G

global events

Events such as start process, end process, suspend, and resume.

H

hash function

A message digest algorithm used for the acknowledgement message.

high availability

High availability is one of the goals when deploying AquaLogic Service Bus solutions. A deployment must be sufficiently available and accessible, with provisions for failover in the event of hardware or network failures.

hostname

The mail server to poll.

HTTP control

Provides outgoing HTTP access to WebLogic Workshop clients through a business process.

HTTP event generator

The HTTP event generator is a servlet, which takes HTTP requests, checks for the content type, and then publishes the messages to Message Broker channels.

I

identity

Set of unique security attributes assigned to a principal. No two identities of principals may be identical. Principals may have several different kinds of identities, each of which must be unique.

instance

A software component in an active state. For example, a Java object is an instance of a Java class. Similarly, a WebLogic Server instance is the active state of a WebLogic Server configuration.

integration

Ability of applications to share information or to process independently by requesting services and satisfying service requests. In a well-integrated system, each part has a purpose, and the parts combine effectively to achieve the purpose of the overall system.

invalid

As used in the AquaLogic Service Bus Console, a schema is invalid when one or more of the locations for schemas or WSDLs included by the current WSDL is not specified or is not valid. To resolve an invalid schema or WSDL, click Invalid in the table.

J

Java database connectivity (JDBC)

JavaSoft specification for Java access to relational databases, published by Sun Microsystems, Inc.

Java Message Service (JMS)

Standard API for accessing enterprise messaging systems. An enterprise messaging system, also referred to as Message-Oriented Middleware (MOM), provides a reliable, flexible service for the asynchronous exchange of critical business data and events throughout an enterprise. JMS adds a common API and provider framework for developing portable, message-based applications in the Java programming language. Messaging systems are often used in enterprise applications to communicate with legacy systems, or for communication between business components running in different environments or on different hosts.

Java Naming and Directory Interface (JNDI)

The Java Naming and Directory Interface (JNDI) is an API for directory services. It allows clients to discover and lookup data and objects via a name and, like all Java APIs, is independent of the actual implementation. Additionally, it specifies a service provider interface or SPI that allows directory service implementations to be plugged into the framework.

JDBC

See Java database connectivity (JDBC).

JDBC Connection Pools

Java Database Connectivity (JDBC) enables Java applications to access data stored in SQL databases. To reduce the overhead associated with establishing database connections, WebLogic JDBC provides connection pools that offer ready-to-use pools of connections to a DBMS. JDBC connection pools are used to optimize DBMS connections. You can tune WebLogic Integration performance by configuring the size of JDBC connection pools. A setting that is too low results in delays while WebLogic Integration waits for connections to become available. A setting that is too high results in slower DBMS performance.

JMS

See Java Message Service (JMS).

JMS service account

The service account to use for the JMS server connection. See Java Message Service (JMS).

JMS event generator

Polls for messages on JMS queues or topics and publishes the messages to Message Broker channels. Filters (message selectors) can be defined to control which messages are picked up from the JMS queue or topic. Property name and value matching, as well as other handling criteria specified in the channel rules, control which messages are published.

JNDI service account

The service account to use for JNDI lookups.

K

keystore

An in-memory collection of private key and trusted certificate pairs. The information is protected by a passphrase, such as a password, a credit card number, Personal Identification Number, or some other form of personal identification information.

keystore location

In process configuration, the location of a keystore. See keystore.

keystore password alias

In process configuration, the password alias for a keystore. See keystore.

keystore type

In process configuration, the type of keystore. See keystore.

L

log file

File containing descriptions of the events that occur during an operation. Log files are updated frequently during an operation and are useful for reviewing system operations and errors.

log message

Notification of a particular occurrence that is recorded in a local log. BEA products generate four types of log messages, based on the level of severity of the occurrence being reported: fatal, error, warning, and info. Each log message is accompanied by a timestamp.

M

managed bean (MBean)

1) An MBean is a concrete Java class that is developed per JMX specifications. It can provide getter and setter operations for each management attribute within a managed resource along with additional management operations that the resource makes available. MBeans that expose the configuration data of a managed resource are called Configuration MBeans, while MBeans that provide performance metrics and other information about the run-time state of a managed resource are called run-time MBeans.

