

IBM Software Demos The Front-End to SOA

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Today, businesses large and small are using software based on a service-oriented architecture, or SOA, to drive innovation, optimize business processes, and improve efficiency. IBM WebSphere Portal plays a fundamental role in providing the front-end to an SOA-based application infrastructure.

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A key element of the SOA value proposition involves the assembly of reusable components into composite applications. The flight query application shown in this demonstration illustrates how portlets, executing inside WebSphere Portal, provide simplified user interaction with multiple back-end services that comprise a composite application.

<TRANSITION TO PORTLET FACTORY>

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The components that make up the flight query application are created using IBM WebSphere Portlet Factory, a development tool based on the Eclipse standard that allows developers of any skill level to construct, change, deploy, and maintain custom applications.

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WebSphere Portlet Factory enables developers to use integrated “builders” to create portlets and other application components. Builders help automate development and mask the complexity of underlying programming. They provide functionality ranging from simple page controls to robust integration with Lotus Domino, SAP, PeopleSoft, Siebel, or any JDBC-compliant database.

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Organizations can use these “out-of-the-box” builders, or create customized versions to support their own specific business processes.

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Here, a developer uses WebSphere Portlet Factory to work with a web service and the portlet-based front-end to that service. The web service, created using the integrated builders, invokes an SAP function that queries airline flight information.

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The first part of the service is an “SAP Function Call” definition named “GetFlights”. A properties file is used to specify the SAP login credentials

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required by this function, and the connection can easily be tested. This definition includes one of several available SAP function calls.

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A Service Definition is also created for the new web service. Options are set here to generate the Web Services Description Language, or WSDL, and to make the service public. To facilitate testing of new function, Testing Support is also added.

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The final part of the web service is the Service Operation. This component is associated with a pre-defined Data Service, and will support data access operations.

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This new service can be tested within WebSphere Portlet Factory. By entering an airline abbreviation and clicking Submit, the developer receives a list of flights for that airline from the back-end web service. He may also view the underlying WSDL.

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In this SOA example, an integrated test interface was used. However, to deliver this web service to the general user population, a more formalized front-end must be created.

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To do this, our developer uses the “SAP_consume” model in WebSphere Portlet Factory. Within this Consumer model we reference the SAP web service by specifying the appropriate Provider model. Also defined here are the layouts of the web pages that will receive user input and display query results. This approach of separating the business process - represented by the web service - and the user interface, is at the heart of a service-oriented architecture.

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To complete the front-end, the “Portlet Adapter” definition is created. This will enable a new “Flight List” portlet to be generated from the SAP Consumer model.

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As before, testing new function is made easy with WebSphere Portlet Factory. The interface to the web service is now a portlet, as a result of the recent changes.

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Finally, to ensure that the latest updates will be deployed to WebSphere Portal, the “war” file containing the new portlet is rebuilt.

<TRANSITION TO TEMPLATES>

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On WebSphere Portal, the new portlet is part of an application template. An application template is a reusable component from which custom composite applications can be created.

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The “SAP Flight Template” contains 2 portal pages. On the “Flights” page, there are two portlets – the Flight List portlet created earlier in WebSphere Portlet Factory, and a Flight Detail portlet. These portlets have been configured to dynamically share information, and form the basis for the composite application.

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To create a new application, users simply click the “New” button and select the appropriate template.

<TRANSITION TO PORTAL>

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Once deployed, the new composite application can be accessed concurrently by multiple portal users. Here, a user submits a query and views the results returned by the web service. And by selecting a flight in the Flight List portlet, he sees additional information displayed in the Flight Detail portlet.

<TRANSITION TO WBSE/DASHBOARDS>

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With IBM WebSphere Portal as an SOA foundation, companies can deploy composite products that are focused on solving specific business needs – helping to deliver immediate return on investment. In this example, we see IBM Workplace for Business Strategy Execution, a product that helps organizations better manage and execute business objectives by translating them into concrete, measurable steps aligned across an organization.

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Here, a Scorecard view enables an executive to track and measure key performance indicators as measurable targets and milestones.

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For any given objective, users may want to drill down and view a customized set of detailed operational data. Integrated dashboards provide this capability.

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On this dashboard, the executive uses the interactive graphs to find the customers who are the least satisfied with their products.

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Simply by selecting a Customer from the list in the “Customer Satisfaction” portlet, the executive can view additional information in the “Customer Detail” portlet, including current opportunities, recent bookings, and the latest support issues.

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The WebSphere Portal framework enables businesses to easily extend their SOA environment with software such as Workplace for Business Strategy Execution, to address evolving needs.

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IBM software helps companies take a business-centric approach to SOA, with a focus on people. This approach is about enabling people to interact with application and information services that support business processes, and promoting efficient, collaborative, real-time decision-making and execution.

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