

Integration levels

Data level

EIM
EBC external business component - associated with relational table outside Siebel (ODBC or native connection)

Business logic level

Workflows that uses prebuild EAI* business services

most prominent business services

EAI Siebel Adapter: query, insert, update, delete, .. Integration Object <-> SiebelMessage

EAI XML Converter: SiebelMessage <-> XML

EAI File transport: XML <-> file

EAI XML Write To File = "EAI XML Converter" + "EAI File transport"

EAI XML Read From File = "EAI File transport" + "EAI XML Converter"

EAI HTTP Transport: Sends (or sends and responses synchronically) data via http

required configuration: ..\siebsrvr\bin\enu\esai.cfg

Administration - Server Configuration - Enterprises - Profile Configuration

Queing

JMS or MQS of Microsoft + profiles: D72827.pdf, chapter 9, page 11

EAI Data Transformation Engine

Does mappings according to definition in "Administration - Integration -> Map Editor"

! clear cache: run bs "EAI Data Mapping Engine" method Purge (@@@I cannot find it, why ?)

Map data on three levels: Integraton Object -> IO component -> IOC field.

Use "Administration - Integration -> Value maps" to remap values on IOC level, syntax for "Source Expression" is EAIlookupSiebel("Oracle11iUnit Of Measure,([PRIMARY_UOM_CODE]),""")

EAI Dispatch Service: allows run appriopriate workflow depending on supplier name for example, alternative to complex multiplexer workflows

Setup (Administration - Integration -> EAI Dispatch Service View) must be delivered to bussises service method "Dispatch" using parameter "Ruleset"

Setup consists of: Rule set name - rules (multiplexer - when and what run) - transformations (parameters to be passed to business service being called)

Remeber about clear cache

Outbound processing: just call EAI Dispatch Service

Inbound processing: "Administration - Server Configuration > Enterprises > Profile Configuration" Fill parametr: "Dispatch Rule Set" LEFT BLANK PARAMETERS: DispatchService, DispatchMethod, DispatchWorkflow

More: Predefined EAI Business Services

(http://download.oracle.com/docs/cd/E05554_01/books/EAI2/EAI2_PredefinedEAI2.html)

Web services: "Administration - Web Services -> Inbound web Services". Port=Business service, Operation=BS Method

Change url(host name), language, creditentials in url, Clear cache !

Get WSDL using button

Test using soapui

Integration objects

Data Federation

VBC virtual business component - assocoated with any data source outside Siebel. Needs business service "XML Gateway" business service or custom

UI level

Specialized applets

Delivering Content to External Web Applications

<http://soft.start.swe?SWECmd=GotoView&SWEView=Personal+Service+Request+List+View&SWERF=1&SWESetMarkup=XML>

more:

http://docs.oracle.com/cd/B31104_02/books/PortalFrame/PortalFrameDelConExtWebApps4.html

```
<% @LANGUAGE="VBScript" %>
<%
'-----
'Open HTTP connection and send XML command req
'-----
    strURL = "http://" & Request.form ("swe") &
"/start.swe?SWECmd=ExecuteLogin&SWEDataOnly=1&SWEUserName=sadmin&SWEPassWord=sadmin&SWESetMarkup=XML
ZO Set xmlhttp = Server.CreateObject("MSXML2.ServerXMLHTTP")
xmlhttp.open "GET", strURL, False
xmlhttp.send ()
Set ologinXmlDoc = xmlhttp.responseXML
strCookie = xmlhttp.getResponseHeader ("Set-Cookie")
On Error Resume Next
If strCookie = "" Then
Response.Write ("Unable to connect to Siebel Web Server. Please check Login Name, Password, and Siebel Web Server URL")
Response.End
End If
strSessionId = mid(strCookie,inStr(strCookie,"!"),inStr(strCookie,";")-inStr(strCookie,"!"))
strURL = "http://" & Request.form ("swe") &
"/start.swe?SWECmd=GotoView&SWEView=Account+List+View&SWESetMarkup=XML&SWEDataOnly=1" & "&_sn=" & strSessionId
Set xmlhttp = Nothing
Set xmlhttp = Server.CreateObject("MSXML2.ServerXMLHTTP")
xmlhttp.open "GET", strURL, False
xmlhttp.send ()
Set oXmlDoc = xmlhttp.responseXML
'-----
'Session Var
'-----
Session ("SWESessionId") = strSessionId
Session ("swe") = Request.form ("swe")
'-----
'Prepare XSL
'-----
sXsl = "acctresponse.xsl"
Set oXslDoc = Server.CreateObject("Msxml2.DOMDocument")
oXslDoc.async = false
oXslDoc.load(Server.MapPath(sXsl))
%>
<HTML>
<HEAD>
<TITLE>My Portal</TITLE>...
<BODY>
...
<TD colSpan=2><%Response.Write (oXmlDoc.transformNode(oXslDoc))%> </TD>
...
</BODY>
</HTML>
```