2) A Java object that provides a management interface for an underlying resource. An MBean is part of Java Management Extensions (JMX).

3) In WebLogic Server, MBeans provide information about a resource's configuration as well as its run-time state.

See security provider.

managed servers

In a domain, server instances other than the Administration Server are referred to as Managed Servers. Managed Servers host the components and associated resources that constitute your applications—for example, JSPs and EJBs. When a Managed Server starts up, it connects to the domain's Administration Server to obtain configuration and deployment settings.

Managed Server Independence (MSI) mode

A Managed Server runs in Managed Server Independence (MSI) mode if it cannot connect to the Administration Server during startup. The mode enables it to retrieve its configuration by reading configuration and security files directly.

management data

Management data consists of trading partner profiles, service definitions, and service profiles.

MBean

See managed bean (MBean).

message

An abstract, typed definition of the data being communicated. See also message context and message flow.

message context

The AquaLogic Service Bus message context is a set of properties that holds message context as well as information about messages as they are routed through AquaLogic Service Bus. These properties are referred to as context variables—for example, service endpoints are represented by predefined context variables. AquaLogic Service Bus also supports user-defined context variables. The message context is defined by an XML Schema.

message count

The number of messages delivered to a channel.

message-driven beans

Message-driven beans consume messages from distributed destinations. A number of message-driven beans are deployed on each WebLogic Integration destination. They are bound to the physical destination in the server on which they are deployed (server affinity). The pool size of these message-driven beans can be increased as needed to support customer environments that experience high message volume.

message flow

Defines the implementation of a proxy service. Message Flows can include pipeline pairs and the following nodes: Start, Route, Echo, Branch.

Message Format Language (MFL)

An XML language created by BEA that describes the native representation and hierarchy of non-XML data. MFL is an XML description of non-XML data. MFL documents contain the schema that describes and constrains the content of non-XML data. For example, data coming from COBOL copybooks and C structure definitions. (MFL files are created using the Format Builder and end in the .mfl extension.)

metadata

Data used to indicate the purpose, meaning, or location of other data. Provides a means to query and match content with users by allowing a system such as the content management system to retrieve content, based on the metadata that describes the content.

MFL

See Message Format Language (MFL).

mixed type service

A service is defined as a mixed-type service in AquaLogic Service Bus when it is one that can accept messages containing data with a mixture of types: XML, MFL, text, untyped binary.

multithreading

Ability of an operating system to execute different parts of an application, called threads, at the same time, allowing the application to perform multiple tasks simultaneously.

N

namespaces

Provide a way to distinguish between duplicate XML element and attribute names in XML documents and XML Schemas.

node

In AquaLogic Service Bus, icons that represent the components of a business process. Nodes represent actions, decisions, or the exchange of information.

node transitions

Events generated by each node (a start node event and an end or abort node event).

O

operation

An abstract description of an action supported by a service.

P

parallel paths of execution

Parallel branches of execution in a business process are logically parallel; physically the branches are executed serially by the business process engine. Business Processes benefit from this logical parallelism when communication with external systems can involve waiting for responses from those external systems. While one branch of execution is waiting for a response, another branch of execution in the parallel flow can progress.

Parallel branches are synchronized only at their termination points. A join condition is defined at the termination of multiple branches. It specifies how the termination of branches terminates the overall parallel activity.

performance

Performance is one of the goals when deploying AquaLogic Service Bus solutions. A deployment must deliver sufficient performance at peak and off-peak loads.

persistence

Process that saves information or state in a resource, such as a file or database, that would otherwise be transient. You can set the persistence level of the start node to always, never, or on overflow.

perspective

In Eclipse, **Perspectives** define the initial set and layout of views in the Workbench window. They provide a set of functionality aimed at accomplishing a specific type of task or working with specific types of resources. The XQuery Transformation Perspective is one of the perspectives provided with the *BEA XQuery Mapper* plug-in.

pipeline

A pipeline is a named sequence of stages representing a non-branching one-way processing path. Pipelines are typed into one of three categories:

