CALLING AN OPENEDGE WEB SERVICE

John Sadd Fellow and OpenEdge Evangelist Document Version 1.0 August 2011

Building Business Process Applications Using OpenEdge BPM	BUSINESS
Calling an OpenEdge Web Service	MAKING
	THOUHLOO
John Sadd	
Progress. OpenEdge.	
Progress. Savvion.	PROGRESS software



DISCLAIMER

Certain portions of this document contain information about Progress Software Corporation's plans for future product development and overall business strategies. Such information is proprietary and confidential to Progress Software Corporation and may be used by you solely in accordance with the terms and conditions specified in the PSDN Online (http://www.psdn.com) Terms of Use (http://psdn.progress.com/terms/index.ssp). Progress Software Corporation reserves the right, in its sole discretion, to modify or abandon without notice any of the plans described herein pertaining to future development and/or business development strategies. Any reference to third party software and/or features is intended for illustration purposes only. Progress Software Corporation does not endorse or sponsor such third parties or software.

In an earlier video and paper in this OEBPM series, **Using Application Data in Forms**, I walked through how data gets passed between forms and Web service calls in a Progress Savvion presentation flow, but I postponed actually talking about how to set up the Web service call itself. It that presentation, I was focusing on how to map Dataslot values and form field values to and from parameters to other calls. In this session I'll get into the details of how to construct the Web service call itself out to OpenEdge. If you haven't watched that other video, or read the paper, you should do that before continuing with this one.

Starting in the main **AutoEdge | The Factory** process, **CustomerOrderVehicle**, if I look at its Start step, I can see once again that it's a Flow, a separate data entry sub-process, and open it:



GetBrandDetails is the first workstep in the Flow that's an instance of a Web service adapter. Looking at its properties, and configuration information, I can see the input parameters that we looked at in that earlier presentation.



Clicking \mathbf{OK} , I'm placed into the parameter mapping, for input parameters going into the call:



Selecting the **Outputs** tab shows the output parameters coming back that are mapped back to Savvion Dataslot values:

Resign Environmentichicle/EnderSol File Edit Nirvigate Search Project	mil/J209 IM/ template/CestemenVehick-OnderSelmation4 - Progress Services 3M/ Studie um Tools - Window Help	
1 11 - 12 (A) A A O -	128 Q - 17 G	E Design
Project Explorer 23	CustomerOrdentehole.opt Sectoremented and the cost of the	
E & V B & Daktorbuy B & Daktorbuy B & Daktorbusherb		2) Tailo >
ewfore 🤐 🕀	Douby Collaborate Except Advanced	Design Tarky
B. XE System Ubrary [16] B. BH Studie Library Co. drivers	A Selection and A Selection an	Select and Change Layout
- 🗁 doos	etc response/DealerNames etc DealerList *	- Connect Thereas
B 😂 tep	an response/angest and ConpactWoolds *	Asian Perticipanta
0 20 B		Create Arrotations
C C processtemplates	Plodebelection and regionality of incorrections	
- In Oustomer Order Vehicler	en responseSUV en SUMIdela	Educt and Change Laured a
4 ×	Persitar responseCanvetible in PreniumModels 💌	And the Charge Calyon A
崖 Outire 🔤 💿 🐨 📼 🗖	es regonarástan es fedavitodek v	High shapes horizontally
Burney W Stauth	LoginCustomer an response/TetMaterial an InteriorSealMaterial at	Algo shapes vertically
Process	an appropriate from the second s	T Distribute shapes evenly on the horizontal
Customervendeordersubnit *		Source and a second sec
- Diffage	AN INCOMENCIES AND A STREAM AND A	Provingios.
 LoginAttemptsExceeded 	ele responseExtColour ele Exterior Colour *	
	Return To Login an responseMonimol an ExteriorMonimol an	Description *
- ModelSelection	an announthout for Education at	
RegisterCustomer	OK Cancel Help	
- SelectBrand		
- Select%ehicleOptions	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	Dagram Tilbular Mitastitic Performent	
Customet.agout	🗆 Properties 🖂 🔨 Repository Browser 🕃 Problems 💭 Bookmarks) 🐼 Tasks	et 🔍 🗝 🖸
1.5		1

Here is what those parameters look like on the OpenEdge side, in the procedure **service_branddata.p**:

