



INTEGRATING VANTAGE VIA WEB SERVICES



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Synopsis

This app note describes how you can integrate Vantage with other programs via Web services. It also describes how to configure the Vantage Notify action in Web services workflows, and the requirements that Vantage places on Web services.

Web services enable Vantage to interact with other applications over HTTP via SOAP. Web services are implemented using the Notify action in Workflow Designer (which are processed by the Vantage Communicate service). Vantage enumerates and queries the Web service to utilize the functionality provided.

When you implement a Web services-based workflow, Vantage sends and receives parametric data for methods exposed by the Web service. Vantage places this interoperability in the hands of the workflow designer, providing a listing of the Web service methods, and their input and output parameters, with the ability to exchange data.

When Vantage interrogates a Web service, it scans all the methods that the service presents. If a method contains suitable parameters, it is exposed for use by Vantage. However, if a method contains unsupported parameters, it is ignored.

In order for a Web service to interact with Vantage, the methods of the service must not use composite or nested data structures, or use variable parameter collections. The Vantage Web service user interface (in Workflow Designer) presents methods in such a way that it is meaningful and usable to the workflow. If a Web service contains parameters which are nested or represent a variable collection, it can be difficult to visualize - so these types of structures are not supported.

For example, it is difficult to present a static visualization of a Web service that expects to receive a list of integers for the purpose of sorting them. The Web service is valid, but in the context of a workflow where interaction with the service is not dynamic, providing a suitable user interface component for this method is not feasible.

The Vantage Web service is a powerful feature you can use to achieve higher levels of integration, efficiency, and workflow flexibility and automation.

Using the Web Service Notify Action

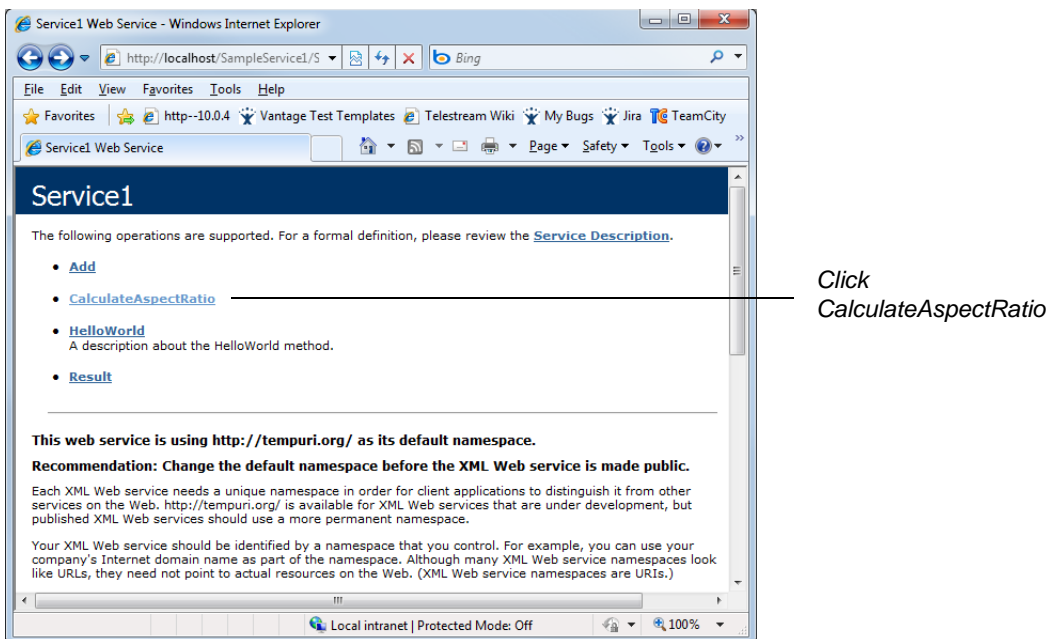
The easiest way to understand how Vantage utilizes Web services is to present a detailed example of how Vantage uses a Web service to calculate an aspect ratio based on submitted width and height values. To use the Web service, Vantage calls the Web service, provides the values, and consumes the result returned by the service.

Note: When using Web Services, Vantage can only bind to simple data types that match variable types in Vantage (i.e. String, Number, etc.). Complex Web service data types are not supported.