- Request
- Response
- Error

AquaLogic Service Bus message flows define the implementation of proxy services. Message Flows can include zero or more pipeline pairs: request and response pipelines for the proxy service (or for the operations on the service) and error handler pipelines that can be defined for stages, pipelines, and proxy services. Pipelines can include one or more stages, which in turn include actions.

pipeline binding

Binds the pipelines to a set of logical binding points. There are various logical binding points (inbound request, inbound response, operation X request, and so on).

pipeline pair node

The pipeline pair node is a node in a message flow that ties together a single request and a single response pipeline into one top-level element. A pipeline pair node can have only 1 direct descendant in the message flow tree. During request processing, only the request pipeline is executed when visiting a pipeline pair node. When reversing the path for response processing, only the response pipeline is executed. See message flow.

PKI credentials

PKI (Public Key Infrastructure) credentials used by one or more proxy services are encapsulated by proxy service providers. Different PKI credentials (private-key/certificate pairs) for different purposes can be assigned to a proxy service provider. Credentials are created outside of sessions and associated with resources that are already activated. A proxy service provider can have one or more of the following credentials:

- TLS/SSL client authentication credential
- Digital signature credential
- Encryption credential
- Web Services Security X509 Token

polling interval

How often to poll a specified directory, in terms of days, hours, minutes, and/or seconds.

port

In AquaLogic Service Bus this is a single **endpoint** defined as a combination of a binding and a network address. Ports define the instance specific details, including transport (identified by a URL) and binding. A collection of ports define a service. The WSDL port is local to a WSDL file.

port number

The port number identifies the type of port. For example, port 80 is used for HTTP traffic.

port type

In AquaLogic Service Bus this is an abstract set of operations supported by one or more endpoints. Defines the abstract interface of a service independent of the instance specific details. The Port Type is local to a WSDL file.

post read action

Specifies what the event generator does with a message after it has been read. The default is Delete.

private key

Encryption/decryption key known only to the party or parties that exchange secure messages. It is called private because it must be kept secret from everyone but the owner.

See public key.

process authorization policy

The role(s) authorized to invoke process methods (client requests). All methods in the process inherit the role(s) specified in the process authorization policy. If the process authorization policy is not defined, everyone is authorized.

projects

Projects are non-hierarchical, disjoint, top-level grouping constructs. All AquaLogic Service Bus resources (for example, services, WS-Policies, WSDLs, XQuery transformations and so on) reside in exactly one project. Projects and folders provide classification and easy-browsing in a domain with a very large number of entities.

property name

For a JMS event generator, the field that displays the name of a required JMS property.

property value

For a JMS event generator, the field that displays the value of a required JMS property.

protocol

1) Set of rules that govern the format and timing of messages sent and received over a communication link. TCP/IP is an example of a network protocol.

2) Set of rules that are followed by two systems for the purpose of communicating and exchanging information.

proxy server

1) Server that sends requests to another server for processing. WebLogic Server supports proxying of HTTP requests with its HTTPProxyServlet. You can proxy to an instance of WebLogic Server from Netscape and Microsoft Internet Information Server (IIS) through WebLogic Server's Netscape Server Application Programming Interface (NSAPI) and Internet Server API (ISAPI) plug-ins. The use of a proxy server is invisible to the end user.

2) Server that allows trading partners to communicate across intranets or the Internet without compromising security.

proxy service

A service implemented by the message flow you configure in AquaLogic Service Bus. See also message flow and business service.

proxy service provider

An organization that provides services that can be consumed by WebLogic Service Bus. From a security perspective, proxy service providers hold a set of credentials that their services use to securely communicate with other services (proxy or external).

public key

Value provided by a certificate authority as an encryption key that, combined with a private key, can be used to effectively encrypt messages and digital signatures. The key is called public because it can be made available to anyone. Public key cryptography is also called asymmetric cryptography because different keys are used to encrypt and decrypt the data.

publish

Identify a target service for the message and configure how the message is packaged and sent to that service.

publish table

A publish table is a set of routes wrapped in a switch-style condition table. It is a short-hand construct that allows different routes to be selected based upon the results of a single XQuery expression.