Workflows

What it is workflow ?

Workflow is ordered set of:

- Bussiness services calls

- Siebel operations (operations on BCs)
- Conditional transactions
- And so on

More: presentation #35

Workflow differ from other objects- deploying procedure is in presentation #36, as well simulating, debug, versioning.

Deploying workflow

Workflow without workflow policy:

1. Publish workflow in Tools
2. Check in workflow in Tools
3. Activate workflow (Administration - Business Processes -> Workflow deployment)
4. Run workflow (see How to invoke a Workflow Process?)

Pictures for points 1..3 are in presentation #36.

SEE ALSO: 2010.05.20.Workflows.doc

What is runtime-event (runtime-event)

Event is a pair (when to do, what to do).

“When do do” this is a event of BusCom, Applet or Application.

There is no possibility to define “When do do” periodically (Policies allow you to run workflows periodically).

More: *Runtime-events.doc*

What is workflow policy

Workflow policy is a pair (when to do , what to do).

It allows you to run workflows periodically.

“When do do”:

Conditions

Condition Field	Operation	Value
LS Clinical Site No Subject Flag	=	N
LS Clinical Subject Status Change Da IS UPDATED		

Tools

- Workflow Policy Column
- Workflow Policy Object
- Assignment Object
 - Assignment User Prop
 - Dynamic Candidate
 - Assignment Object Extension
- Workflow Policy Component
 - Workflow Policy Component Col
- Workflow Policy Program
 - Workflow Policy Program Arg
- Workflow Process

Annotations:

- Conditions generates DB triggers. Triggers have to be created (see presentation how to do it).
- Triggers inserts data into S_ESCL_REQ table for further processing.
- It allows run activity periodically

Important: As opposed to runtime events policies are NOT processed immediately when condition occurs. Events are accumulated in table S_ESCL_REQ and processed periodically - see *policy deployment*.

Sample DB trigger code (jobs – generate triggers):

```

trigger SIEBEL.S_EVT_ACT_ESCL_T2
after insert on SIEBEL.S_EVT_ACT
for each row
declare
"b0-7HJW1" boolean := FALSE;
"b0-F9NV" boolean := FALSE;
begin
if :new.OWNER_PER_ID IS NOT NULL then
"b0-7HJW1" := TRUE;
end if;
"b0-F9NV" := TRUE;
if "b0-7HJW1" = TRUE then
insert into SIEBEL.S_ESCL_REQ (REQ_ID, CREATED, BT_ROW_ID, RULE_ID, TBL_NAME, CREATED_BY, GROUP_ID)
values (S_ESCL_REQ_S.nextval, current_date, :new.ROW_ID, '0-7HJW1',
'S_EVT_ACT', :new.LAST_UPD_BY, '0-YVG8');
end if;
if "b0-F9NV" = TRUE then
insert into SIEBEL.S_ESCL_REQ (REQ_ID, CREATED, BT_ROW_ID, RULE_ID, TBL_NAME, CREATED_BY, GROUP_ID)
values (S_ESCL_REQ_S.nextval, current_date, :new.ROW_ID, '0-F9NV',
'S_EVT_ACT', :new.LAST_UPD_BY, '0-F9NT');
end if;
end;

```

“what to do”:

The screenshot shows the Siebel Workflows page under 'Administration - Business Process'. The 'Workflows Policy Actions' tab is active. A table lists various workflow actions, with 'Run Workflow Process' highlighted in yellow and labeled as a 'typical action type'. Below the table, the 'Arguments' section shows 'ProcessName' with the value 'CG Payment Process'.

