

**Introduction To
Oracle Web Services Manager**

Session #112

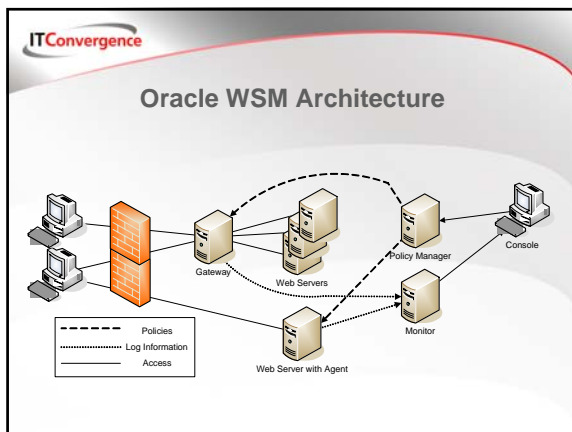


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Agenda

- ▶ Oracle WSM Architecture
- ▶ Oracle WSM Concepts & Components
- ▶ Oracle WSM Administration
- ▶ Oracle WSM Licensing & Distribution
- ▶ Configuring A New Service On A Gateway



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Oracle WSM Concept: Policy



- ▶ A policy is a rule that must be satisfied in order to access the web service.
- ▶ Multiple policies can be defined for each service.
- ▶ Some built-in policies are:
 - ▶ Log
 - ▶ LDAP Authenticate
 - ▶ Certificate Authenticate
 - ▶ Active Directory Authenticate

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
Oracle WSM Concept: Policy Pipeline



- ▶ A policy pipeline is an ordered set of policies that are applied to a request before allowing access.
- ▶ Policy pipeline templates can be created and stored to help standardize all pipelines and ease implementation of new services.
- ▶ A default policy pipeline is created for each new web service defined in WSM.

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Oracle WSM Component: Policy Enforcement Point (PEP)



- ▶ A policy enforcement point is similar to a network firewall—all access to the service must go through a PEP.
- ▶ WSM has two types of PEPs: gateways and agents.
- ▶ If a service is accessible directly (bypassing the PEP), then the PEP is ineffective.
- ▶ Architecting a secure solution requires solid design and planning.

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Oracle WSM Component: Gateway



- ▶ A gateway is a policy enforcement point that acts as a proxy for all incoming requests.
- ▶ Gateways can receive a request, review its contents and make decisions based on the request payload.
- ▶ Gateways are easy to implement since they require no application changes or awareness.
- ▶ Multiple gateways can be configured to allow scalability.

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Oracle WSM Component: Agent



- ▶ An agent is a policy enforcement point that is deployed in the application server with the application it protects.
- ▶ Sharing memory space with the application allows end-to-end security for encrypted payloads.
- ▶ Deployment is more complex as it requires integration with application server.
- ▶ Well-suited for situations involving sensitive data: healthcare, government, or finance.


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Oracle WSM Component: Policy Manager

- ▶ Policy manager is the “brain” of the WSM environment.
- ▶ Policy manager provides the administrative console interface and sends policy pipeline updates to policy enforcement points.
- ▶ It is the first component configured in a new installation.
- ▶ It allows grouping of services so that changes can be applied to many services at once.
- ▶ Everything depends on it or interacts with it.

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Oracle WSM Component: Monitor



- ▶ Monitor is like the “mother” and “big brother” of the WSM environment.
- ▶ Monitor collects statistics on response time, number of requests, and is generally concerned with how everything is behaving.
- ▶ It is also the destination for most log messages generated by log policies and allows for centralized reporting on log messages.
- ▶ Monitor provides the information needed to determine if SLAs have been met.

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Oracle WSM Component: Registry Database

- ▶ It's Oracle, after all. Of course there's a database.
- ▶ The database stores metadata about the policies, performance metrics, log messages, and environment configuration.
- ▶ Default installation includes Oracle Lite as the repository.
- ▶ Supported databases include Oracle 10g Lite, MS SQL Server, and Oracle 10g.

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Oracle WSM Administration



Oracle Web Services Manager


Enforcement Points

ID	Name	Type	Details	Info	Events	Policy	Help
CO003002	node1-agent	ServerAgent					
CO003003	local-gateway	Gateway					

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Oracle WSM Administration: Policy Management


- ▶ The policy management section is where administrators can:
 - ▶ Add & modify enforcement points
 - ▶ Manage services
 - ▶ Manage pipeline templates



The screenshot shows a sub-menu titled "Policy Management" with three items: "Manage Policies", "Register Services", and "Pipeline Templates".

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Oracle WSM Administration: Operational Management




The screenshot shows a dashboard titled "Operational Management" for Component: local-gateway, Service: ALL SERVICES, from 3/7/06 7:32 PM to 8:32 PM. It features three sets of gauges: Overall Statistics (Overall Latency: 953), Security Statistics (Authorization Failures: 0%), and Service Statistics (Service Latency: 531). Each gauge has a scale from 0% to 100% and a corresponding numerical value.