Q

query

A self-contained section of XQuery code that can run in an XQuery engine to process XML data. See XQuery.

R

read limit

The maximum number of messages to read per polling sweep. Valid values are 0 or greater.

remote client

A client that is located on a machine outside the domain. Also called a Workstation client. See client.

reporting data policy

A process property that helps you to control the management of tracking data. It sets or verifies the reporting data policy for each process:

- On indicates that the instance data is transmitted to the reporting database if the reporting data stream is enabled. If the reporting data stream is disabled, no processes data is transmitted, regardless of the policy set.
- Off indicates that the instance data is not subject to transfer to the reporting database, even if the reporting data stream is enabled (that is, the data is only purged).
- Default indicates that the system default reporting data policy is used.

reporting data stream

A system property that helps you to control the management of tracking data. It enables or disables the reporting data stream. If the reporting data stream is enabled, the specified reporting database is populated by a near real-time data stream.

resource

A resource is an AquaLogic Service Bus entity (for example, business services, policies, WSDL's, MFL files, proxy services, proxy service providers, schemas, service accounts, WS-policies, XQuery transformations, XSLT transformations).

retry count

The number of times a message should be retried in case of failure. The default is 0.

retry interval

The time interval before a message is resent following a timeout waiting for a message acknowledgement.

role-based authorization

Authorization involves granting an entity permissions and rights to perform certain actions on a resource. In role-based authorization, security policies define the roles that are authorized to access the resource. In addition to the built-in roles that are associated with certain administrative and monitoring privileges, security policies that control access to resources can be configured from the AquaLogic Service Bus Console. You can configure policies that define the role required to invoke process operations and policies that define the roles required to execute services and subscribe for events on an application view. Once the roles required for access are set, the administrator can map users or groups to the roles as required.

roll back

To terminate a transaction in such a way that all resources updated within a transaction revert to their original state.

rollback

Event that ends a transaction and nullifies or undoes all changes to resources that were specified during that transaction.

route node

The route node is a node in a message flow that is used to perform request/response communication with another service. It represents the boundary between request and response processing for the proxy. When the route node dispatches a request message, request processing is considered finished. When the route node receives a response message, response processing begins. The route node itself has support for conditional routing as well as outbound and response transformations. See message flow.

S

scalability

1) An application's ability to satisfy a range of demands. A scalable application can continue to meet availability and performance requirements as client demand increases. A WebLogic Server cluster increases the scalability of the applications it hosts with features such as load-balancing and failover.

2) Scalability is one of the goals when deploying AquaLogic Service Bus solutions. A deployment must be capable of handling anticipated increases in loads simply by using additional hardware resources, rather than requiring code changes.

schema

Defines the structure and content of data. For example, a database schema defines the tables and other elements of a database instance while an XML Schema defines the structure and content of an XML document. Schemas in AquaLogic Service Bus can be valid, invalid, or unresolved. See also valid, invalid, and unresolved.

schema name

The unique name assigned to the XML schema.

schema namespace

The namespace used to qualify any of the definitions included in the XML schema.

security

1) Set of mechanisms available to prevent corruption or theft of data.

2) Security is one of the goals when deploying WebLogic Integration solutions. A deployment must sufficiently protect data from unauthorized access or tampering.

security policy

1) Definition of the type of protection that must be provided for a given system. Many types of security policies, such as access control and auditing, are available.

2) Set of rights or permissions granted to a principal based on the context of a request.

3) In a WebLogic Server environment, an association between a WebLogic resource and a user, group, or security role that protects the WebLogic resource against unauthorized access. A WebLogic resource has no protection until you assign it a security policy. You can assign security policies to an individual WebLogic resource or to components of the WebLogic resource.

security provider

Software modules that can be "plugged into" a WebLogic Server security realm to provide security services (such as authentication, authorization, auditing, and credential mapping) to applications. A security provider consists of run-time classes and MBeans, which are created from SSPIs and MBean types, respectively. Security providers are WebLogic security providers (provided with WebLogic Server) or custom security providers developed by customer developers or third-party vendors.

security realm

In an AquaLogic Service Bus environment, a domain for a set of security features that provide access to ACLs, names of principals, and related security services. A realm provides a context in which the range of security operations and other security-related information governing AquaLogic Service Bus users is defined. It determines how users are authenticated. The security features available for AquaLogic Service Bus are built on the security functionality provided by WebLogic Server.