Name	Program	Workflow Object	Comments
Assignment Request	Assignment Request		
Assignment Request	Assignment Request (In Process)		
Automatic Data Retr	Run Workflow Process		
BIM Get SAP Orders	Run Integration Process		Get order status
BIM Submit SAP Ord	Run Integration Process		Submit orders
> CG Payment Action	Run Workflow Process		<-- typical action type

Argument	Required	Value
> ProcessName		CG Payment Process

The screenshot shows the 'Policies List' table in Siebel. The table has columns for Workflow Object, Policy Group, Activation, Expiration, Duration, Units, Qty, and Batch Mode. A red arrow points to the 'Batch Mode' column, with the text 'Scroll down to assign/see actions' next to it.

Workflow Object	Policy Group	Activation	Expiration	Duration	Units	Qty	Batch Mode
ion for Opportunity	Opportunity Workflc		01-03-2001 13:00:00	0	Minute(s)		
sa Retr Data Retrieval	Marketing		01-03-2002 13:00:00	0	Minute(s)		

Policy deployment

prerequisites

The screenshot shows the 'Enterprise Servers' page in Siebel. The 'Enterprise Server Description' section shows 'Siebel Siebel Enterprise Server'. Below this, the 'Component Groups' section is active, showing a table with columns for Component Group, Alias, Number of Components, Enable state, and Description. The 'Workflow Management' component group is highlighted in yellow, and its 'Enable state' is 'Enabled', which is circled in red.

Component Group	Alias	Number of Components	Enable state	Description
> Workflow Management	Workflow	6	Enabled	Workflow Management Components

1. Create a Workflow Group

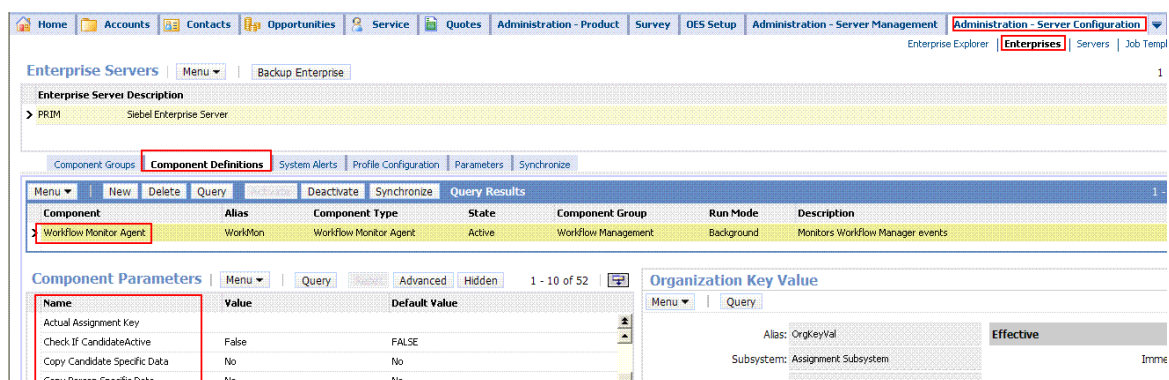
2. Create a Workflow Policy Action

3. Create a Workflow Policy

4. Generate Database Triggers

5. Start Workflow Monitor Agent

Uruchomienie policy „Administration – Server Configuration”, enterprise- zakładka “Component Definitions”.



Trzeba zrobić własny component with Komponent type=“Workflow Monitor Agent” i ustawić następujące parametry:

1/ Group Name = nazwa grupy w której jest policy

2/ Process the batch policies (to te bez triggerów) = True

3/ Action interval = 600 (w sekundach- obsługuje zdarzenia z kolejki, por. ze sleep_time).

4/ Table owner=siebiel, Table owner password=siebelpass, username=sadmin, password=sadminpass

5/Sleep time=360sek (czas który zbiera zdarzenia z kolejki S_ESCL_REQ) .

