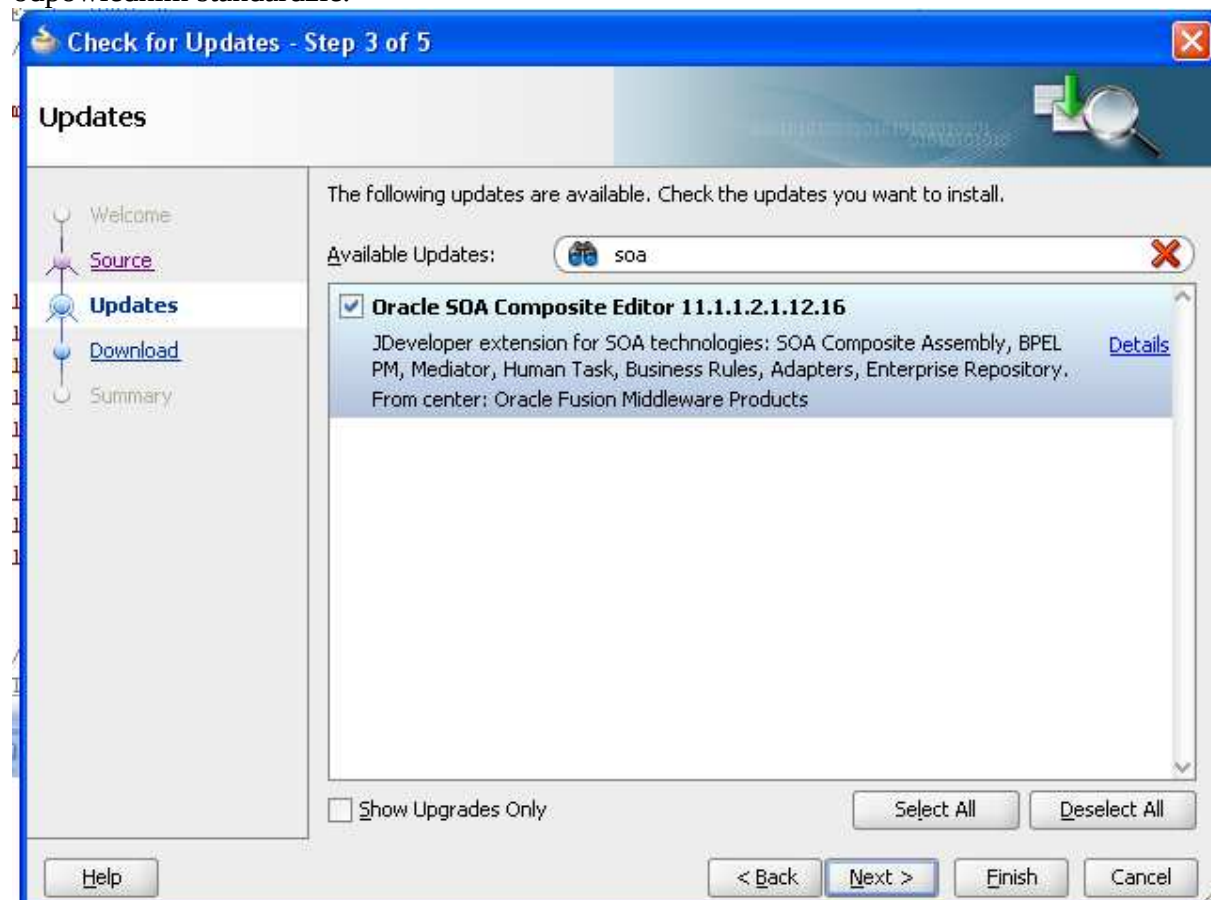


|                                                                            |    |
|----------------------------------------------------------------------------|----|
| Instalacja BPEL .....                                                      | 1  |
| Przykład – połączenie z bazą danych .....                                  | 2  |
| Development .....                                                          | 2  |
| Utwórz Aplikację i projekt o typie SOA .....                               | 2  |
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| Utwórz proces BPEL .....                                                   | 7  |
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## Instalacja BPEL

W BPEL programuje się np. w JDeveloper, z zainstalowanym składnikiem jak poniżej. BPEL nie generuje plików \*.java, deployment polega na przesłaniu plików projektu (XML) w odpowiednim standardzie.