See security provider, user, and WebLogic resource.

server certificate

Required for SSL (Secure Sockets Layer Protocol) for the WebLogic Server instance on the local machine.

See certificate and digital certificate.

server migration

Occurs when a server fails for an extended duration, and it becomes necessary to migrate to another, operational managed server.

server protocol

The server type for an email account. The default is POP3.

service

A service is a collection of related endpoints (see endpoint). Service represents a business process that is either offered by a local trading partner, or a business process that is being called via a control on a remote trading partner. In the case of a service offered by a local trading partner, this element directly corresponds to a Web service or process type deployed in the local domain. In the case of a service called by a local trading partner, the service corresponds to a control in the local domain that is used to invoke the remote service. Service profiles specify the protocol binding and URL endpoints for the local and remote trading partners that offer and call the service.

service account

A resource whose only content is a username and password. A Service Account acts as an alias for the username and password, which is stored in Credentials. You can use a Service Account to find out who references a resource.

Service Level Agreements

A service level agreement (SLA) specifies a performance target for a process. It is typically an internal or external commitment that a process will be executed within a specified period of time.

service name

The service URI or control name. A logical name for a service and its failover alternative for referring to it independent of its transport.

service URI

The process URI. If there are multiple versions of the process, a version number is appended.

service type

A user-defined scheme for assigning a type to a service (for example, a purchase order service). This is useful for management and searches only.

signature certificate

A signature certificate is used for digitally signing messages.

signature required

Indicator of whether or not the message is digitally signed using the signature certificate of the trading partner sending the message (true or false).

signature receipt required

Indicator of whether or not the message is acknowledged by a digitally signed receipt acknowledgement message using the signature certificate of the trading partner sending the acknowledgement (true or false).

Simple Object Access Protocol (SOAP)

A lightweight XML-based messaging protocol specification that defines a uniform way of passing XML-encoded data. In also defines a way to perform remote procedure calls (RPCs) over HTTP.

SSL protocol

Secure Sockets Layer Protocol. The SSL protocol provides secure connections by supporting two functions:

- It enables each of two applications linked through a network connection to authenticate the other's identity
- It encrypts the data exchanged between the applications for each trading partner using SSL.

stage

The element of a proxy service's message flow in which you group the actions that define the handling of messages as they flow through a proxy service. See also action.

start node

The first node in a message flow; it represents the starting point of the message flow. A message flow can be started as a result of receiving a request from a client, as the result of receiving a message from a Message Broker channel to which the business process is subscribed, or by a choice of one of several events.

See message flow.

statistics

In the AquaLogic Service Bus Console, this allows administrators to view summary statistics that reflect the level of activity.

synchronous

Attribute of a method that returns a value. The term is derived from the fact that a caller to a synchronous method must wait for the called method to return: the caller is synchronized with the method.

See asynchronous.

synchronous business process

A business process which is invoked by a Client Request with Return node as the Starting Event. A synchronous business process may contain asynchronous operations, but they must be added later on in the flow, after the synchronous operation has completed. You cannot put stateful logic inside a synchronous operation.

See business process.

synchronous method

A method that returns a value. A caller to a synchronous method must wait for the called method to return so that it is blocked from performing other work while it waits for the server to respond. The caller is synchronized with the method.

See synchronous web service.

synchronous web service

An architecture in which the client is synchronized with the server. A synchronous Web service must wait for each operation to complete before beginning the next.

See synchronous method, asynchronous web service.

SOAP

See Simple Object Access Protocol (SOAP).

SLA

See Service Level Agreements.

T

test browser

WebLogic Workshop provides a browser-based interface with which you can test the functionality of your business process. Using the Test Browser, you play the role of the client, invoking the business process's methods and viewing the responses.

thread

Part of a program that can execute independently of other parts of the program.

transaction

An atomic unit of work that modifies data. The code for a transaction encloses one or more program statements, all of which either complete or roll back. Transactions enable multiple users to access the same data concurrently.