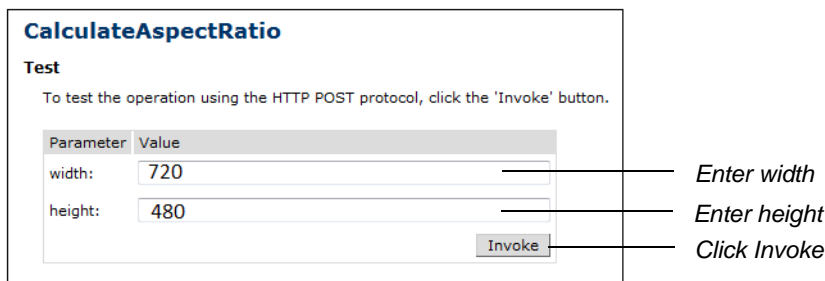
Web Service Example

Web services can be tested prior to implementation using Internet Explorer. One of the benefits of Internet Explorer is that it graphically depicts the methods published by a Web service. The figure below depicts the Web service we'll integrate with Vantage in this example. CalculateAspectRatio is the method integrated into the Vantage workflow.

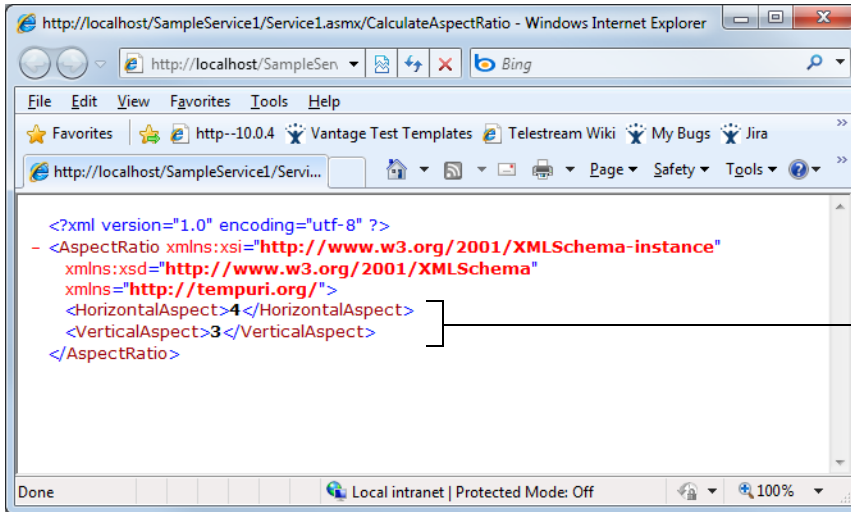
Click CalculateAspectRatio to display the data entry page:



In the CalculateAspectRatio data entry page, two parameters (width and height) are expected. To test this method, enter 720 for width and 480 for height, then click Invoke:



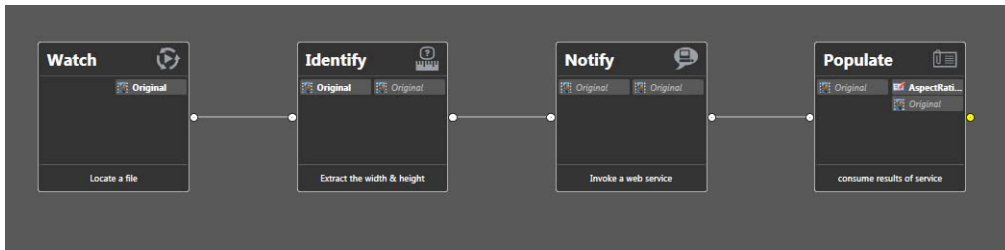
When you invoke the CalculateAspectRatio method, it accepts the width and height values, and calculates the resulting aspect ratio - returning it to Vantage in an XML file:



Width and height values returned

Vantage Workflow Example

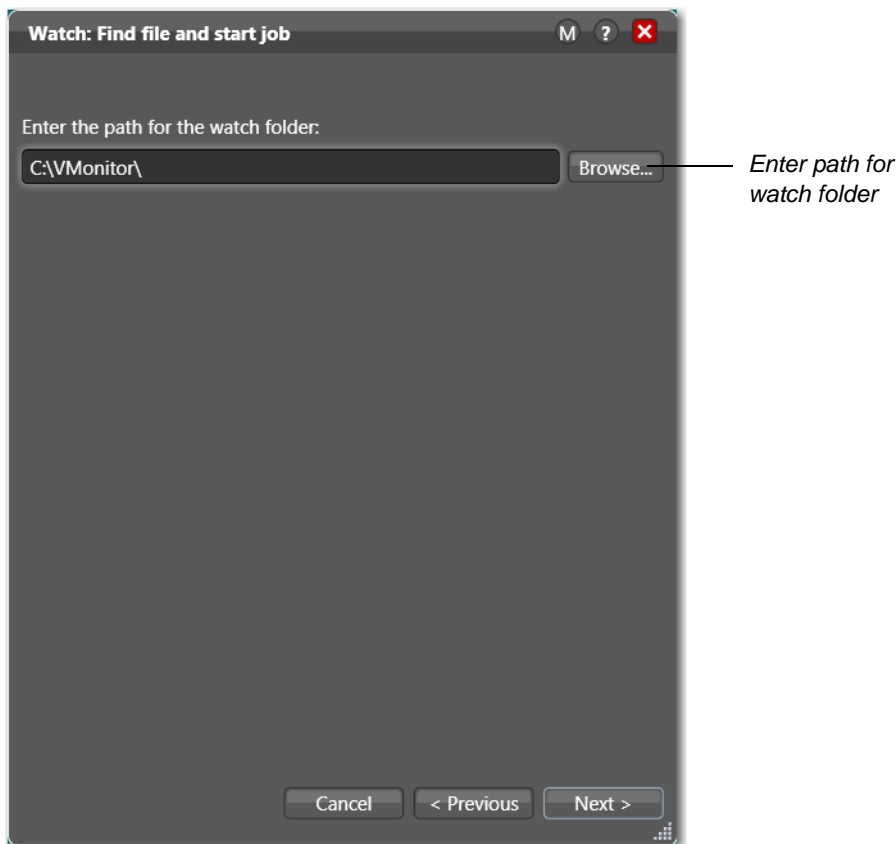
To integrate the Service1 Web service in Vantage, create this simple workflow:



Create Watch, Identify, Notify, and Populate actions. This workflow locates a file, uses the Identify action to extract the width and height, interacts with the Web service described in the Notify action, and populates a label with the results of the Web service's CalculateAspectRatio method.

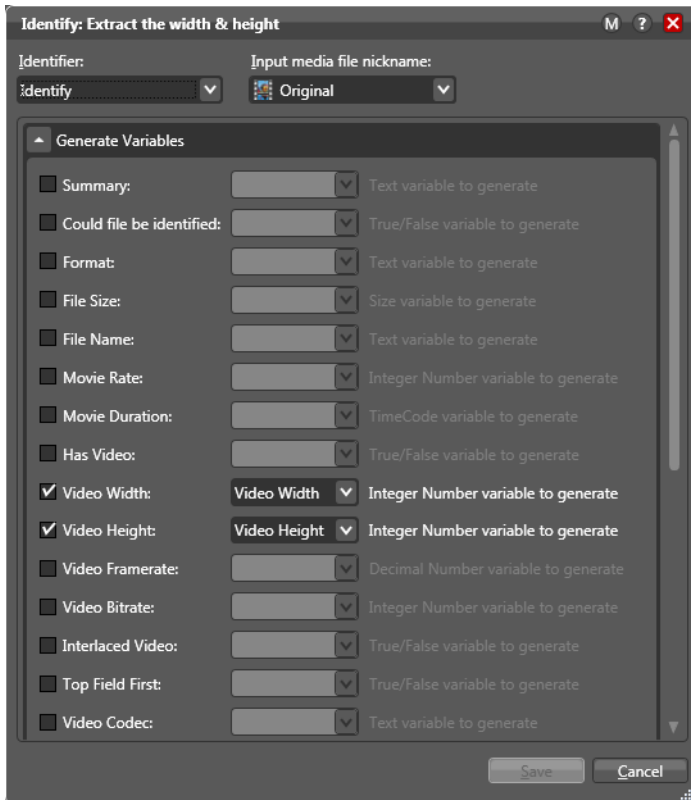
Configuring The Watch Action

To configure the Watch action enter its inspector. Navigate through the configuration windows selecting Any Media, Windows File System, and then entering the path for the watch folder:



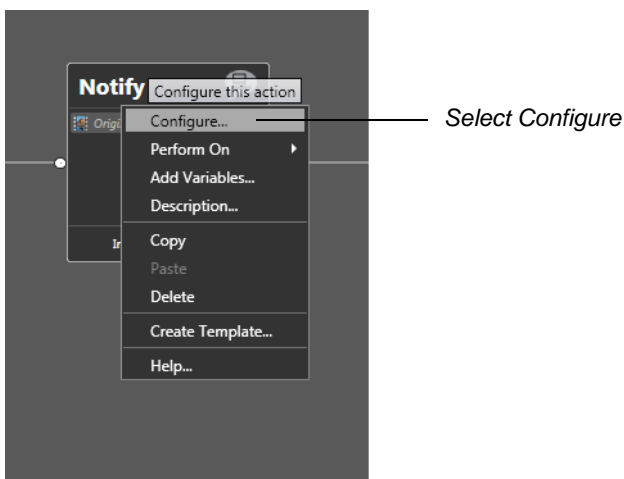
Configuring The Identify Action

Configure the Identify action to extract the width and height of any input file it processes. It extracts the width and height, then saves these values in two variables: Video Width and Video Height. These variables are defined in the Identify action in order to make them available in the subsequent Notify action:

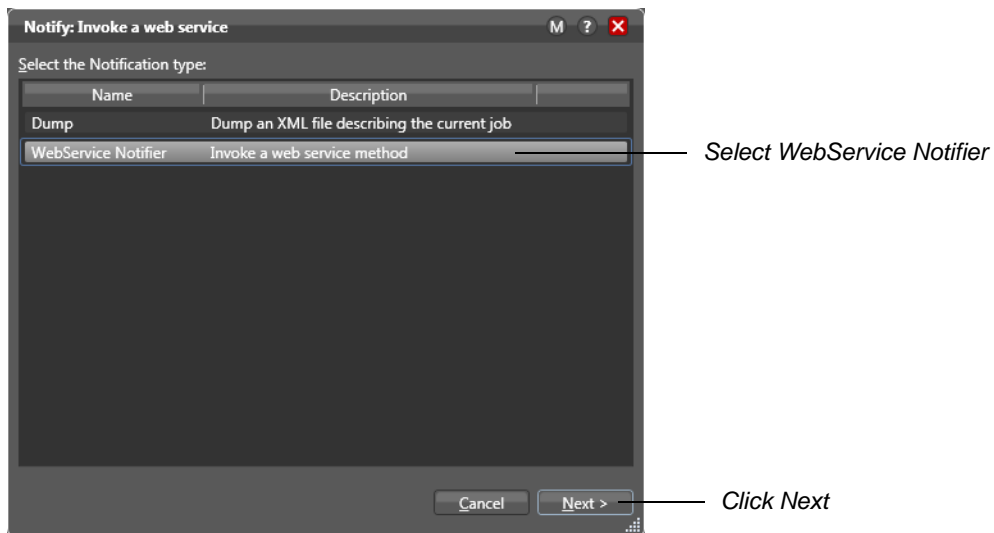


Configuring The Notify Action

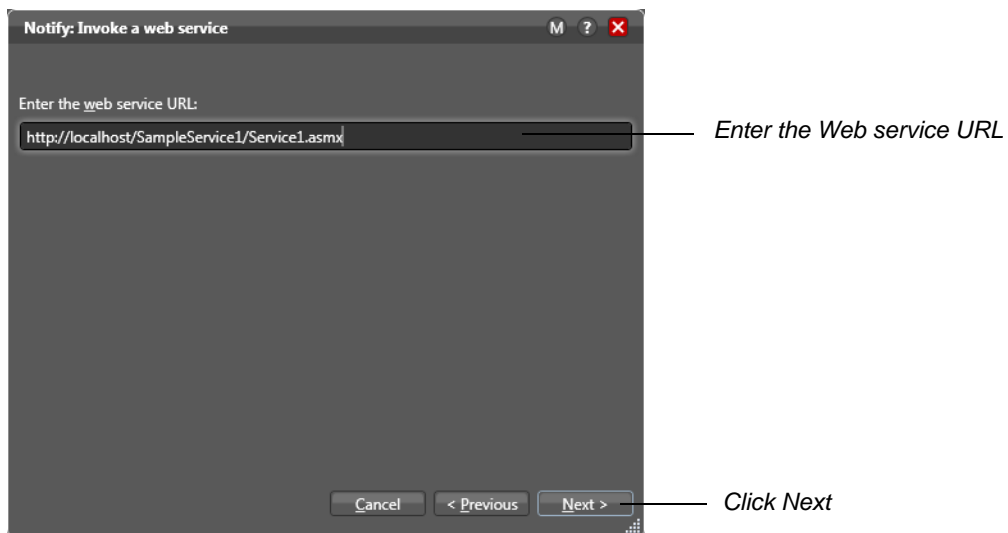
To incorporate the Web service into the Vantage workflow, open the Notify action inspector by right-clicking Notify and selecting Configure from the menu:



When the inspector window displays, select the *WebService Notifier* and click Next:

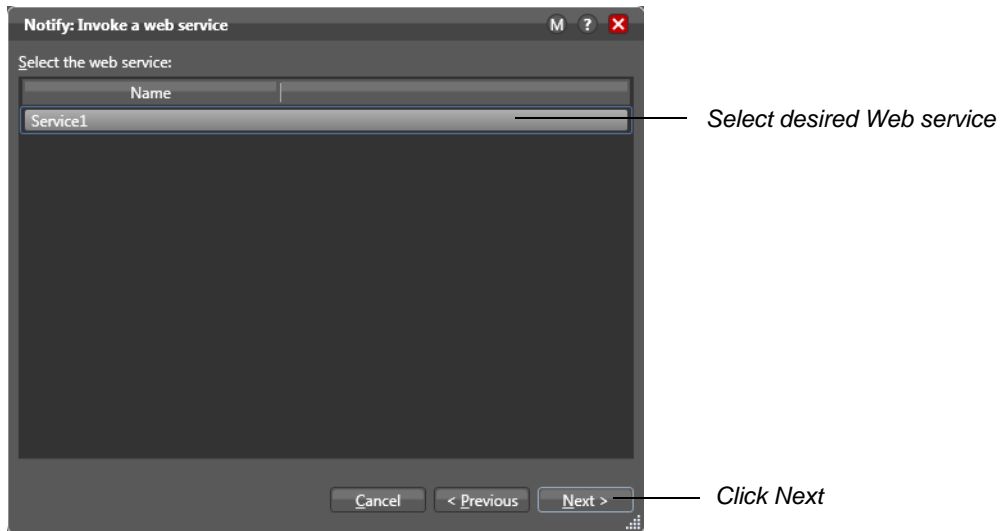


Enter the URL for the Web service (without the WSDL query tag) and click Next:

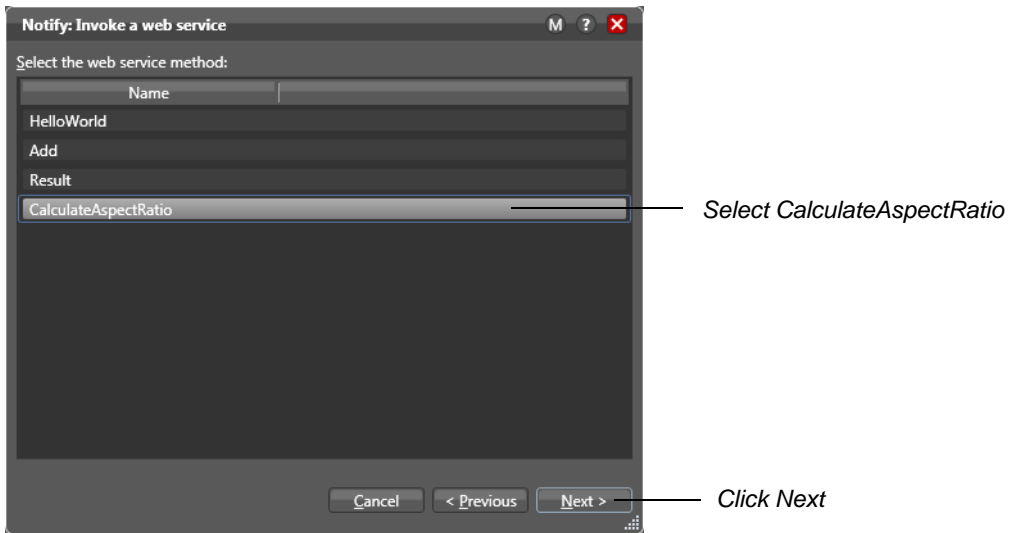


Note: The Web service you're integrating into a workflow must be deployed before you click Next, because it must execute the Web service to allow you to configure the Notify action appropriately.

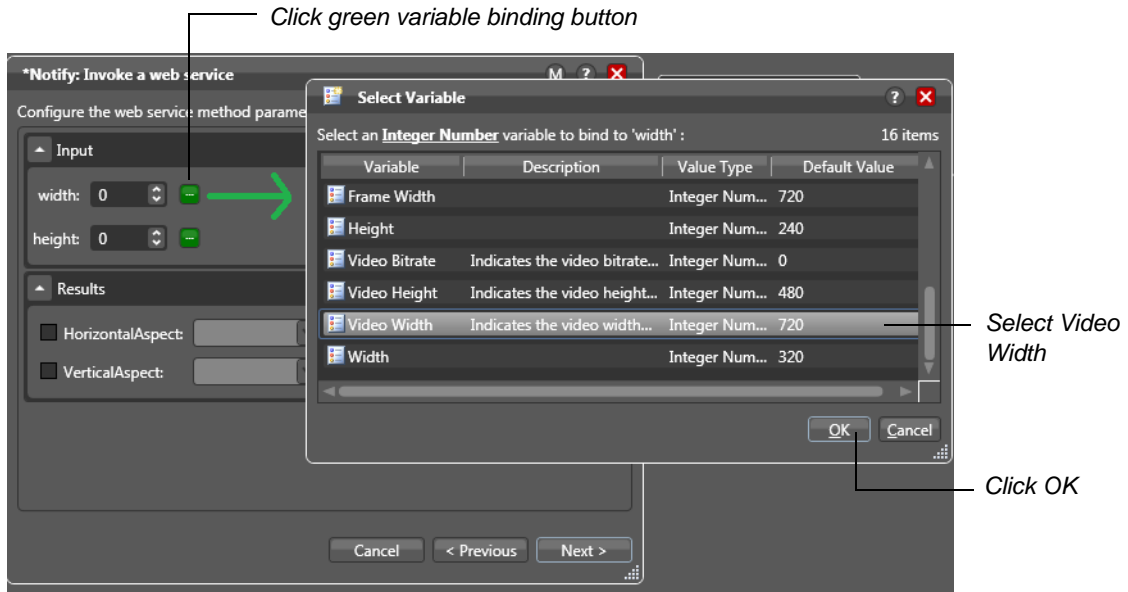
Vantage automatically queries and enumerates the URL and presents all compatible services. Select a service (in this example, a single service named Service1) and click Next:



When Vantage displays the methods for Service1, select *CalculateAspectRatio* and click Next:



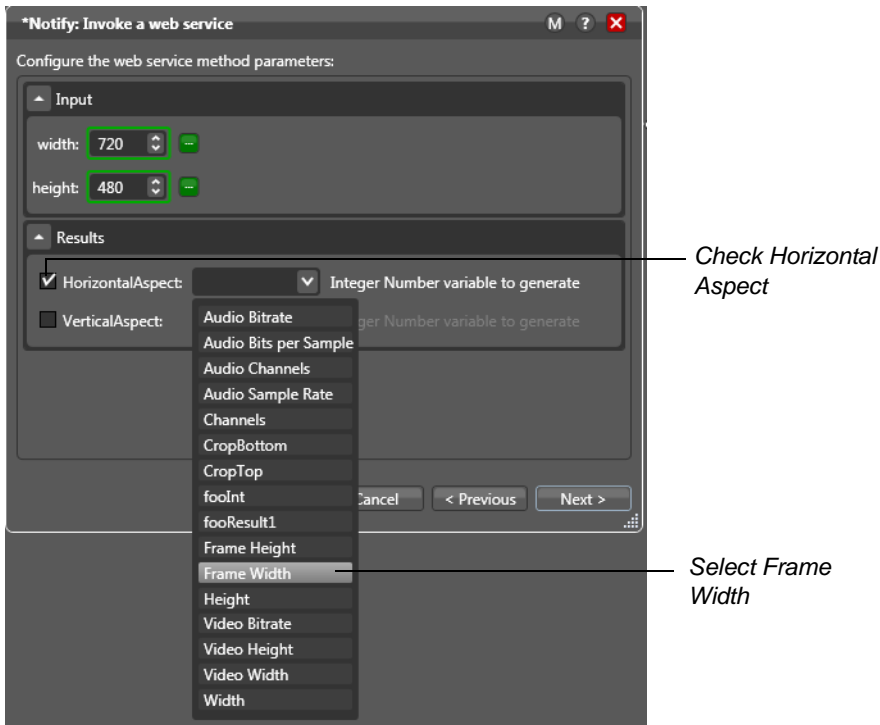
Vantage displays a configuration window that enables you to bind input variables in the Web service with variables in the Vantage workflow. Click the green variable binding button, select *Video Width* from the Select Variable list, then click OK:



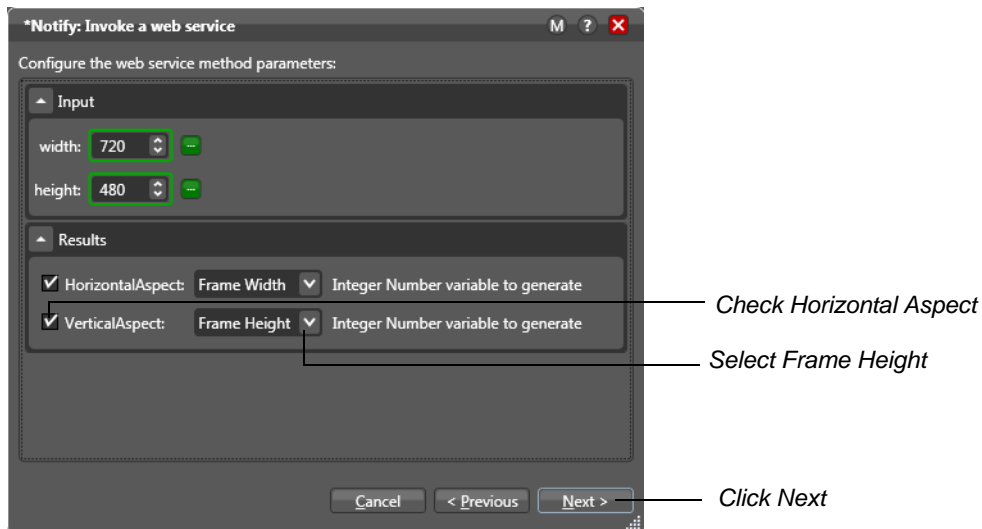
Repeat this step to bind the Video Height variable.