## Przykład – połączenie z bazą danych

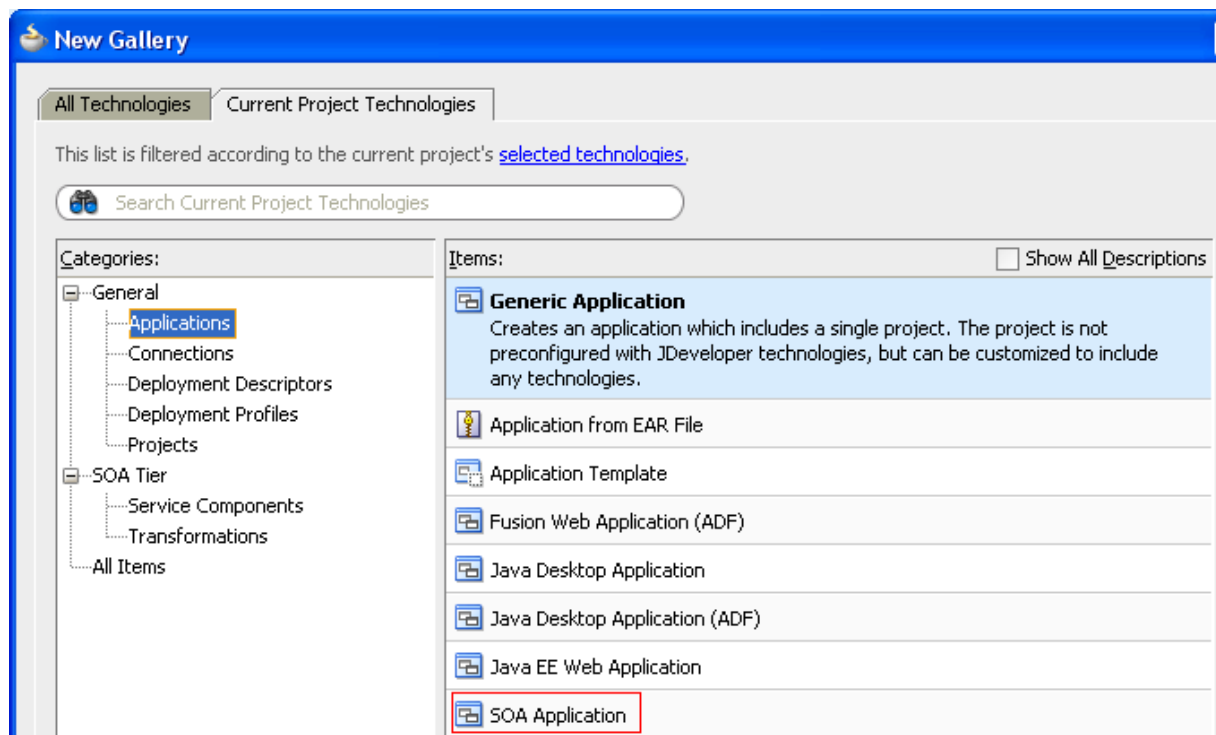
Scenariusz: w bazie danych mamy procedurę, która dostaje na wejściu ID ( number ) i zwraca XMLa w formacie CLOB. Webservice ma pozwalać na podanie ID i zwracać XML.

```
function CWF_XML_ALG ( p_id varchar2, p_range varchar2) return clob
```