6/default Task=1 jak wpiszesz 1, to nie musisz po restarcie odpalać ręcznie. I trzeba zrobić restart całego środowiska albo zrobić coś z poziomu konsoli ale nie wiadomo co.

7/ mail server, mail adres jak to wpiszesz to dostaniesz maila gdy abnormal termination. I dopiero wtedy policy będą przetwarzane.

Jak diagnozować:

- there are tasks associated with component. Clicking in task will cause show log (you can see large logs on server)



- you can set log level - see assignment manager setup in separate file

1/ sprawdź, czy są odpowiednie rekordy do przetworzenia w tabeli S_ESCL_REQ (tam jest ID, z jakiego policy pochodzą – RULE_ID, GROUP_ID, TBL_NAME).

S_ESCL_REQ – kolejka zdarzen

S_ESCL_ACTN_REQ -kolejka akcji

S_ESCL_LOG – log co się działo

S_APSRVR_REQ– maile do wysłania przez Email Manager (też jest to komponent), obecnie email manager nie jest skonfigurowany.

```
select name from s_escl_group where row_id = '0-EW06'
-- Assignment Group
```

```
select name from s_escl_rule where row_id = '0-EW0N'
-- ASGN: Service Request
```

more: presentation #38

So – what is difference between event and policy ?

Policies works in asynchronous mode only.

Runtime events works in synchronous mode only.

That's why policies are good for system integration (wait for new record in EIM tables) and periodically data processing.

Runtime events are good for immediate interaction with a user, for example sending emails immediately after saving data.

	Workflow Policies	Runtime Events	Custom Control
Generate Triggers	Required	Not Required	Not Required
WF Monitor Agent	Required	Not Required	Not Required
Runtime Event	Not Used	Invokes process	Not Used
Synchronous	Asynchronous (runs in background)	Synchronous (runs in user session)	Synchronous (runs in user session)

How to invoke a Workflow Process?

<http://siebelunleashed.com/how-to-invoke-a-workflow-process/>

<http://siebelunleashed.com/siebel-crm-how-to-invoke-wrokflow-through-bc-user-property/>

Workflow is one of the most commonly used functionality in Siebel. They provide us the way to automate simple and complex business process without much trouble.

Workflows can be invoke in several ways in Siebel.

- Job „Workflow process batch manager”
- Runtime Events
- Scripting
- User Property
- Workflow Policy

>>Job

Component : “Workflow process manager” musi być aktywny. Sekcja repeting info: tu jest info jak często jest on uruchamiany. Jest też repeting instances – kiedy był uruchamiany. Trzeba podać konkretnie który workflow ma zostać uruchomiony – parametry joba.

The screenshot displays the Siebel Administration - Server Management interface. The top navigation bar includes Home, Accounts, Contacts, Opportunities, Service, Quotes, Administration - Product, Survey, OES Setup, and Administration - Server Management. The Administration - Server Management section is active, showing a Jobs table with columns for State (Icon), ID, Component/Job, Repeating?, Requested Server, Execution Server, Request Key, Mode, and Status. Two jobs are listed: 1-5N75N and 1-358VL, both for the Workflow Process Manager component, with a Repeating? status of checked and an Active status.

Below the Jobs table is the Job Detail section, which includes a Repeating Instances tab. The Job Parameters section is also visible, showing a table with columns for Name, Value, Required?, and Fixed?. The table contains three rows: Business Service Name (Workflow Process Manager), Method Name (RunProcess), and Workflow Process Name (X Before Autoclose SR Reminder 2).

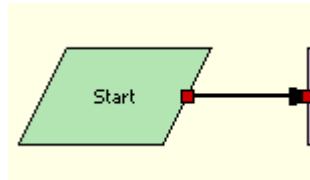
The Repeating Info and Retry sections are also visible, showing fields for Repeating?, Repeat Unit, Repeat Interval, Repeat From, Repetitions, Retry on Error, Sleep Time, Number of Retries, and Current Num of Retries.

>> Runtime Events

We can specify runtime event at

Workflow Process: To define a runtime event in the workflow process, follow the steps given below

Select the connector after the start step as shown below



In the **Workflow Step Branch: window** below provide the details at which you want to this workflow to execute. For example If I want my workflow to be invoked at write record of Action buscomp then I will enter the following detail

Event Object Type: BusComp
Event Object: Action
Event: Write Record

WF Step Branch:		
Event Object Type	Event Object	Event
BusComp	Action	WriteRecord

>> Administration Runtime

Runtime Events are available in Administration – Runtime Event Screen.