D	New Sector Sector	
🔄 🗔 Design 🦨 «OpenEdge Editor»		
OPTING EXPANSE 14	1 S C Li serve, Jestidos J L.	
Composition Compositi	<pre>decting ====================================</pre>	
Onschen Onschen Der Kerner Onschen Der Kerner Der Konten Der Merkenzen Der Kerner Der	/** ional variables **/ define variable deviveshigt av Idervicehanages no-modo. define variable ofdevigt av Idervicehanagetation (tybinaget no-modo. define variable sidevicahenagetationaget av Idervicehanagetanaget no-modo. define variable sidevicahenagetationaget av Idervicehanagetanaget no-modo. define variable sidevicahenagetation (tybinagetationaget no-modo. define variable sidevicahenagetation (tybinagetationagetationaget no-modo. define variable sidevicahenagetation (tybinagetationagetationagetationagetation), define variable sidesguasta as Idervicehanagetation no-modo. define variable offengasasta as Idervicehanagetation no-modo. define variable offengasasta as Idervicehanagetation no-modo. define variable offengasasta as Iderviced endos.	

This is what has been set up in the **AutoEdge | The Factory** sample application flow. Now I want to go through how to recreate a piece of this call, so you can see how to do it yourself. Given an ABL procedure that you want to call out to, the first step is to go into ProxyGen to create a Web service proxy for the procedure.

I'll recreate a subset of the Web service call we just looked at, and call it **AETFWebServices**. The way the sample application is put together, all the Web service calls, which represent a number of different ABL procedures, are enclosed in a single proxy, which is one good way to organize them. First I just recreate the Propath components the Web service call requires:

Presy Generator for Open Clerks - unblod Ends Ends Ends Ends Ends Ends
Advanced to A provide to a Carbon and and and and and and and and and an

The first is the **bin** directory under the **AutoEdge The Factory Server** folder. The second, in the **OEWorkspace** Architect workspace I've set up, is the folder **Common Infrastructure Server**, and its **bin** directory.



Now it's time to add procedures to the proxy. As I mentioned, the full sample application has a number of ABL procedures in its proxy, but I'll just add the one that is used in the **GetBrandDetails** call.

So I right-click, and add a **non-persistent procedure**. This corresponds to the statefree mode the AppServer runs in; I don't want to bind the AppServer by running a persistent procedure from the client. In the code structure for the sample app, it's under the **Factory -> Server -> Order** folder for all the procedures that support ordering a vehicle. Under that, **Business Component**, and the procedure whose parameters I showed you is **service_branddata.p**; to create the proxy you always need to identify the compiled .r file for it:



I click **Add** to add that as the one and only procedure in the proxy for now, and then **Close**. Now I'll make an adjustment to it that corresponds to how the Factory sample is organized. Right-clicking on the r-code file I just added, I select the **Customize**... option. One of the things it lets me do is to give the service call a method name that is different from the ABL procedure name, if that makes things more readable or intuitive. I rename it **ListBrandData**.

Concerning Francisco Terrero Terr		
AltTheElsere Applese Procedure Applese Procedure Many software Procedure Procedure Procedure Procedure Procedure Procedure Procedure AltTheOlderwise Procedure Procedure Procedure AltTheOlderwise Procedure Pr	Pile SubAppObject Procedure Tools Options Help	
Producter Pueshen (II) Producter I Prevantur II: Producting (Prevantur) Producter II: Producting (Prevantur) Producter II: Producting (Prevantur) Producter II: Producting (Prevantur) Prevantur Pre	No. Stateform: Theorem Test Copyone Test	V stady Server. 2 Stady Server Stady Providers in All Floridations III (Stady Server Stady Serv

Now I press the **Generate** button, and the **Generate Proxies** dialog comes up to let me define all the particulars. I specify that this is a **Web service** proxy by selecting that radio set option. That enables the **Session Model** radio set, which I make sure is set to **Free**.

Procey Generator For Open Electric - unbilled His. Subjection: Processing Tools. Optims: Help.		X
Alt Thildforms Aug/Dipol Providers Aug/Dipol Providers Norpeaster Procedure (1) COEVed space/Aud/dip TheFactory ServerVar/Aud/dip	V stay Save. 6 Goord & Hunes for dd 11 Webbook es	
More to Persident	General ALT Laws Vota Lewise Soas Web Devise Soos Hains Cher Fung Jenes Clevitario Holemala Tata Vota Sonse Appliente Eltitivationese Appliente Eltitivationese Appliente Eltitivationese P Unable Votas Autor P Hervall HTUP/NEX/Tor Cover P Medice Ligging	

At this point I want to take another look at how things are set up in OpenEdge Explorer. First I'll look at the AppServer the application uses, and confirm that its name is **asAutoEdgeTheFactory**. It's **active** and it is **state-free**, so it's all set to go.