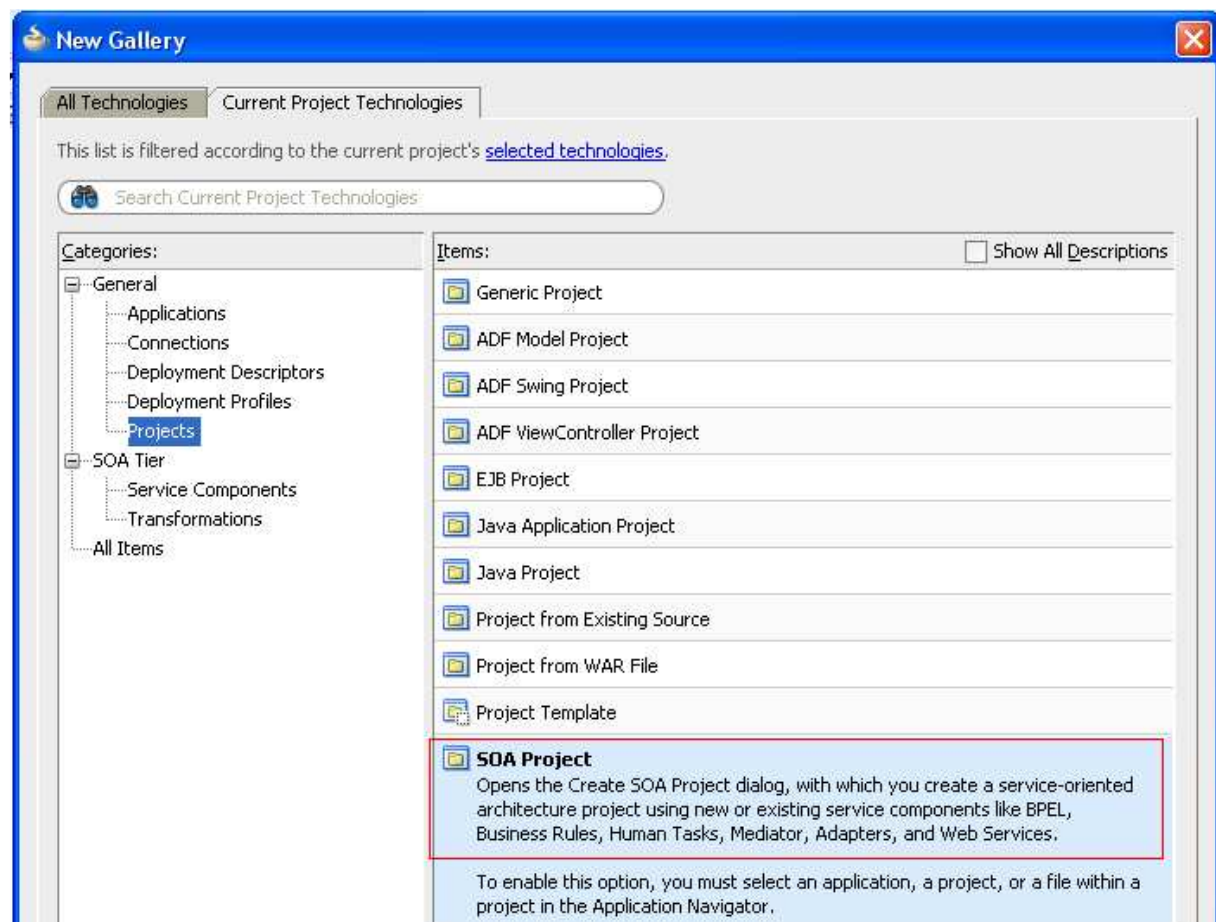
[illegible]