We have all the corresponding events which we find in BusComp, Applet and Application such as WriteRecord, PreWriteRecord, ChangeRecord, and PreQuery etc.

We need to remember one thing here is that Runtime events fire before the corresponding object event.

For example

WriteRecord runtime event for object type BusComp will fire before BusComp WriteRecord event

To call a workflow from Administration Runtime event **define a Action Set** and Enter the information as shown below

Business Service: Workflow Process Manager

Business Service Method: RunProcess

Business Service Context: "ProcessName", "Name of workflow"

Even Spaces matter in Business Service Context value after there is a space after comma and then workflow name. Now you can define the event according to your requirement which will call this Action Set

Business Service Name:	flow Process Manager
Business Service Method:	RunProcess
Business Service Context:	"ProcessName", "PSP F

>> Scripting.

To call a workflow process from scripting you can use the code given below

```
var svc = TheApplication().GetService("Workflow Process Manager");
var Input = TheApplication().NewPropertySet();
var Output = TheApplication().NewPropertySet();
var rowId = this.GetFieldValue("Id");
Input.SetProperty("ProcessName", "GEAE Activity Approved by SSD Notification");
Input.SetProperty("Object Id", rowId);
Input.SetProperty("Opportunity Id", vOppld);
Input.SetProperty("OwnerEmailAddress", v_OwnerEmail);
svc.InvokeMethod("RunProcess", Input, Output);
```

Here any property that you set in *input property set* will be assigned to corresponding **process property** in the **Workflow Process (WFP)** as in the above example


```
Input.SetProperty("Opportunity Id", vOppld);
```

above line of code will result in process property called "Opportunity Id" in WFP to assigned the value of variable vOppld.

>>User Property:

You can use **Named Method property** on BC to invoke a workflow. Example

Name: Named Method 1

Value: "New Record", "INVOKESVC", "Example", "Workflow Process Manager", "RunProcess", "ProcessName", "Example Wrokflow", "RowId", "[Id]"

To see the detail explanation of user property read the [following post](#)

>>Workflow Policy:

Workflow Process can also be called from workflow policy. We can Define a workflow policy (WFP) in **Administration – Business Process >> Policy**.

Steps to create Workflow Policy are not in the scope of this post. We assume here that you have created a workflow policy record and specified appropriate conditions.

In the argument section choose

Argument: Process Name

Value: Workflow Process Name

As shown below

Arguments		
Argument	Required	Value
> ProcessName		GEAE Contract Flowdown Notification Reminder Rel5

>>User property:

But from Siebel 7.7 onwards there is one more method by which we can invoke a workflow. That way is Siebel business Component user property. You can '**Named Methodn**' user property in a BC which can invoke a workflow where **n** is **increment** to the last named method user property defined on that BC.

Name: Named Method

Value:[Event Name] , "INVOKESVC", , "Workflow Process Manager", "RunProcess", 'ProcessName',[Name of the Workflows] , 'RowId', [Row Id Value]Example The below mentioned will invoke a workflow named 'Example Workflow' when a new record is created in Example BC.

Name: Named Method 1

Value: "New Record", "INVOKESVC", "Example", "Workflow Process Manager", "RunProcess", "ProcessName", "Example Wrokflow", "RowId", "[Id]"