See action.

transformation

See data transformation.

transformation file

A file which stores transformation methods, which in turn are used to invoke queries. Transformation files are sometimes called DTF files because of their .dtf extension.

transformation map

Transformation maps describe the mapping between two data types. AquaLogic Service Bus supports data mapping using either XQuery or the eXtensible Stylesheet Language Transformation (XSLT) standard. XSLT maps describe XML-to-XML mappings, whereas XQuery maps can describe XML-to-XML, XML to non-XML, and non-XML to XML mappings.

transformation method

A method which invokes queries.

transport authentication or security type

The authentication approach for a transport. Examples are basic, one-way SSL, two-way SSL. This is not defined in the WSDL. For proxy services, the transport URL is different for different transport authentication types.

transport protocol

The transport protocol for sending and receiving messages. The default is HTTP.

transport protocol version

The version of the transport protocol, which is used for sending and receiving messages.

transport type

The type of the transport. Examples are HTTP(S), JMS, and so on. The transport URL is different for different transport types.

types

A container for data type definitions using a specific type system (for example XML Schemas). A WSDL document uses the **Types** elements as part of its definition of a network service.

U

uniform resource locator (URL)

Character string used to identify and locate resources over the Internet. The current URL guidelines are available from the W3C.

unresolved

As used in the AquaLogic Service Bus Console, a schema is unresolved when all of the locations for schemas or WSDLs included by the current WSDL are specified. However, the location for one or more of the nested schemas or WSDLs (schemas or WSDLs subsequently included by the included WSDLs or schemas) is not specified or is not valid.

untyped service

A service is defined as an untyped service in AquaLogic Service Bus when it is one that can accept messages containing any kind of payload.

URL

See uniform resource locator (URL).

user

An entity that can be authenticated. A user can be a person or a software entity, such as a Java client. Each user is given a unique identity within a security realm. For more efficient security management, BEA recommends adding users to groups. A group is a collection of users who usually have something in common, such as working in the same department in a company. Users can be placed into groups that are associated with security roles, or be directly associated with security roles.

users

Users are entities that can be authenticated. Each user is assigned a unique identity within the realm. To make it easier to administer a large number of users, users can be organized into named groups.

user groups

To make it easier to administer a large number of users, users can be organized into named groups. Groups can in turn be assigned membership in other groups.

V

valid

As used in the AquaLogic Service Bus Console, a schema is valid when all of the locations for schemas or WSDLs included by the current WSDL are specified and are valid. Furthermore, all of the locations for nested schemas or WSDLs (schemas or WSDLs subsequently included by the included WSDLs or schemas) are specified and are valid.

W

Web service

A language-independent, platform-independent, self-describing code module that applications can access via a network or the Internet. The application can have the service's location hard-coded or can locate it using UDDI (Universal Description, Discovery, and Integration). Because the service is self-describing, the application can determine which functions are available and how to call them.

Web Service Policy (WS-Policy)

Web Service Policy Framework (WS-Policy) is an extensible XML-based framework that extends the configuration of a Web service with domain specific assertions and specifies the requirements, expectations, and capabilities of Web services. In AquaLogic Service Bus, one of the primary uses of WS-Policy is configuration of message-level security in proxy and business services using security policy statements. Because the WS-Policy specification has not been standardized, AquaLogic Service Bus supports a WebLogic Server-proprietary format that tracks the WS-Policy standard.

Web Services Description Language (WSDL)

An XML-based specification markup language used to formally describe a Web service (in the case of AquaLogic Service Bus, a proxy or an external service) so that the service can be called by diverse clients. A WSDL is necessary if two different online systems need to communicate without human intervention. A WSDL is used to describe what a Web service can do, where it resides, and how to invoke it. A WSDL document uses the following elements to define network services:

- Types
- Message
- Operation
- Port Type
- Binding
- Port

- Service

A WSDL can be valid, invalid, or unresolved. See also valid, invalid, and unresolved.

