

Glossary

A B C D E F G H I J K L M N O P Q R S T U V W X

A

adaptive layer (ADP)

The interface between the Web Request Broker and an HTTP server.

administration PL/SQL Agent

The *PL/SQL Agent* used by the administration server to manage *PL/SQL Cartridge* database access.

administration server

A collection of special instances of Web Application Server components that a Web Application Server administrator uses to configure and maintain the Web Application Server.

Apache

A public domain Http server derived from NCSA. Currently the most popular HTTP server on the Internet with an estimated 40% market share (units).

applet

Program that is dynamically imported into Web pages or applications as needed. Generally, applets are imported from the Internet or another computer network and then executed within a Web browser on a local machine.

application

One or more program modules used to achieve a specific result. Applications can be nested within other applications. For example, an application to control a company's inventory could consist of various SQL*Forms applications for input of data, and various SQL*ReportWriter applications to produce hard copy output of summary data.

application developer

A person who writes programs that the Web Application Server, Java, and/or the Oracle 7 database server executes.

authentication

The process of proving the identity of a principal. There are three basic ways that you can be authenticated to a computer:

- Tell the computer something you know (such as a password).
- Show the computer something you have (for instance, a card key).
- Let the computer measure something about you (for example, your thumbprint).

authorization

The evaluation of security constraints to message or request. Authorization uses specific criteria to determine whether the request should be filled. The criteria are authentication and restriction. See also authentication, restriction.

authorization broker

The portion of the Authorization Server that responds to and evaluates authorization requests.

authorization provider

An object that specifies all of the realms used to implement a particular security scheme.

authorization server

An object that encapsulates the authorization performed against WRB cartridges. An Authorization Server consists of one Authorization Broker and several Authorization Providers.

B**base directory**

The directory to which URL-encoded pathnames addressed to this port are to be appended. For example, if the base directory is `/public_html`, the URL `http://www.blob.com/file` is converted to `/public_html/file`.

basic authentication

An authentication scheme that does not encrypt passwords when sending them over the Internet. Basic authentication is much less secure than digest authentication. See also [digest authentication](#) and [authentication](#).

bytecode

A form of data executable by any platform on which Java runs. Java code is generally interpreted in two steps. First, it is converted from source code (the Java code as written) to bytecode. When the bytecode is executed, it is converted to the native code for the platform in question.

C**CA**

See [certifying authority \(CA\)](#).

cartridge

A program, run on the server by the [Web Request Broker \(WRB\)](#), that interfaces to the web server (Oracle or otherwise) through the [WRB API](#). A given cartridge will have a varying number of execution instances called WRBXs. For more information see [WRB execution instance \(WRBX\)](#).

certificate

A formatted data item signed by a trusted party to attest to the validity of the item's information. Public key certificates use a CA's signature to attest that the enclosed public key belongs to the principal identified by the enclosed name.

certifying authority (CA)

A trusted third party that signs a certificate. In the Oracle Security Server, the Oracle Security Repository serves as the certification authority.

CGI

See [common gateway interface \(CGI\)](#).

character set

A set of characters used to write a human language or group of languages, as defined by RFC 1521.

class

The structure and behavior (data and code) that is shared by a set of objects.

class hierarchy

The logical relationship between classes that represents inheritance between superclasses and subclasses.

client

A user, software application (such as a Web browser), or computer that requests the services, data, or processing of another application or computer (the "server"). In a two-task environment, the client is the user process. In network environment, the client is the local user process and the server may be local or remote. See also [server](#).

content service

A framework for a document repository where documents can be stored, retrieved, and shared easily by the cartridges that can publish these documents on the Web.

common gateway interface (CGI)

The industry-standard technique for running applications on a web server. Oracle Web Application Server supports this standard, but also offers the Web Request Broker as a superior alternative.

common logfile format

An industry standard format for transaction log files. The Web Listener uses this format to log transactions. See also info file.

common object request broker architecture (CORBA)

An industry standard for allowing code modules called "objects" to work together. Under CORBA, objects are managed by an Object Request Broker (ORB). See also Object Request Broker (ORB) and object-oriented programming.

configuration directory

A directory in which a Web Listener process stores its configuration file.

cookie

Information inserted by the server into the client's browser to track what the client has been doing. This can either expire when the user exits the browser or expire at the date the creator of the cookie specifies.