Workflow examples

EBS connectors

Workflow Processes							
Process Name	Status	Workflow Mode	Changed	Group	Project	Version	Business Object
Account - Create or Update Oracle11i Customer	Completed	Service Flow		Oracle Connector 11i	Oracle Account 11i	0	Account
Account - Receive Oracle11i Customer Import Status	Completed	Service Flow		Oracle Connector 11i	Oracle Account 11i	0	Account
Account - Receive Oracle11i Customer	Completed	Service Flow		Oracle Connector 11i	Oracle Account 11i	0	Account
InvLoc - Receive Oracle11i Organization	Completed	Service Flow		Oracle Connector 11i	Oracle Account 11i	0	
Oracle Item (11i) - Siebel Product	Completed	Service Flow		Oracle Connector 11i	Oracle Product 11i	0	
Oracle Operating Unit (11i) - Siebel Organization	Completed	Service Flow		Oracle Connector 11i	Oracle Account 11i	0	
Oracle Organization (11i) - Siebel InvLoc	Completed	Service Flow		Oracle Connector 11i	Oracle Account 11i	0	
Order - Create Oracle11i Order	Completed	Service Flow		Oracle Connector 11i	Oracle Order 11i	0	Order Entry
Order - Get Oracle11i Order Status	Completed	Service Flow		Oracle Connector 11i	Oracle Order 11i	0	Order Entry
Order - Receive Oracle11i Order	Completed	Service Flow		Oracle Connector 11i	Oracle Order 11i	0	Order Entry
Organization - Receive Oracle11i Operating Unit	Completed	Service Flow		Oracle Connector 11i	Oracle Account 11i	0	
Product - Receive Oracle11i Item	Completed	Service Flow		Oracle Connector 11i	Oracle Product 11i	0	

More: SIEBEL CONNECTOR FOR SIEBEL eBUSINESS APPLICATIONS

(http://download.oracle.com/docs/cd/E05555_01/PDFFiles/704acore/eBizConn.pdf)

Open issues

What is this ?

The screenshot displays the Siebel Workflow Processes application interface. At the top, there is a navigation menu with tabs for Home, Accounts, Contacts, Opportunities, Service, Quotes, Administration - Product, Survey, DES Setup, and Administration - Business Process. Below this, a sub-menu includes Workflow Policies, Workflow Policy Actions, Workflow Policy Explorer, Workflow Policy Groups, Workflow Policy Log, Workflow Deployment, and Workflow Processes. The main area is titled 'Workflow Process' and contains a search and filter section with fields for Name, Business Object, Status, Description, Group, Activation Date/Time, Expiration Date/Time, Error Process Name, Version, Replication, Created By, and Created. Below the search section are tabs for Process Definition, Process Designer, and Process Properties. The 'Process Designer' tab is active, showing a 'Designer' menu and a 'Palette' on the left. The palette contains icons for Start, Decision Point, Sub Process, and Siebel Operation.

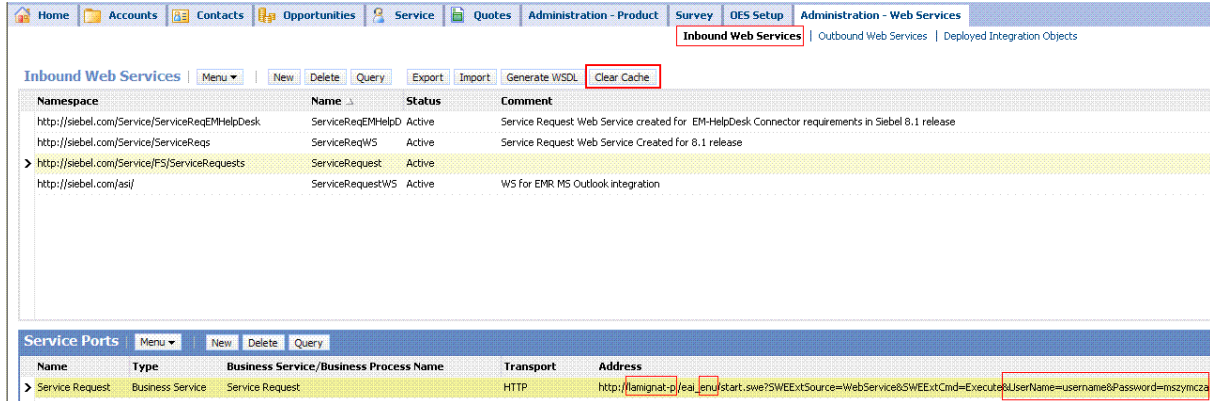
ServiceRequest Web Service

1/ Change host name, language, and for sessionlessconnection add user name and password

about session / sessionless modes : http://download.oracle.com/docs/cd/B40099_02/books/EAI3/EAI3_EAIHTTPTrans9.html