🖉 //localhost:1050/lathorn.htm - W	Indows Internet Explorer			_IC! 2
😋 🗇 🕫 🕅 Hitz 🗤 Bookhoot: 2020.	FalsonItm		🗶 🖂 🕂 🛪 🛃 Grade	P -
Pavortes @Ullocalvost: 1070/14	hanJitan		🚱 + 🔃 - 🔿 Mi + Page	• Salety • Toole • 😡 • '
admin on NEWFHJOHN (contain	ners: 1, offline: 0, unknown: 0)			064
Resources 20 Options ? He	- u			
Sort by: Container	AppServer: nbwfhjohn.asAutoEdgeTheFactory		Pal	Running (1 Day). Net Poled Court 8 Pal Court 8 (83%)
= Britwithjohn	AppServer Status			
= 🚺 OpenEdge	Hest	NEWFHUCHN		
App Server Internet	Biskar.	ACTIVE State free		
 exposerver asAutoEdgeTh 	Brow statistics waitable	True		
P asbroker1	Servers available:	1		
esbbroker1	Command and control	True		
× 🗊 Datahase	C Braker Cartial	And Monitoring Plans		
Messengers Mame Server Sonict®O Adapter	Berver Ptol Control Apt or this server pool	Applement conductors are interest to asset Applement Classic Connections Lot information about clients connected to this Applement		
* @WebSpeed	Gonfiguration Advisor Exagents alle investories search on date in the PatheenThereEakshase	Log File Monitor of Broker		
	Log File Monitor of Servers Log file erors or whist to elect	Leg File Viewer of Broker Evanine the boxer log file		
	Log File Mener, of Seners	Q Categoration Presently file configuration associated with this server		
	Operational views			
	Braker Performance View Dover performance and several state	Servers Performance View		
	Sister Application summing status information			
*I	Informational views			
9 *+	494?			

Now I look at the Web services adapter. In this case the application is using the default adapter **wsa1**. If I look at its configuration, I need to note the URL. It's just running on **localhost** in this instance, and because I'm using Tomcat, it's port **8080**.

🖉 //localhost:9050/lathom.htm - V	Indows Internet Diplorer		
G C + D http://kcalhost:2020	Falson Ha	🗵 🔁 🐏 🗙 🚰 Google	p.
🚖 Pavortes 🚯 (locahost: 9270)fa	hanultan	🏠 * 🔂 - 🖄 🛞 * Page * Safety *	Toole = 😡 = 🤺
admin on NBWFHJOHN (contai	ners: 1, affline: 0, unknown: 0) No		00
Sort by: Container	Web Services Adapter Configuration: nbwfhjohn.wsa1	Run Foll Count & Fol	Net Polled Il Count: 0 (0.0%)
 B nbwfhjohn 			
B App Server	Location proxy server setting(wsuc)Logging setting(security)/usvanced Features)		
asAutoEdgeTh asbroker1 esbbroker1	Local Incation:	1	
* Database Messengers	Admin Role Links		
SonicMQ Adapter WebSpeed	AdminSola DSCOper		
B I Web Services Adap			
9 *+	4D % ?		

Back in Proxygen, I set the output directory for the proxy to the

autoedgethefactory server **cfg** directory. I'm not using an AppServer named AETF Web services, which would be the default, so I need to rename that, and enter the AppServer name we just saw in Explorer. I enter an author value for documentation purposes, and indicate that I'm working with version 1.0.4 of the Factory sample application code:

The namespace needs to be a distinctive qualifier for the factory services. In this case I use **factory-ae-com** as that distinguishing value. You'll see in a moment where I use that. The WSA pathname we also saw in Explorer a moment ago. That's **wsa/wsa1** on localhost port 8080.

AETPurktService Applitylect Procedures			
Bioopeniated Pocodaes (1) C*OEWotripace/AutoEdge TheFactory ServerVar/AutoEdge	Vachq\Sava.		
Point Provider () Pears to	Control Annuel In All Heliconnect Control Annuel In All Heliconnect Neuropean Control Annuel II In All Heliconnect Neuropean Control Annuel II In All Heliconnect Neuropean Ne	SK Caral Heb	
1			

When I'm done defining the Web service proxy, and click **OK**, the proxy is generated into the **cfg** directory I named. Back in Explorer, I need to deploy that service. I enter the name of the **Web Service Map** file that ProxyGen created in the same cfg directory:

C //localhostr9090/lathom.htm - W	indows Enternet Deployeer	10.
🕒 🕘 💌 🔯 http://kcalhost:2020,	atron I ta	💌 🔁 🏤 🗶 🛃 Garagle 🖉
👷 Favorites 🚯 (Rocahost: 9070)/at	on.Man	🏠 e 🔃 r 🗈 🛞 e Page e Safety e Tools e 😥 e
admin on NBWFHJOHN (contain KResources 20ptions 7He	ers: 1, offline: 0, unknown: 0) Ip	000
Sort by: Container	Bann Web Services Adapter: nbwfhjohn.wsa1	
≍ ∰inbwfhjohn ≍ @ OpenEdge	Subjet Cancel	
App Server Internet OApp Server App Server App Server	Dep Define a new Web Senice for the selected Web Senices Adapter. You must provide the Web Senice Map file generated by ProxyGen. WSM Elik loath and Name/ WSM Elik loath and Name/	
asbroker1 esbbroker1 elictrepos	Process on game and rearrange process and	
B Database Messengers		
SonicMQ Adapter WebSpeed		
Web Services Adap		
9*+	49 % ?	

Then I deploy that file. Finally, I have to enable it, so I click **Status Enablement** and click **Enable**.

🖉 //localhost:9050/fathom.htm - W	indows Internet Explorer			
🕒 🕞 🔹 🔯 http://local-cott/2020,	fathon htm		💌 🔂 🐏 🗙 🚰 Google	P
🙀 Pavostos 🔯 (Jocahost: 9790)/at	amJitan		🚰 t 🗇 r 🔿 🛞 t Papet	Safety + Tools + 🔞 +
admin on NBWFHJOHN (contain Resources 2 Options ? Ho	ers: 1, offline: 0, unknown: 0) Ip			004
Sort by: Container 💌	Web Services Adapter: nbwfhjohn.wsa1		Ada Poli Ca	 Running (1 Day) pter statistics not available sunt 0 Fail Count 0 (0.0%)
= 🔒 nbwfhjohn	WebServices Adapter status			
🗄 🔝 OpenEdge	Hest:	NBWFHJOHN		
AppServer Internet	Adapter.	ACINE		
 asAutaEdgeTh asbroker1 	Commande and control	Monitoring Plans		
 esbbraker1 ictrepos 	Configuration Advisor Suggests rule thresholds based on skile in the Pathon ThereDalabase	Log File Monitor Log file errors on which to elert		
× 🗃 Database × 🔩 Messengers	Log File Viewer Accession the adapter log file	Configuration Property the configuration associated with this adapter		
 SonicMQ Adapter 	Login Light Ser WS4 Heb Server usemame/passvord	Log Off Log off of the WSA Web Server		
 WebSpeed Web Services Adap 	List List List any logical web services	Deploy Deploy a new web service		
• wsa1	(see import import a web service	Ser web service defaults		
	Deployed Web Services for AETFWebServices AETFWeb	Services Select		
	Status Freiblement	(sour Update Egaza Update a deployed web service		
	Busic Select the Status Enablement link	scar Export Report A deployed web service		
	(1997) Stationer (1994) Deproyed web service run-time statistics	Choleplay Choleplay a web service		
9 *+ =-	Operations views			

If I go back to the WSA summary, you can see that the Web service is active and deployed:

🖉 //localhost:9090/fathorn.htm - W	Indows Internet Explorer	20 X
O http://bcahoot:2020 O O	Falton Ha	💌 🔂 😏 🗙 🚰 Google 🖉 🖉
👷 Favorites 🚯 (Nocahost: 9070) fat	han.htm	🏠 e 😥 r 🗈 🎯 e Page e Safety e Tools e 😥 e "
admin on NBWFHJOHN (contail	ners: 1, offline: 0, unknown: 0)	🕹 🖏
Resources Options ? He	Ng.	
🔀 Resources	web Services Adapter: nbwfhjohn.wsa1	Running (1 Day) *
Sort by: Container *		Pol Count 0 (Fail Count 0 (8.0%)
Bobwfhiohn	WebServices Adapter status	
E OpenEdge	Hest: NBWFHJOHN	
🗷 🏽 AppServer Internet	Adapter: ACTIVE	
AppServer	Command and control	
 asAutoEdgeTh asbroker1 	Control Enable or disable adapter	
 esbbroker1 istrepos 	Configuration Advisor	
Database Messengers	Configuration	ed with this adjuster
Name Server	Login Log Of Log	
* 🚇 Web Speed	List Let Deploy List for simplayed and services Deploy a new and service	
L • wsa1	Import Import a web service Import Set web service defaults	
	Deployed Web Services for AETFWebServices AETFWebServices	
	Status Enablement Update Deployed web zervice status and enablement Update a deployed web zervice	-
	Application Properties (and Export Deployed unb service application properties (Deploy Struct & deployed unb service	
	Statistics Image Statistics Deproyed web service sur-time statistics Image Undeploy a web service	
	Operations views	1
9.4-	4947	