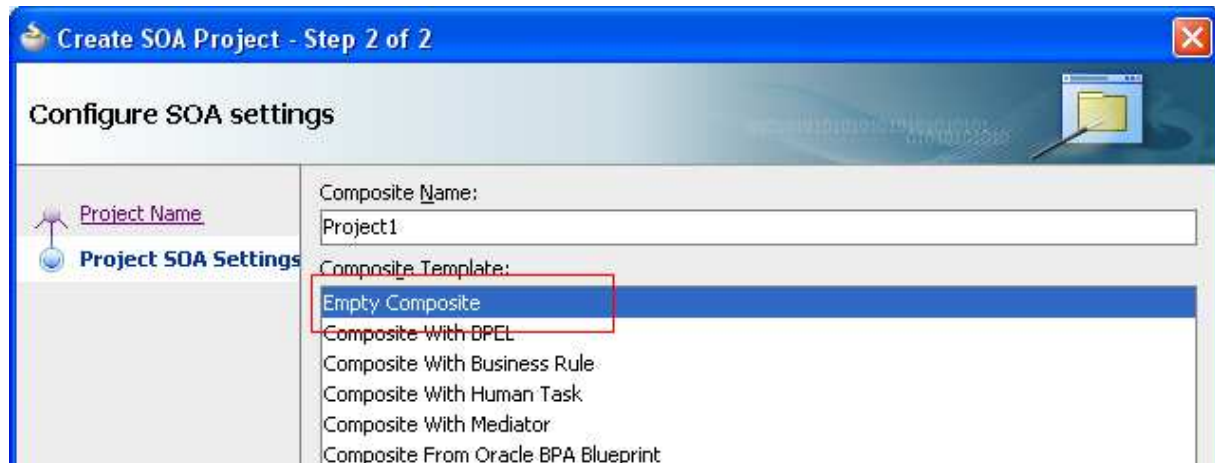
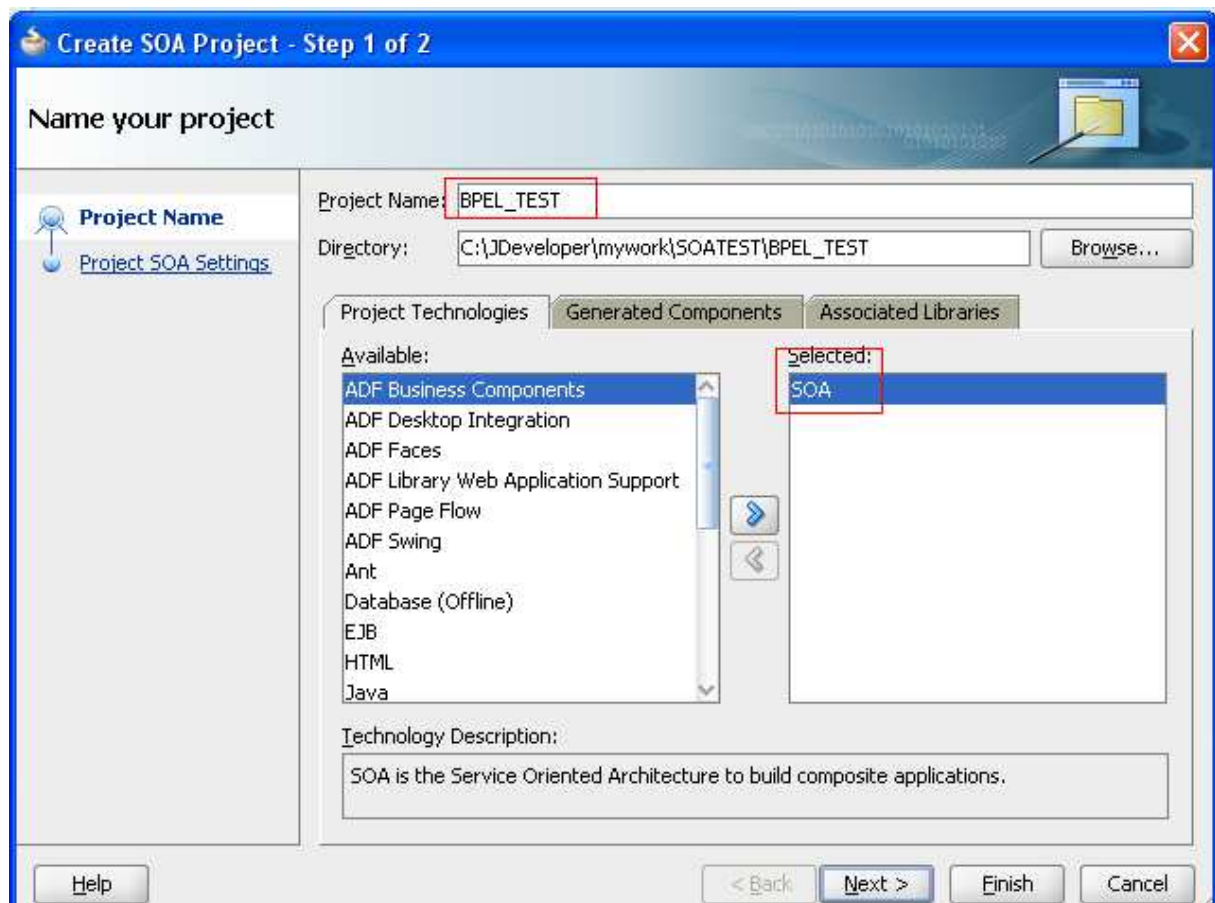
## Development