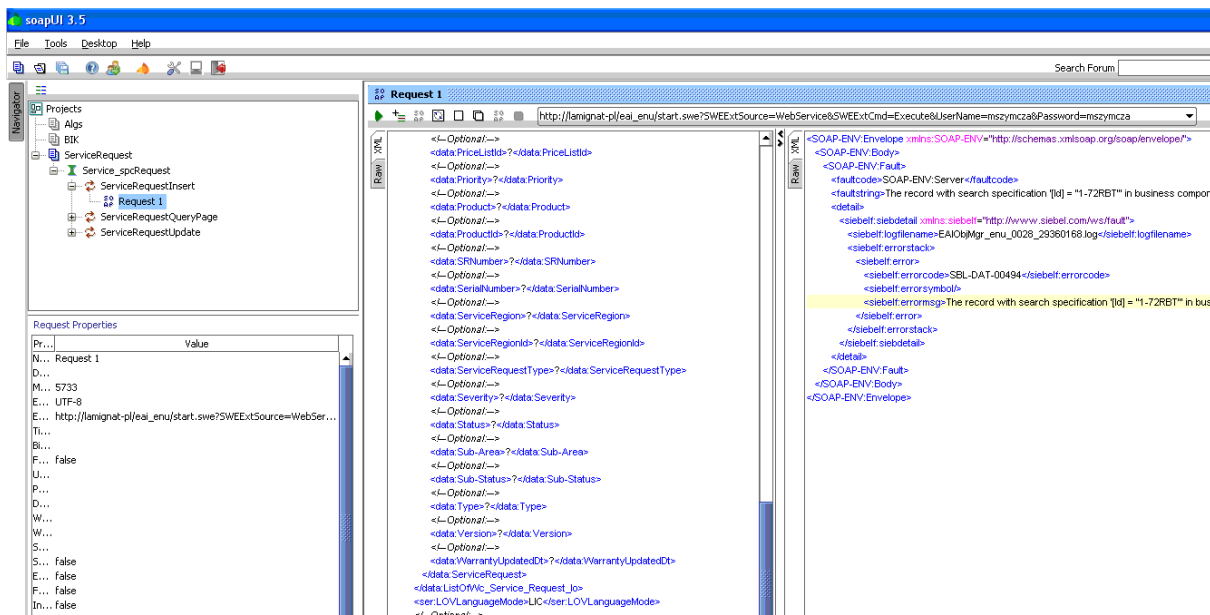
2/ Clear cache

3/ Generate WSDL and take it to soup ui



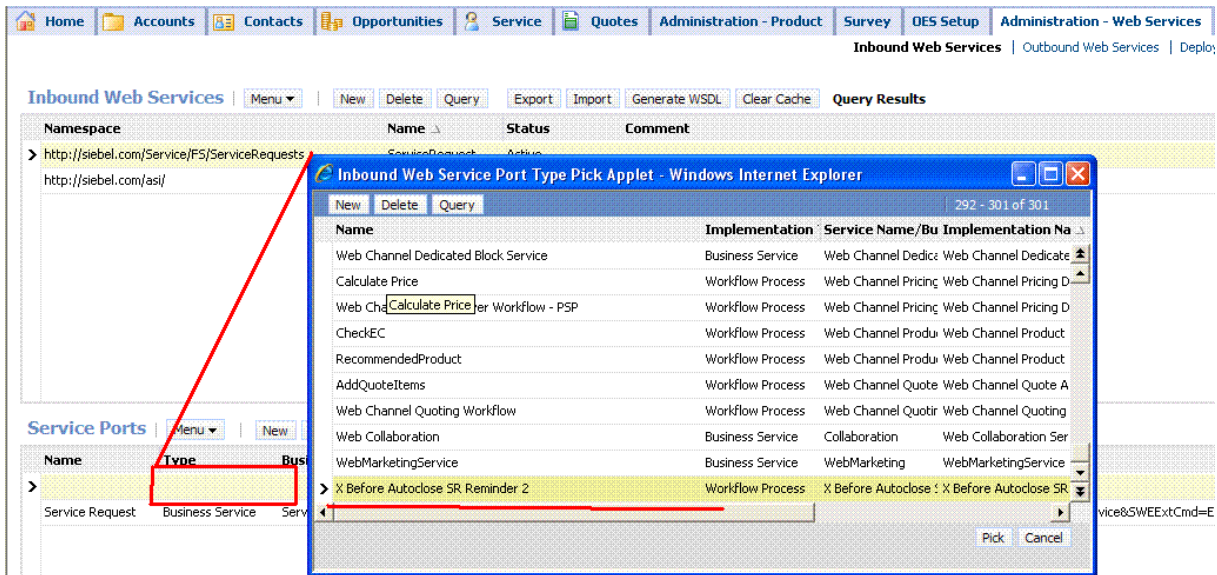
Get WSDL by clicking button Generate WSDL