Now I want to recreate a piece of how this service is then enabled for access from BPM Studio. I just delete is the existing Web service adapter in the application and start over. Under **Assign Participants**, I can make the participant an adapter. Under that I select **Managed** adapters, then the **WebService adapter**, and the **Generic** one that comes with the product. I drag one of those onto the process diagram:



I drop it, and right click on it to set its Properties:



I name this variation **GetJustBrandDetails**, and in its configuration, the identifying information I need to enter here is the **WSDL** address, including the Namespace URN I specified in proxyGen, which allows Savvion to pull in the definition of the procedures in the proxy and their parameters. So when I enter that full WSDL and click **Go**, Savvion displays all the services in the **AETFWebServices** proxy, and for me, there's just one, **ListBrandData**, so I select it.



Now I need to map Dataslot values from the process to parameters into and out from the call. I select the **Types and Mapping** tab. The default is that data will be passed in both directions as Java, but in the current releases of the two products this format will not perform correctly. So It's necessary to select the radio set option labeled **Java input and SOAP message output**.

The Life Analysis Search Project Run Table Verders II Verders Rest Configuration	
The total of the test of test	
WSDL Mtp (localiest 600)/isalvisal, isofita get.010-un fedary aer.com • 00 Braves Seach 0001	-
Christit Eploy 3 0 Prostnerolderender	- 0
State	
The Database A	_
B an Budywing Username Change and	
Sige Customer Order Which Parment	e.
B 🥙 artijeva 🖸 C SANL Token 🖬 🖬 C SANL Token 🖬	
8 🛋 XE System Ubray 🕼	
8 🛋 BPH Stude Library	
😂 deforms C Bustine HTTP Ustranic methods and States	
- 🇁 doos Autrentication Provend 🖉 🖉 Connect Shapes	
11 🍅 10	
E 😂 B Vitte break	
R 😓 nape	
Concentreplates Mit Available Services Datamana Types and Mapping Advanced Text	
Assign Participants a	
Course 22 Cuttre 22	
Davis input and 0.4p.#	
Process _ Procedul	
Camplex VML Type 3ava Class B 🖉 Refues Adopters	
Sort	
Editor	
Logi-VitmptiCcoreded	
LogiCutioner R- EPiddatees	
Auguration to PSAdgeters	
In Cashed Chataver	
ReviewSelection	
Selectional	
Selectivite/accepture 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-
Catanet.ajn Dagan Tekar Data	
CK CARCA HAP	

The dialog now displays a list of the input parameters to the Web service call, and lets me enter test values for them. So I enter Fjord as the value for **pcBrand**, and for the **contextID**, which identifies a particular client to the server, I will enter the special value **Savvion::Test**.

Bestgen Euskomer Teht let Professional / 1018 INF / template	WebService Adapter Configurator	x	a di X
Image: Sector Project Num Loss Window In Image: Sector Project	Web Service Carligution WSDL Mitp: (Acahest 6080/vsq./vsd/tar - Security Settings	get/R)=um fectary-ae-cos x 00 Bravee Search UCO1	E Design
B (B) Daddy (B)	WEEL HTTP Authentication Username: Password:	Initiale Vi-Security Setting: C Usertaine Tolen C Usertaine Tolen C Usertaine Tolen C Usertaine PTIP Unitiale Usertaine	Z Table Table Prings Table A Select and Charge Layout mit Decay Report
	WEX Datal WEX Partial WEX Particle Services # All Phylosophysics # All P	Authentication Prevent	or Connet Stopes SB Assign Participants
Costone 13 Costone 14 C	antrastan	Topac (Wain Tee Kning: Types [] user; j as definitier) Zeve Type Types Type Types Type Types Type Types Type Types Types Types Types Types Types Types Typ	Bo G Poress Bo G Respect Bo G Respect Bo G Respect Bo G Respect Bo G Respectives Bo G Respectives Bo G Respectives Bo G Respectives Bo G Respectives
LogrAtmpb/coold LogrAtmpb/coold LogrAtme LogrAtme Modeliescon Repeticion Repeticion Selectified Selectified Xi Coold		SOVP Response SOUP Fix #	
Custamediagon Custamediagon Custamerifegistration	1	OK Caroli Heb	e == 0

Let me show you why that works. In the ABL code for **service_branddata.p**, there's a block of code that checks for this special value, and if it's been passed in, the procedure constructs a response in which each output parameter is given a value that is actually the name of the parameter:

Design - Autotidge TheFactory Server/arc/Autotidge/Tactory	Server/Deder/TosinessComponent/service_branddate.p - OpenEdge Architect - CV/REWarkspace	
The Lak source nerview search project han window hep		
10 - X C H 4 - X - 2 - V - V		
📑 🖽 Design 可 «OpenEdge Editor»		
😓 Project Explorer 💠 📄 😫 🖤 🖬 🗖	P service_branddsta.p 21	~ 0
Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract	<pre>primersofriadrenia = Notition('fin-Mexisti', Deradet) plinerior/informersofriadrenia = Notition('fin-Mexisti', Deradet) plinerior/informersofriadrenia = Notition('fin-Mexisti', Deradet) plinerior/informersofriadrenia = Notition('fin-Mexisti') plinerior/informersofriadrenia = Notition('fin-Mexisti') plinerior/informati'near's Notification (finally defined = Notification('fin-Mexisti') define diget Mexisti' = Notification('fin-Mexisti') define diget Mexisti's Notification (''* Deery cours for workling purposes (Novios lats us make a test call to a Mexisti') define diget Mexisti's = 'informations' define diget Mexisti's 'information' plinerior/information' plinerior/information'</pre>	
Santestitring (character) - OHRACTER	potenti de de la constante de	
	/** validate defs **/	<u>ب</u>
] 0*	Witabie Insert 280 : 40	* = 1: 0 e «

Let's look at how this comes back. To test the Web service call, I click the **Invoke** button. If I expand the dialog box some to see what comes back from the call, and then expand the display pane for the **SOAP Response**, you can see part of the response:



As you can see, it's an XML document in which the value of each node, corresponding to the service's output parameters, has a value that is the name of the node, that is, the name of the parameter. This is an arbitrary construction, but it makes it easy to do the next step in the mapping. Next I need to select the checkbox labeled **Map Response Fields**. Then I click the **Response Mapper** button. This places me into what's called the **XPath wizard**. I click **Add**, and I am able to provide a name, an Xpath expression, and a datatype for a parameter. It's perhaps easiest just to identify a piece of the XML data stream as an XPath expression and then give it a name, so I click on the ellipsis next to the XPath fill-in:



I then select the value for one of the output parameter nodes. This is why it is handy to construct sample data where the data value matches the name of the parameter you want to map it to.

Design - Eustomer#ehicleOrderSt	den#L/WEB-1NF/Template	WebService Adapter Fordautotor	• XP ath Browser	×	- DI-X
		Veb Service Configuration WSDL: NOp.J.localhost: 8080/vsa/vsa1/vsd	Path Expression [not initial and Datalesponse(hot publicate NameList, Init)] Evaluate NameListon 7(1); Context]	Go Browse Search UCC1	
8 8 8 7	2024	Security Settings WS24 HTTP Authoritication:	pr/bealerNameList;		
8 🔐 BuldOrbuy 🔺			3 match		>
E Dukdverkde		Coerrane.		1	
R Cottoner Gran venue		Passwordt			
H M HE System Ubrary ()d H M Studie Library	0				
😂 doferno					
H on ten			[Tee New] 394, Source]		1
E 😑 16			chani version="1.0" to		
18 🍅 naps		WSDL Detail	ID - Gospenv. Body xmine scaperv="http://schemas.umisesp.org/scap/envelope/">		1
🕀 😂 processtemplates		Mvalable Services	- <listbranddataresponse :nine="unifactory-ae-com:AETFWebServices"></listbranddataresponse>		
 DustomerOrdervet • 		⊟ @ AETPWeb5ervices5ervice			A
		I Different at a	pcDealerManet.kt		
🐉 Outine 💠 👘 🗖			<(p:DealerNameLet>		
Process W & Scouth			□ - +pcCompactModels > pcCompactModels	Value	
			pc_impactModels >		
CustomernehideOrderSubnit			⊖-cpcl1udiHodek>	1	
Extrace			-pc/rudiPtodek	sponse fields Response Mapper	
- LognAttemptsExceeded			<pre><gctrutpfbdeb></gctrutpfbdeb></pre>		
- LoginCustomer				/	
			-<[pcSu/Modele>		
- RegizerCustomer			ecconvertiblePlodels>		
- ReviewSelection			- pcConvertblePtodels		
- SelectBrand	-		- dec Sector Model 2		-
Cutrinel colo	Comment Tabular Datas		1 · · · · · · · · · · · · · · · · · · ·		-
- CustomeLogout	Copier Court				_
CustomerRegistration	🗆 Properties 💠 🔔		OK Cancel	OK Cancel Help	e
1.0*	_				

At the top you can see that the mapper has identified the value I selected, and generated an XPath expression that tells the Web service adapter how to locate whatever value occupies the spot where **pcDealerNameList** is in the sample data. I click **OK**, the XPath wizard dialog displays the XPath expression, and now I just need to give it a name and verify the basic datatype:



By convention, the Factory application uses names beginning with **response**; you've seen those when I reviewed that parameters for the Factory Web service I'm replacing. However, you can name the parameter anything you want, because the next step will be to map that parameter to a Dataslot in the business process.