WebLogic component

WebLogic Server implements J2EE component technologies, which include servlets, JSP Pages, and Enterprise JavaBeans. To build a WebLogic Server application, you must create and assemble components, using the service APIs when necessary. Components are executed in the WebLogic Server Web container or EJB container. Web components provide the presentation logic for browser-based J2EE applications. EJB components encapsulate business objects and processes.

WebLogic Configuration Wizard

An application that assists you in creating and configuring domains to support the development and deployment of WebLogic Integration solutions.

WebLogic Integration

A single, comprehensive, standard-based solution for connecting applications, databases, enterprise information systems, business processes, and trading partners. WebLogic Integration provides a versatile and easy to use development environment for rapidly delivering business integration with simplified production and management.

WebLogic resource

Entities that are accessible from WebLogic Server, such as events, servlets, JDBC connection pools, JMS destinations, JNDI contexts, connections, sockets, files, and enterprise applications and resources, such as databases.

See entity.

WebLogic security provider

Any of the security providers that are supplied by BEA as part of the WebLogic Server product. These providers were developed using the Security Service Provider Interfaces (SSPIs) for WebLogic Server.

WebLogic Server

BEA's Web application server that provides services for building and running e-commerce applications using the Java language and the J2EE platform (from Sun Microsystems, Inc.). Standards-based and written in pure Java, WebLogic Server enables you to assemble, deploy, and manage distributed Java applications. It manages application components and DBMS connections to ensure security, scalability, performance, and transaction integrity. It also provides support for distributed component services and enterprise database access, including Enterprise JavaBeans (EJB), RMI, distributed JavaBeans, and JDBC. All the

components of BEA WebLogic Platform - WebLogic Integration, WebLogic Portal, and WebLogic Workshop - run on WebLogic Server.

WebLogic Server Administration Console

1) HTML-based graphical user interface used by an administrator to configure and monitor WebLogic Server from a browser.

2) A Web application hosted by the administration server in a domain. You access the console from any machine on the local network that can communicate with the administration server through a Web browser. The console allows administrators to perform WebLogic Server configuration and monitoring tasks without having to learn the JMX API or the underlying management architecture.

WebLogic Server administrators

WebLogic Server administrators provide in-depth technical and operational knowledge about WebLogic Server deployments in an organization. They have knowledge of the hardware and platform, and experience managing all aspects of a WebLogic Server deployment, including installation, configuration, monitoring, security, performance tuning, troubleshooting, and other administrative tasks.

WebLogic Server cluster

See cluster.

WebLogic Server domain

A logically related group of WebLogic Server resources that you manage as a unit. A domain always includes at least one WebLogic Server instance called the Administration Server. The Administration Server serves as a central point of contact for server instances and system administration tools. A domain may also include additional WebLogic Server instances called Managed Servers.

See WebLogic resource.

WSDL

See Web Services Description Language (WSDL).

WS-Policy

See Web Service Policy (WS-Policy).

X

XML

See eXtensible Markup Language (XML).

XML Schema

File that specifies the structure, content, and semantics of XML documents. Replaces the XML DTD. An XML Schema definition is more specific than a DTD, and provides much finer-grained control over content. (The XSD files that contain XML Schemas end in the .xsd extension.)

See schema.

XQuery

A language defined by the World Wide Web Consortium (W3C) that provides a vendor independent language for the query and retrieval of XML data.

See data transformation.

XQuery Mapper

The data mapper (formerly a tool in WebLogic Workshop 8.1) provided as a plug-in to Eclipse. From this graphical representation of a data transformation, the XQuery Mapper generates an XQuery. The generated query is invoked during AquaLogic Service Bus run time to transform data from XML<->XML and XML<->MFL.

XSD

XSD files, or XML Schema Definition files, contain a schema that describes XML data. Importing an XSD file into a WebLogic Workshop application allows you to use imported XML data types in transformations.

See XML Schema.

XSL

See eXtensible Stylesheet Language (XSL).

XSL Transformations (XSLT)

Specification, from the World Wide Web Consortium (W3C), for transforming XML documents from one document definition format to another. Available at www.w3c.org.

XSLT

See eXtensible Stylesheet Language Transformations (XSLT).

Y

(No terms begin with the letter "Y.")

Z

(No terms begin with the letter "Z.")