4/ Open issue: What are parameters of calling



Open issues

Why cant select my own business service ?

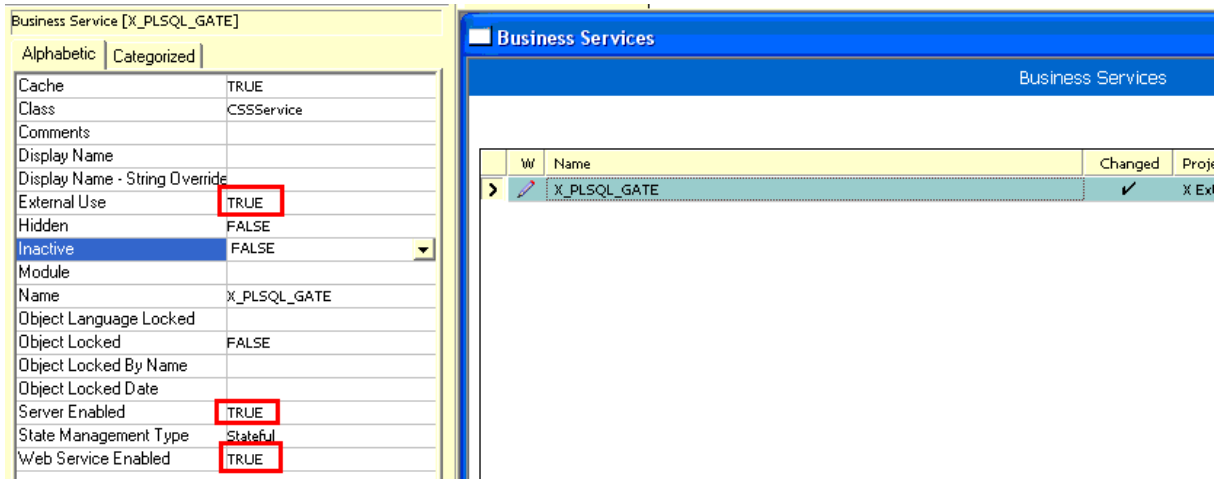


This not works because this select does not return my bs/workflow, but I don't know why !

```

SELECT *
FROM
  SIEBEL.S_WS_PORT_TYPE T1
WHERE
  (T1.INBOUND_FLG = 'Y') --AND
  --(T1.NAME LIKE :1)
ORDER BY
  T1.IMPL_OBJ_NAME desc
  
```

my business service I compiled, server I restarted, has “Web service Enabled” = true



also deploy as a web service does not work

Other info “Exposing a Business Service as a Web Service“

http://download.oracle.com/docs/cd/E14004_01/books/CRMWeb/CRMWeb_Overview11.html

Business Services

Business Services

Export Import

W	Name	Changed	Project	Cache	Class
>	X_PLSQL_GATE	✓	X Extensions	✓	CSSS

- New Record
- Delete Record
- Copy Record
- Undo Record
- Columns Displayed...
- Sort Order...
- Compile Selected Objects..
- Edit Server Scripts
- Edit Browser Scripts
- Compare Objects ▶
- Add to Archive...
- Add to Hot-Fix...
- Validate...
- Check Out Object
- Lock Object
- Deploy as Web Service...
- New Object Wizards... ▶

Error

Could not find 'Business Service' named 'X_PLSQL_GATE'. This object is inactive or nonexistent.(SBL-DAT-00144)

OK