I map a second parameter for data used by the next form in the Flow, the one that returns a list of the truck models available for the brand. I give the response parameter a name, and I'm done. And I'm also done with this part of the Web service configuration. When I click **OK**, I'm put into the Dataslot mapping process.

For each input parameter, I need to identify the application dataslot that is going to provide a value for the parameter, going into the Web service call. In this case the first one, mapped to **pcBrand**, is the one called **SelectedVehicleBrand**. This Dataslot value gets set when I pick an icon like the Fjord icon in that first form of the Flow. The second one is the Context ID that identifies a particular client The details of how you might establish that are beyond the scope of this talk, but it's a dataslot just named **ContextID**:

Boulge - Exatorner/FoldelSchelerSchert, VED IM-Templete, Exatorner/FoldelSchelerSchertillunet - Progress Service ISPM Studie File: Ede: Nanipäe: Search: Anajost: Fund: Wedge: Help	- 0 -
The bak hereges presult risks has been hep	
1	
Chryset Explore 3 💫 🐃 🗇 🗩 Getower detrefeteletest 👔 - concence of a	~ 0
8 @ Buldoduy a	>
B up bullwinde	
B - Double for the second contract of the sec	A.
🗄 🛍 XE System Ubray () d	
B M DVI Sale bhary Selection Selecti	
Acces with participation of the second secon	
🕆 🔄 tip	
Control Internations	
B to proceedemplates	
BOSTANE Contract of the second s	A I
Register and CompartModels (Process	1
Codime Sa Codimer Cestiliant	
Process # A Sourch	
Customer VehicleOrder Suthat 🔳 Login	
I Cash I	
Loginization of the second and the s	
Expricatorer Enter Televit Enter Televit	
Biodelecton	
Registration of the second sec	
Skettrad	
	8 <u>×</u>
Construction Construction Construction Construction	_
📄 🗠 Catanenengolonicae 🚽 🖻 Properters 💠 🕕 Repository Brower [🕹 Rockmarks 🕗 Tests	· · · ·
12	

After I'm done with the input parameter mapping, I select the **Outputs** tab. Remember that I just created responses for two out of all the output parameters. The first maps to the **DealerList** Dataslot, and the second one to the **TruckModels** Dataslot:



There's one other option you can set here, by selecting the **Advanced** tab. This allows you to map a Dataslot to what is labeled the **Target Endpoint Address**. This means the URL of the web service adapter that is the one actually used at runtime, in production, and lets you make this a value settable at runtime. In the Factory application there's a Dataslot set up to hold that value, called **AutoEdgeWebServiceEndpoint**:

Renter Conference Relations and and and the Areas	gløte/EustemerMehideOrderSebruit.swi Help	t - Progress Sovvien BPM Studie	
] 🗂 • 🖾 🛆 🏔] 🛍] 🔂 • 🐷 🚳] 💁 •	-] 🤻] 😅 🛷 •] 🛬 - 🕅 - 🗠		📑 🕨 Design
Project Explorer 33 💦 😁 🕞 🎓 Customer Orderitehi	de apt 💿 "Customer vehicle Cuder Sutra	nor B	- D)
= % + T NO 7 4 4	4 100% 💌 🔍 😂 🕲 🔩 😫		
In the buildonbuy			x Z Taoko >
E Ter Buildvervele		P Extadet Mapping	
🗄 🥴 srajova		Inputs Outputs Faults Advanced	Design Tasks A
8 M JFE System Ubrary [10] 10 M BPH Studie Library	- Selectioned	Source Parameter	Select and Change Layout
- 🗁 docs 18 🍅 tep		ek: Target Endpoint Address	
B Con the states	FludeNotertion	AutoEdgeWebGerviceEndpoint	Create Annatations
CustomerOrderivet		en: RESETE_USER en: CompactModels	Assian Participants à
	Register	en Context3d 12) CustamerCredit.int	10. C Process
at Outrie 23		es CustonerDnal	B- Adapters
Process · Posch	Logincasioner		⊕- C Apanal dapters
GustomerWehideOrderSubmit	Liquin		E BaltulesAdapters
			10 Coverage of the second seco
- LoginAttemptsExceeded			Biologian Contraction
- LoginCustomer	Return To Login		B C FTPAdapters
- ModelSelection			B States
ReviewSelection		OK Cancel Help	B- C Soviet Stadepters
- SelectBrand			HebServiceAdapters
Custometagin	tackte Performere		
- CustaneLagout	L Research and a line of the sector of 10 as	anata) Reale)	
	E volnom i annoa, 🕐 wobers 🖓 ac	Medito 201040	
1			1