## Utwórz Aplikację i projekt o typie SOA

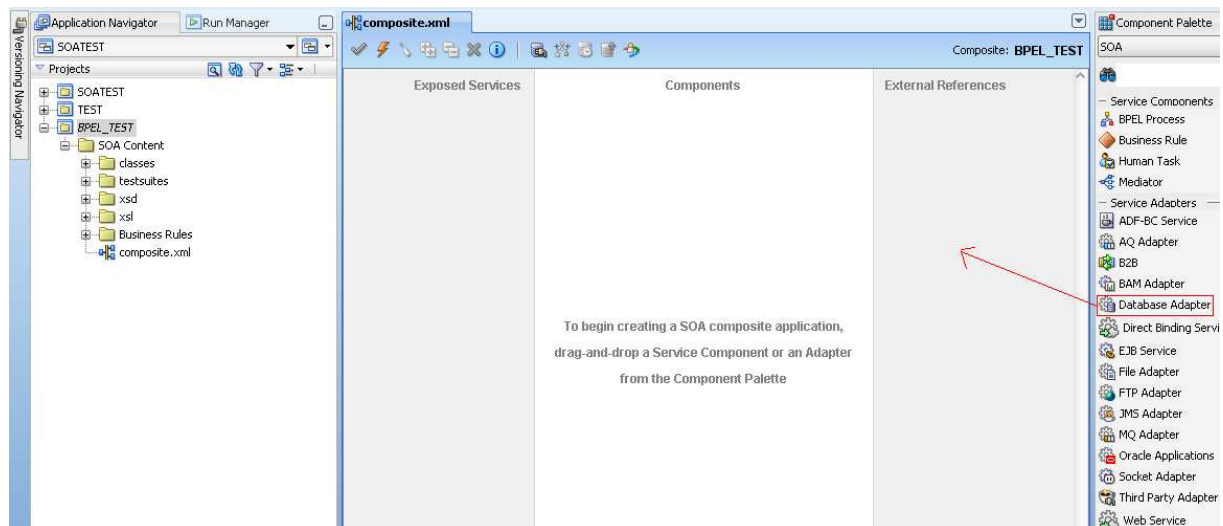


Wewnątrz aplikacji utwórz projekt o typie SOA projekt





**Utwórz adapter do bazy danych**



### Adapter Configuration Wizard - Step 2 of 4

**Service Name**

Enter a Service Name.

Service Type: Database Adapter

Service Name:

Podaj połączenie do bazy danych. Podczas testowania lokalnego istotne jest to co jest wpisane w polu connection. Po zdeployowaniu na serwer istotne jest to co się wpisze w pole JNDI Name. Zajrzyj do sekcji „Konfiguracja połączenia z bazą danych na serwerze”, żeby się dowiedzieć skąd pobrać JNDI Name.

### Adapter Configuration Wizard - Step 3 of 4

**Service Connection**

A Database Connection is required to configure this adapter. Select a database connection already defined in your project or create a New Connection.

Connection:

User Name: CWDATA

Driver: oracle.jdbc.OracleDriver

Connect String: jdbc:oracle:thin:@10.200.205.44:1521:WFDEV

Specify the JNDI name for the database. Note: The deployment descriptor of the Database adapter must associate this JNDI name with configuration properties required by the adapter to access the database.

JNDI Name:

Data Source:  ☒ XA Data Source

**Adapter Configuration Wizard - Step 4 of 5**

### Operation Type

Select the Operation Type and click Next to continue defining the operation.

Operation Type: ☒ Call a Stored Procedure or Function

☐ Perform an Operation on a Table

- ☒ Insert or Update (Merge)
- ☒ Insert Only
- ☐ Update Only
- ☐ Delete
- ☒ Select
- ☐ Query By Example

☐ Poll for New or Changed Records in a Table

☐ Execute Pure SQL

**Adapter Configuration Wizard - Step 5 of 7**

### Specify Stored Procedure

Enter a stored procedure, or a function. The procedure's package name can be included, for example, EMPLOYEE.GET\_NAME, where the package name is EMPLOYEE and the procedure is GET\_NAME. If the procedure does not belong in a package, enter the procedure's name. You can also browse and search for a procedure. The term 'procedure' is used to mean both stored procedures as well as functions.