Note: When using Web Services, Vantage can only bind to simple data types that match variable types in Vantage (i.e. String, Number, etc.). Complex Web service data types are not supported.

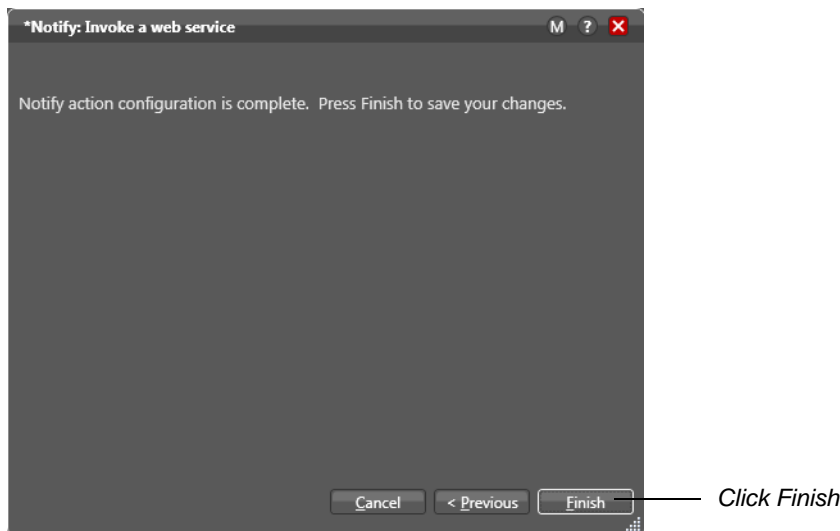
In order for the Vantage workflow to use the output variables (the result of the aspect ratio calculation), they also must be enabled and bound to new variables. *HorizontalAspect* is bound to *Frame Width* and *VerticalAspect* is bound to *Frame Height*. To do this binding, check the *HorizontalAspect* checkbox and select *Frame Width* from the *Horizontal Aspect* drop-down menu.



Repeat the above step to bind *Frame Height* to the *Vertical Aspect*, then click Next:

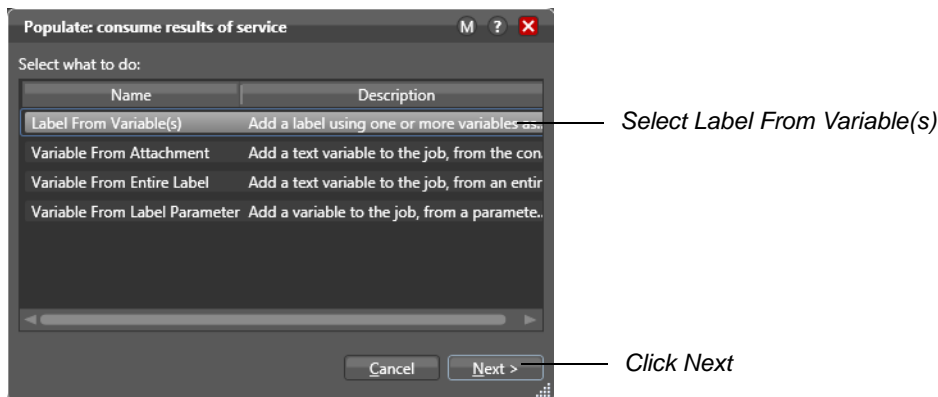


The Notify action is configured. Click Finish.