This screenshot shows you that Dataslot to make clear what it is I'm saying here:

Resign - CostornerWebitleOrders File Edit Navigate Search Project	Advest/WEB DVF/template/Cost Run Tools Window Help	tomer¥ehicleS	irderSubmit.swt - Progress S	ovvice 87% St	ste		19.
🗈 - 🗉 🗠 🗎 🔒 🔡	· 🖉 @] Q. •] ?]	😅 🛷 •] (a . a	0	E	> Desig	n
Project Explorer 🕄 🔪 🔍 🗖	2 CastomerOrdeniehide-spt	Customer%	NideCederSubeit.ovt []]				° (
E 😫 🐨					Q. Search	_	
8 🍉 inages 🔺	Marse	Data Type	Value	Calagory	Description	_	New
ter uar maps	and a for diseased day of which have	String	http://orailest.it/itilesa/ecat	AFTE:		-	
8 properties	AND STREET PROVIDE AND	20160	1000	AFTE		-	Inport
E C ABOLECED	AND STRUCT LEFT	String	Brener.	AFTE			ALC: NO. 1
- 🗁 ndes	and CompactModels	String		AFTE			1900017111
- 🍋 ecripte	or Costautid	Svina		AFTE			
🕀 🎃 912	Cuttone Cudt but	Moder		AFTE			
in 😓 WEB-INF 🔤	on Custometical	Reine	r	ALTE.			
18 😂 Ib	Contractor of	Reine		AFTE:			
E Contemplate	Cotorealizer	Delay		Gara .			
Customeriletic	The share Code	Doing		AFTE			
Colored to be	England the	avera a		ALL CONTRACTOR			
Contractive of	and Demostrat	point		ALL P			
Constantervers.	an eror	bound		Carr			
• •	Enteror Cond	board		ALL P			
Contract T Contract T	and Extend Mootroof	string		ALTP			
- cone to _ = _	Poc Extendromenia	poing		ALIP			
Norma W Disauth	No. 1 Conceptor Proceedings	soring		ALTP.			
	Ins Literor seat Material	soing		ALTE			
🔒 OustomeriiehideOrderSubmit 🔺	pass Encenor Lan Colour	powd	L	ALTH			
-0 start	MaxLognAttempts	Minber	a	ALTP			
- Extrage	wer Modellivame	String		AETP			
LoginAttemptsEcceeded	12 NunLoghAttempts	Munber	a	ALTP			
- LoginCustomer	es OrderChannel	String	WED	AETF		_	
- LoginFalure	b119 ardenid	Minber	9	METE			
 ModelSelection 	L10 OrderNum	Minber	0	AETF			
- RegisterCustoner	eter PAK_UPL	Sying	(Jocahos)/FAKServer	AETP			
- ReviewSelection	etc password	String		AETP			
- SelectBrand	voc PressiumModels	String		ALTP			
- Select%ehicleOptione	HIGHT NAME	String	CustomerOrderVehide	AFTF		-	
Customet.ogin	Diagram Tabular Dataskits Pe	eformers					
Customet.agout							
CustomerRegistration +	Properties 💠 🕞 Reposito	ory Browser	Problems 🛄 Bookmarks 🕢 T	es#s			1 × - 1
1							

Here you can see the Endpoint Dataslot, which in this case is hard-coded to be the web service adapter that I set up for building and testing the model. If the application allowed this value to be set at runtime, then the endpoint of the actual wsa used would be more flexible. In any case, I'm done with the Web service configuration now. Since I replaced the workstep that represents the Web service call in the Flow, I have to reconnect it back into the diagram. I can select **Connect Shapes** or do **Control-Shift right-click** as I've done before, and re-establish that after the Web service call the **Model Selection** form comes up.



Now I've completed re-configuring this one Web service call to OpenEdge, and I can re-save the model with my new Web service adapter workstep.

I'll just give you one quick tip before I wrap up this presentation. Under the **Tools** menu in BPM Studio, you can select **Managed Adapters**, and use this to import or export Web services you've gone to the trouble of configuring, like this list of adapters for the Factory application, so you can easily reuse them.



Now I'm ready to re-deploy my application, and you're ready to connect up steps in a Progress Savvion business process with services in an ABL application that provide data and business logic support for your Savvion business process application.