CORBA

See [common object request broker architecture \(CORBA\)](#).

D

database

A structured collection and management of information. The [Oracle Server](#) is a relational database, which is the prevalent type.

database access descriptor (DAD)

A set of values that specify how the PL/SQL Agent is to connect to the Oracle 7 Server to fulfill an HTTP request. Each PL/SQL Agent is associated with a DAD. The information in the DAD includes the username (which also specifies the schema and the privileges), password, connect-string, error log file, standard error message, and the language to be used.

data integrity

- a. [secure sockets layer \(SSL\)](#) - A mechanism that uses digital signatures to ensure that transmitted data is not tampered with.
- b. [relational database](#) - The set of mechanisms that ensure that references are valid and that concurrent operations do not corrupt the data.

default character set

The character set the Web Listener uses in interpreting a file that uses an unrecognized character set.

default DAD

The DAD [database access descriptor \(DAD\)](#) that the [PL/SQL Agent](#) uses when the configuration information in the agent does not specify a DAD.

default MIME type

The Multipurpose Internet Mail Extensions (MIME) type that the Web Listener uses in interpreting requested files of an unsupported MIME type. See also [MIME type](#).

digest authentication

An authentication scheme that encrypts passwords before sending them over the Internet, unlike basic authentication. See also [authentication](#) and [basic authentication](#)

digital signature

A “signature” attached to an electronic document that reliably identifies the author or sender, and guarantees that the document has not been tampered with.

directory access protocol (DAP)

An internet protocol for accessing X.500 directories.

directory indexing

The practice of returning a directory listing when a request URL resolves to a directory that does not contain the default initial file.

directory mapping

The practice of defining a virtual file system.

dispatcher

See [WRB Dispatcher](#).

document root

The file-system directory that serves as the root of the Web Listener's virtual file system.

domain-based restriction

A restriction scheme that allows only machines within specified DNS domains to access certain files. See also [restriction](#).

domain name service (DNS)

The mechanism that divides the Internet into separate, hierarchical groups called domains, identified by unique alphanumeric names, such as `us.oracle.com`. DNS identifies each computer within a domain by a unique host name. For example, a computer named `hal` in the `us.oracle.com` domain would be uniquely identified on the Internet as `hal.us.oracle.com`.

DNS resolution

The practice of determining a computer's DNS (Domain Name Service) host name from its IP address.

E**encapsulation**

The mechanism that binds code together with the data that it manipulates. Encapsulation provides a wrapper that keeps both the code and the data safe from outside intervention.

encoding

An algorithm used to alter a file's format, such as compression. You can use the Web Application Server manager to define the encodings that each Web Listener process recognizes.

encryption

The practice of scrambling (encrypting) data in such a way that only an intended recipient can unscramble (decrypt) and read the data. See also [public-key encryption](#) and [secret-key encryption](#).

error file

A file to which a Web Listener process logs errors. There is one error file for each Web Listener process.

exception

A runtime occurrence in PL/SQL or Java that requires special handling and may indicate an error.

F**file caching**

The practice of leaving files open (resident in memory) so the Web Application Server can provide them to clients quickly. You can use the Web Application Server Manager to specify files to be cached.

filename extension

A short alphanumeric suffix attached to a filename, following a dot “.” that represents the file’s format. The Web Application Server uses filename extensions to identify several kinds of file formats, including MIME types and encodings.

file protection

The practice of assigning an authentication or restriction scheme to control access to a specific file or group of files.

firewall

A machine that acts as an intermediary to protect a set of computers or networks from outside attack. A firewall can work either by acting as a proxy server that forwards requests, so that the request behave as though they were issued by the firewall machine, or by examining requests and attempting to eliminate suspect calls.

firewall machine

A computer that regulates access to computers on a local area network from outside, and regulates access to outside computers from within the local area network.

foreign key

One or more columns in one data source whose values refer to the primary key values in another data source. See also [key](#) and [primary key](#).