Configuring The Populate Action

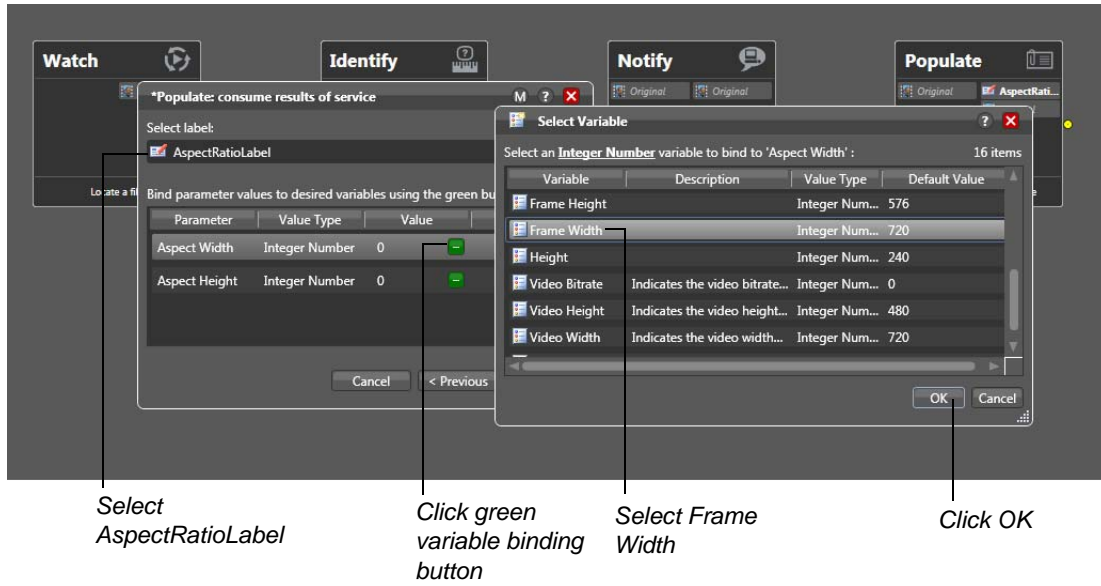
The final step in this workflow example is to produce a new label using the values in the variables emitted by the Notify action via the Web service. To create a new label and use the *Frame Width* and *Frame Height* variables to populate the appropriate fields in the label, open the Populate action inspector and select *Label From Variable(s)*, then click Next:



Once *Label From Variable(s)* is selected, the inspector displays its parameters, allowing you to select the desired target label and bind the desired parameter in the label to the *Frame Width* and *Frame Height* variables emitted from the action.

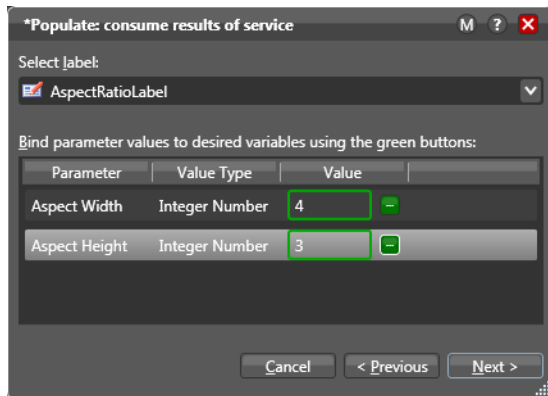
Note: Only parameters that are of the same type can be bound to a variable. For example, if you create a label with a parameter of type text, it cannot be bound to the *Frame Width* variable because the variable only presents variable integer of the same type for a given parameter.

Next, select *AspectRatioLabel* from the *Select label* drop-down menu, and click the green variable binding button in the *Aspect Width* parameter. When the *Select Variable* window displays, select *Frame Width*, and click OK:



Repeat the above step to bind *Aspect Height*.

Once the variables are bound to *Aspect Width* and *Aspect Height* (the parameters in the *AspectRatioLabel*) the inspector displays the result:



Note: The values in the *Value* column for these parameters are the defaults for the *Frame Width* and *Frame Height* variables. However, when this action runs in a workflow, the values emitted by the Web service method are used.

Executing the Workflow

To test this example, activate the Vantage workflow and submit a job. If the file submitted to this workflow is a 1920x1080 resolution file, the Web service returns an aspect ratio of 16:9 and publishes it to the *AspectRatioLabel* by populating the fields *Aspect Height* and *Aspect Width*:

The screenshot displays the Vantage workflow execution interface. At the top, there are tabs for 'Workflow Design', 'Monitor Status', and 'Job Status'. The main area shows a workflow diagram with four steps: 'Watch', 'Identify', 'Notify', and 'Populate'. Each step is a blue box with a circular icon and a list of actions. Below the workflow, there is a table showing the job status. The job is 'Manual Submit: DG_DNxHD_1080i_220mb.mpg' and is in a 'Complete' state. The 'Binder' window is open, showing the 'Metadata Labels' tab. The 'AspectRatioLabel' is selected, and the 'Misc' section is expanded, showing 'Aspect Height' with a value of 9 and 'Aspect Width' with a value of 16. Two lines with arrows point from the text below to these values.

Job	State	Progress	Started	Updated	Expires
Manual Submit: DG_DNxHD_1080i_220mb.mpg	Complete		7/30/2010 10:42:34 AM	7/30/2010 10:42:39 AM	7/31/2010 10:42:39 AM

Name	Description	Parameter	Value
AspectRatioLabel		Misc	
		Aspect Height	9
		Aspect Width	16
		Aspect Height	

AspectRatioLabel

Aspect Width populated with 16

Aspect Height populated with 9

Conclusion

This app note demonstrates how to integrate Vantage with other programs via Web services and how to configure the Vantage Notify action in Web services workflows. The Vantage Web service is a powerful feature you can use to achieve higher levels of integration, efficiency, and workflow flexibility.

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