Schema:

Procedure:

Arguments

| Name    | Type     | In/Out | Position |
|---------|----------|--------|----------|
|         | CLOB     | OUT    | 0        |
| P_ID    | VARCHAR2 | IN     | 1        |
| P_RANGE | VARCHAR2 | IN     | 2        |

Na tym ekranie zostawiamy wartości domyślne

**Adapter Configuration Wizard - Step 6 of 7**

## Advanced Options

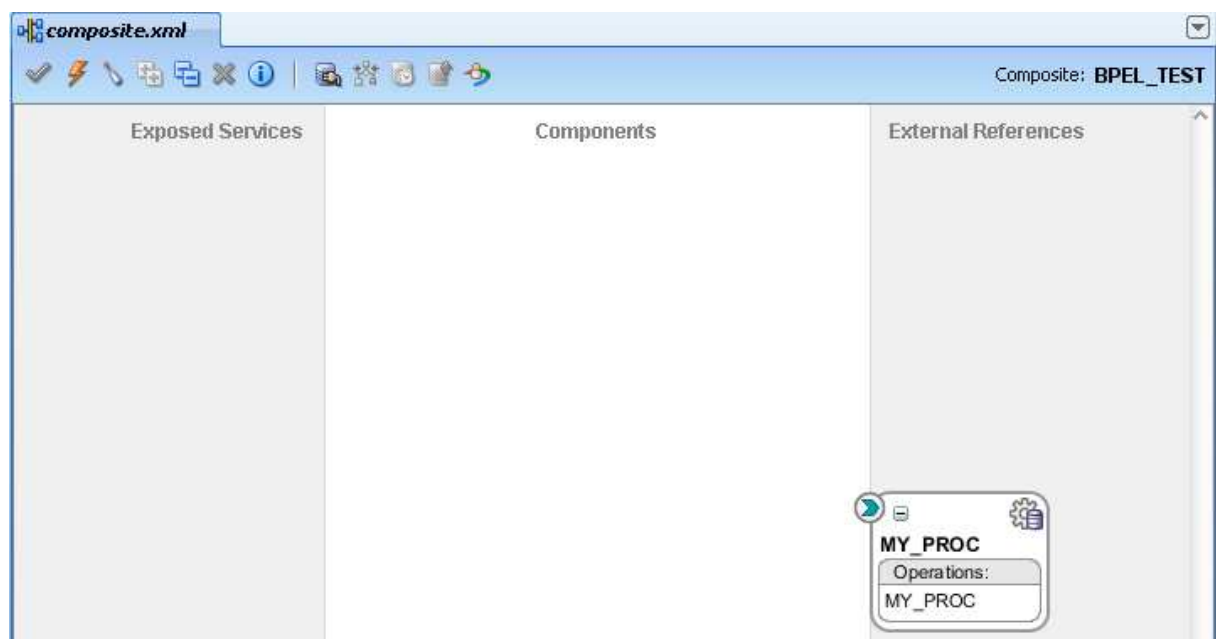
Specify any additional advanced options. To use the recommended, default values, click Next.

**JDBC Options:**  
 Query Timeout:

**Auto-Retries:**  
 Attempts:   
 Interval (s):   
 Backoff Factor: x   
 Max Interval (s):

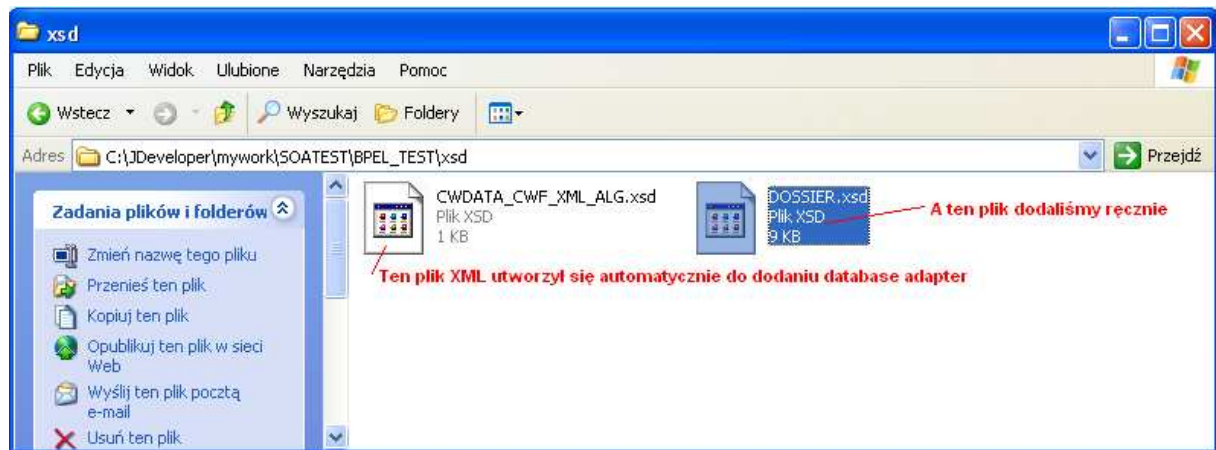
**Interaction Options:**  
☐ Get Active UnitOfWork