G**genreq**

A utility you can use to generate a request for a certificate. You can submit the generated request to a certifying authority (CA).

H**host name**

A character string that uniquely identifies a computer within a DNS domain.

hypertext markup language (HTML)

A format for encoding hypertext documents that may contain text, graphics, and references to programs, and references to other hypertext documents.

hypertext transfer protocol (HTTP)

The protocol that clients use to issue requests for documents to the Web Application Server.

HTTP header

A body of information that a browser sends along with a URL when requesting a Web page. It includes such information as the browser type and MIME types it understands.

HTTP request information

Information requested by a Java application from a Web application in the form of an HTTP header.

HTTP response information

Information supplied by a Java application to a Web application in the form of a series of print statements.

HTTPS (Secure HTTP)

A version of HTTP with provisions for secure data transmission. See [hypertext transfer protocol \(HTTP\)](#).

I**IDE**

See [integrated development environment](#).

identity based access control (IBAC)

The use of digital IDs to control access to a resource.

inheritance

The process by which one object acquires the properties of another.

intercartridge exchange (ICX)

A function of the WRB InterCartridge Exchange Service that allows an application in one cartridge to invoke another application in a different cartridge and retrieve output from it.

internet inter-ORB protocol (IIOP)

An internet protocol allowing objects on different ORBs to work together.

integrated development environment

A visual tool containing editors, debuggers, screen painters, object browsers etc.

image map

A graphic in a Web page that specifies several URLs, each associated with a specified region of the single image.

info file

A file to which a Web Listener process logs its transactions on a particular port. There is one info file for each port on which the Web Listener process accepts connections. The info file is in Common Logfile Format.

initial file

The name of the HTML file that the Web Application Server returns by default when a request URL specifies only a directory name.

IP address

A four-part number separated by periods that uniquely identifies a computer on the Internet; the number format is defined by the Internet Protocol (IP).

IP-based restriction

A restriction scheme that allows only machines within specified groups of IP addresses to access certain files. See also [restriction](#).

J**Java**

Language developed by Sun Microsystems and used by Oracle Web Application Server. This language is fully object-oriented, extremely portable, and optimized

for creating distributed applications on the Internet or other computer networks. Oracle Web Application Server can execute Java directly and can send Java programs called applets to the client's browser for execution there.

Java IDE

A third party Java integrated development environment used for developing and debugging non Web Server portions of a Java application.

Java Interpreter

A program that interprets and executes Java bytecode independently of a Web browser.

Java Virtual Machine (JVM)

See [virtual machine \(VM\)](#).

Java Web Developer's Toolkit

A group of Java classes provided with the Oracle Web Application Server SDK to make it easier to interface to the Oracle Server and generate dynamic HTML using Java.

JDBC

A third-party package that provides connectivity to a database from within Java.

just-in-time (JIT) compilation

The process by which the Java Virtual Machine keeps a copy of native code that it generates from bytecode the first time a method is encountered. Subsequently, when the method is run, the JIT uses the native code without having to interpret the method, resulting in a boost in performance.

K**key**

security - A large number used in encrypting data. See also [private key](#) and [public key](#).

relational database - See also [primary key](#) and [foreign key](#).

key pair

A pair of mathematically related keys (a public key and a private key) associated with a user, used in public-key encryption.

L**Language identifier**

A two-character alphanumeric string that identifies a human language, as defined by RFC 1766.

light-weight directory access protocol (LDAP)

A subset of DAP used by Netscape's Directory Server.

Listener

The portion of the Web Application Server that receives HTTP requests. You can use the Oracle Web Application Server Manager to create multiple Web Listener processes and assign each to accept connections on a different set of ports.

Listener configuration

A set of parameters that control the behavior of a Web Listener process. You use the Web Application Server Manager to maintain listener configurations.