- ▶ Statistics can be queried based on time and/or service.
- ▶ Alarm rules can alert you when necessary.

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Oracle WSM Administration: Business Analysis

- ▶ Graphs and charts can be generated using the business analysis tools.
- ▶ Users can get near real-time reporting on business performance.
- ▶ Report generation can be triggered by events that occur in other WSM components.
- ▶ This functionality is useful, but is not necessary for WSM to function.




The screenshot shows a sub-menu titled "Business Analysis" with items: "Document Types", "Biz Reports", "Rules", "Trigger Rules", "Schedule Rules", "My Reports", "Summary Reports", and "Biz Alerts".

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Oracle WSM Administration: Tools

- ▶ The tools section of the console is one of the most useful.
- ▶ The test engine allows you to easily interrogate web services that are remote or ones offered via a WSM gateway.
- ▶ While only for testing purposes, the test engine is extremely useful.
- ▶ Ping engine keeps historic information about service availability and response time.



The screenshot shows a sub-menu titled "Tools" with items: "Test Engine", "Ping Engine", "Ping Scheduler", and "Ping Data".

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Oracle WSM Administration: Administration

- ▶ The support sub-menu provides version and build information useful when engaging Oracle Support.
- ▶ The groups/roles sub-menu provides a management interface for managing groups, roles, and their mappings.
- ▶ Groups can be employed to allow delegated management of individual WSM services and components.



The screenshot shows a sub-menu titled "Administration" with items: "Support" and "Groups/Roles".

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Oracle WSM Licensing & Distribution

as of March 7, 2006

- ▶ WSM is available as a standalone product.
- ▶ WSM is also a component of the Oracle Identity Management Suite.
- ▶ Named user or processor licensing options are available.
- ▶ OTN offers WSM 4.0.3 for download on the Oracle Application Server download page (for version 10.1.2.0.2).

Configuring A New Service On A Gateway

- ▶ Navigate to Policy Management -> Register Services
- ▶ Choose the Services link for the gateway you wish to use.
- ▶ Click the "Add New Service" button



Service Details	
Service Name (*):	Collaborate06-test
Service Version (*):	1
Service Description:	Test service for Collaborate 06
WSDL URL:	http://localhost:3115/gatewa/um/methods-delayed-quotes.wsdl
Service Protocol(*):	<input checked="" type="radio"/> http(S) <input type="radio"/> JMS(SLS) <input type="radio"/> JBM MQSeries <input type="radio"/> Custom

Configuring A New Service On A Gateway


- ▶ The Service Name and Service Version are arbitrary. If the service has a WSDL URL, it is the easiest way to configure a service.
- ▶ The bottom of this dialog allows you to configure group privileges for this service.
- ▶ The next screen presented depends on the protocol chosen and allows advanced protocol configuration.

Configuring A New Service On A Gateway

Service ID	Service Name	Version	Description	View Details	Delete/Revoke Service	Edit
SID0003002	stock quote	1	stock quote service			
SID0003003	airport info	1				
SID0003004	umethods-stock-quotes	1				

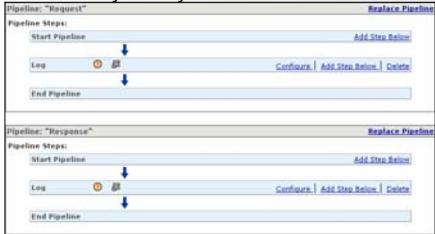
- ▶ Once the service is added, click on the "View Details" magnifying glass to get the new service URL.
- ▶ Note the URLs listed here so that we can create a test for them.
- ▶ Navigate to Tools->Test Engine->Create New Test

Details of Service: "SID0003004"	
Client Access URLs	
Service URL:	http://localhost:3115/gatewa/services/SID0003004
Service WSDL URL:	http://localhost:3115/gatewa/services/SID0003004/wsdl



Configuring A New Service On A Gateway

- ▶ These are the policy pipelines for the test service. They are the default pipelines. Click on Edit->Modify Policy to view this information.



Configuring A New Service On A Gateway

Define test: 000000 new Test

Test Description

Test Name (*): Collaborate06-presentation-test

Test Description:

- ▶ Enter a Test Name & click Next

Enter data for test: 000000 Collaborate06-presentation-test Step 2 of 2

Select Service

Service WSDL URL: http://localhost:3115/gatewa/services/SID0003004/wsdl

Check operations

Select Operation

Select the operation to call for the service: getQuote

Auto generate

- ▶ Enter the WSDL URL and click Check operations.
- ▶ Choose getQuote and click Auto generate.

Configuring A New Service On A Gateway

Populate Service Parameters (method : getQuote)				
Name	Path	Type	Value	
symbol	getQuoteRequest_symbol	string	ORCL	

- ▶ This is a stock quote service, so when you Auto generate, it will require you to enter a stock symbol (ORCL=Oracle).
- ▶ Finally, click the Finish button (no username/password required for this test).
- ▶ Back on the Test Engine main page, click on Run Test next to the test just created.
- ▶ Then, click the Run Test button on the test details screen.