Listener name

An alphanumeric string no more than six characters long that uniquely identifies a Web Listener process.

Listener PID file

A one-line text file that contains the process ID of a Web Listener process.

LiveHTML

Oracle's extension of the industry-standard Server Side Includes (SSI) functionality. LiveHTML files supplement HTML with instructions that the LiveHTML Cartridge executes before transmitting the page to the browser. These instructions specify material that is to be included in the generated page. The material can include other Web pages, environment variables, and the output of programs executed on the server. The programs may, but need not, conform to the CGI standard.

local database

A database that runs on the same machine as the Web Application Server.

log file directory

A directory in that the PL/SQL Cartridge stores log files for a particular PL/SQL Agent.

logger service

A function of the WRB that allows cartridges to write error, warning, or other useful messages to a central log repository (a file system or a database).

M**machine hostname**

The actual machine name or an identifier, such as `www.machine_name`.

memory mapping

The practice of mapping an open file directly into the address space of a Web Listener process. This speeds file access, and allows multiple clients to access the same file simultaneously without making a separate copy for each client.

method

A procedure (function) defined within a class that provides an interface to the data in the class.

MIME

See [*multi-purpose internet mail extensions \(MIME\)*](#).

multi-node installation

A component-based installation.

multi-purpose internet mail extensions (MIME)

A message format used on the Internet to describe the contents of a message. MIME is used by HTTP servers to describe the type of file being delivered.

MIME type

A file format defined by the Multipurpose Internet Mail Extensions standard. Several RFCs define MIME (see <http://www.oac.uci.edu/indiv/ehood/MIME/MIME.html>).

N

national language support (NLS)

The set of mechanisms used to translate data between various languages and character sets.

NULL

- a. database - A marker in the database for the absence of data.
- b. database - The logical result of the comparison of a database NULL with any value.
- c. PL/SQL - A statement that functions as a place holder.

O

Object Request Broker (ORB)

An object management technology that complies with the [CORBA](#) standard. See also [object-oriented programming](#).

object-oriented programming

A method of programming that organizes a program around its data (objects) and a set of well-defined interfaces to that data.

Optimal Flexible Architecture (OFA)

A tool for maintaining administration and upgrading tasks. The basic concept of OFA is to separate data, configuration files, and executables.

Oracle RDBMS

Oracle Relational Database Management System. Same as the Oracle Server.

Oracle Server

A program for sophisticated high-level management of information. See also [database](#) and [server](#).

Oracle Web Agent (OWA)

A term from an earlier release of this product. OWA is now called the PL/SQL Cartridge. For the sake of compatibility, the string “owa” is still used in various places in the product.

ORACLE_HOME

Environment variable that indicates the root of the [Oracle Server](#) code tree.

overloading

Overloaded procedures and functions (in PL/SQL) or methods (in Java) have the same name but take different parameters and do similar but not identical things.

OWA

See [Oracle Web Agent \(OWA\)](#).

P

package

A group of PL/SQL or Java functions and procedures.

parsable file

A file located on the Web Application Server that contains instructions that the server interprets prior to transmission of the file as a Web page. This is part of the LiveHTML functionality. See also [LiveHTML](#).

PL/SQL

Oracle's proprietary extension to the SQL language. PL/SQL adds procedural and other constructs to SQL that make it suitable for writing applications.

PL/SQL Agent

A set of name-value configuration parameters that determines how and as whom an instance of the [PL/SQL Cartridge](#) connects to the [Oracle Server](#). The PL/SQL Agent includes information such as the [national language support \(NLS\)](#) parameters to use for the request and the DAD to use to connect to the database. The PL/SQL Agent to use for a given HTTP request is specified in the URL for that request.

PL/SQL Cartridge

A [WRB cartridge](#) that interfaces to the [Oracle Server](#). The cartridge can run stored procedures within the database and return dynamically generated pages that contain data from the database.

PL/SQL table

A data structure used in PL/SQL that is similar to a dynamic array. That is, it consists of a list of values and an index.

PL/SQL Web Toolkit

A bundle of PL/SQL packages, provided with the Oracle Web Application Server, that make it easier to generate HTML using PL/SQL. Applications written for either the PL/SQL Agent or the Java Interpreter can use these packages.

polymorphism

An object-oriented concept where “the same message sent to different objects results in behavior that’s dependent on the nature of the object receiving the message”. [This definition is taken from *The Java Language Environment, A White Paper*, found at http://java.sun.com/doc/language_environment/Object.doc1.html, copyrighted 1996 by Sun Microsystems, Inc.]

port

A number that TCP uses to route transmitted data to and from a particular program.

preferred language

The language the Web Listener uses when handling a request for a file available in more than one language, if the request does not specify a language. Language identifiers are defined by RFC 1766.

primary key

A unique identifier used in a relational database. A primary key uniquely identifies a row in a table of a relational database.

primary node

Where the WRB and configuration files are stored.

private key

A key used by a limited number of communicating parties to decrypt data encrypted with a public key. See also [public-key encryption](#).

privilege

The right to perform an action on the database. These can either be general (system privileges) or specific to particular database objects (object privileges). They can also be grouped into roles. See also [role](#).

proxy server

An HTTP engine, such as the Web Listener, that clients inside a firewall can use to access web sites outside the firewall.

public key

A key known to all users, used to encrypt data in such a way that only a specific user can decrypt it. See also [private key](#) and [public-key encryption](#).

public-key encryption

A form of encryption that uses a key pair (a public key and a private key) to encrypt and decrypt data.

Q**query string**

Optional portion of a URL that specifies parameters to be passed to some cartridge.

R**RC4, RC5**

Encryption algorithms that [RSA](#) has patented.

RDBMS

See [relational database management system \(RDBMS\)](#).

realm

A group of users and groups assigned by an authentication scheme to regulate access to specific files or directories.

relational database management system (RDBMS)

A computer software program such as the Oracle RDBMS, that manages relational databases. See also [Oracle RDBMS](#).

remote database

For the Web Application Server, a database running on a different machine from the Web Application Server, which can be accessed over the network.

remote-node installation

Allows you to specify which components of the Web Application Server (WRB, Listener or Cartridges) you want for a specific node.

restriction

A security scheme that restricts access to files provided by the Web Application Server to client machines within certain groups of IP addresses or DNS domains.

role

A group of database privileges that can be granted and revoked as a unit. Specific privileges can be granted and revoked from the role dynamically, and the role can be enabled or disabled dynamically for specific users.

routing

The process of directing data from one machine on the Internet to another by way of intermediate machines.

RSA

An Oracle partner supplying encryption algorithms for the Spyglass HTTP server and Web Request Broker.

S**schema**

The logical section of a database under the control of a given database user. The schema bears the name of the user that owns it. A schema is also a collection of table definitions.

secret-key encryption

A form of encryption that uses a single key both to encrypt and to decrypt a document. Secret-key encryption is much faster than public-key encryption, but is more vulnerable to attack.

secure sockets layer (SSL)

An emerging standard for secure transmission of hypertext documents over the Internet using secure HTTP (HTTPS).

security scheme

A type of authorization applied to HTTP requests. The Oracle Web Application Server supports the following security schemes: Basic Authentication, Digest Authentication, IP Address Restriction, and Domain Name Restriction.

server

A process that executes requests on behalf of another process (the client) whose main purpose is to interface to the user. There are two types of servers relevant to this product. The first is the Oracle Server, which is a *database* server dedicated to performing data management duties on behalf of clients using any number of possible interfaces. The other is the Oracle Web Application Server which is a *web* server dedicated to answering requests that come in through the HyperText Transfer Protocol (HTTP). The Web Application Server can connect to database servers.

server-parsable

See [parsable file](#).

server side includes (SSI)

Industry-standard term for LiveHTML. See [LiveHTML](#).

session key

A secret key used by SSL to encrypt data transmitted over a secure connection. The client generates the session key after the Web Application Server authenticates itself and communicates it to the Web Application Server using public-key encryption.

single-node installation

The installation of a Web Application Server on a single machine.

SJIS

A 16-bit character encoding scheme used in Japan.

socket

The combination of an IP address and a port number.

SQL

See [structured query language \(SQL\)](#).

SSI

See [server side includes \(SSI\)](#) or [LiveHTML](#).

SSL

See [secure sockets layer \(SSL\)](#).

stored procedure

A set of PL/SQL instructions that are stored in a database.

structured query language (SQL)

The internationally accepted standard for relational systems, covering not only query but also data definition, manipulation, security and some aspects of referential integrity. See also [PL/SQL](#) or, for a more complete discussion, [SQL](#).

subclass

A class that is derived from another class. The parent class is known as a superclass.

superclass

A class from which another class is derived.

T**table**

- a. HTML - A way of presenting information to the user.
- b. SQL - The basic way that data is structured, regardless of how it is presented to the user.
- c. PL/SQL - See [PL/SQL table](#)

transaction service

A WRB service that enables you to perform transactions that span several HTTP requests. The Transaction Service is based on the XA open model transactions defined by the X/Open Company.

transmission control protocol (TCP)

The underlying communication protocol that the Web Application Server and its clients use to communicate HTTP requests.

try... catch

A Java technique for handling exceptions.

U**UNICODE**

A 16-bit character encoding scheme supporting a large subset of characters found in both Western and Asian languages.

uniform resource locator (URL)

The text-string format clients use to encode requests to the Web Application Server.

user directory

The subdirectory of a user's home directory in which the Web Listener searches by default for files when the user's home directory appears in the request URL.

V**VARCHAR2**

A standard datatype of the Oracle Server. A variable-length string.

virtual machine (VM)

The mechanism the Java language uses to achieve its high portability. Java bytecode is executable by any Java Virtual Machine running on any actual machine. The VM converts the bytecode to the native code for the machine at hand.

virtual file system

A mapping that associates the pathnames used in request URLs to the file system maintained by the server's operating system.

virtual path

A path in the virtual file system.

virtual pathname

A synonym that the virtual file system maps to a file stored in the file system maintained by the host machine's operating system.

virtual reality modelling language (VRML)

The industry-standard description language for storing and delivering 3D information over the Internet. The intent of VRML is to allow users to define and interact with worlds that are modelled as three-dimensional entities, but are virtual constructs not actually tied to a physical location. There are a variety of tools and utilities for composing VRML worlds and viewing and exploring them within a web browser.

W**Web Application Server administrator**

The person in charge of configuring and running the Oracle Web Application Server.

Web Application Server Manager

A collection of utilities and HTML forms you can use to configure and maintain the Web Application Server installed on your computer.

Web Request Broker (WRB)

A CORBA-based mechanism for dispatching, load balancing, and adding third-party extensions that are independent of and work with a number of HTTP servers. This is the core of the Oracle Web Application Server architecture. The Web Request Broker passes HTTP requests that require the running of server programs to various processes (WRB Executable Engines or WRBXs) that continuously run and await such requests. The WRB also includes an open API, so you can run your own server programs under it. The WRB is a more efficient alternative to the industry-standard CGI, but it can process requests that use CGI environment variables.

Web Listener

See *Listener*.

wrapper

A Java class that encapsulates another kind of object, possibly external to Java itself, such as a PL/SQL package.

WRB

See *Web Request Broker (WRB)*.

WRB API

An open API used for writing server-side web applications using the Web Request Broker (WRB).

WRB Cartridge

A program that is executed on the Web Application Server using the WRB API.

WRB Dispatcher

The component of the WRB that distributes requests to running processes.

WRB execution instance (WRBX)

One of a pool of processes that the WRB maintains continuously, so that HTTP requests requiring the execution of programs are not slowed down by the performance cost of spawning a new process. WRBXs are associated with WRB Cartridges and are created and destroyed according to workload.

X**X.500**

ISO standard specification for an internet directory server.

X.509

ISO standard specification for digital IDs.