W efekcie mamy gotowy adapter

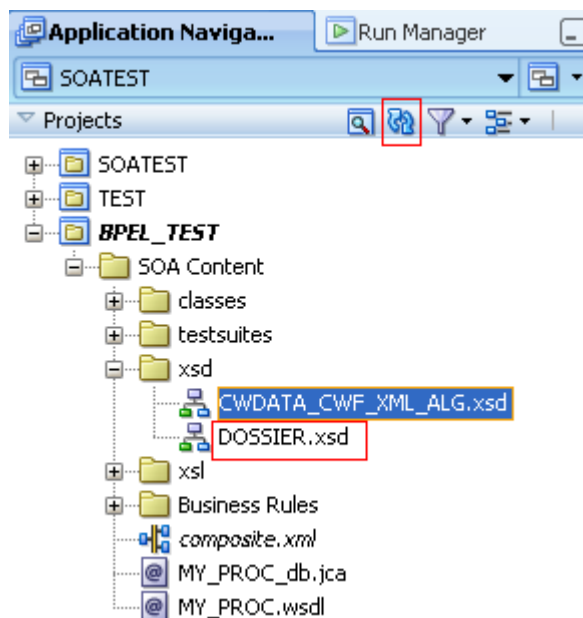


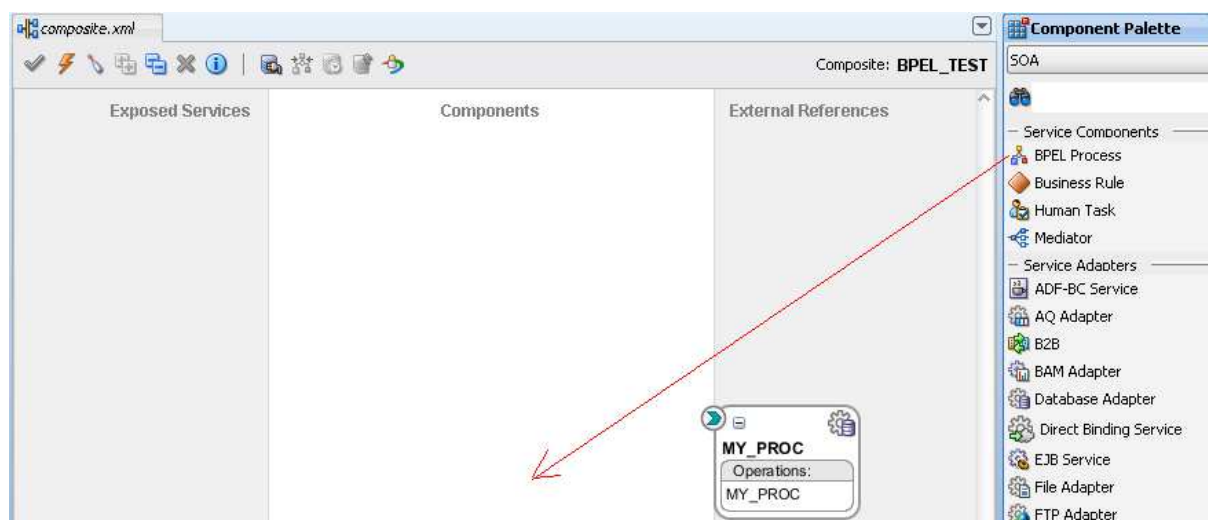
## Utwórz proces BPEL

Nasz BPEL ma zwracać XMLa, dlatego trzeba mu powiedzieć, jak ma ten XML wyglądać. Definicję zwracanego pliku XSD możemy utworzyć dowolnie ( w naszym przypadku została ona wygenerowana przez system dossier ) i umieszczamy ją w projekcie, np. przez skopiowanie pliku do projektu:



Po skopiowaniu i odświeżeniu plik pokazuje się tutaj. Zaraz go użyjemy definiując output dla BPEL.

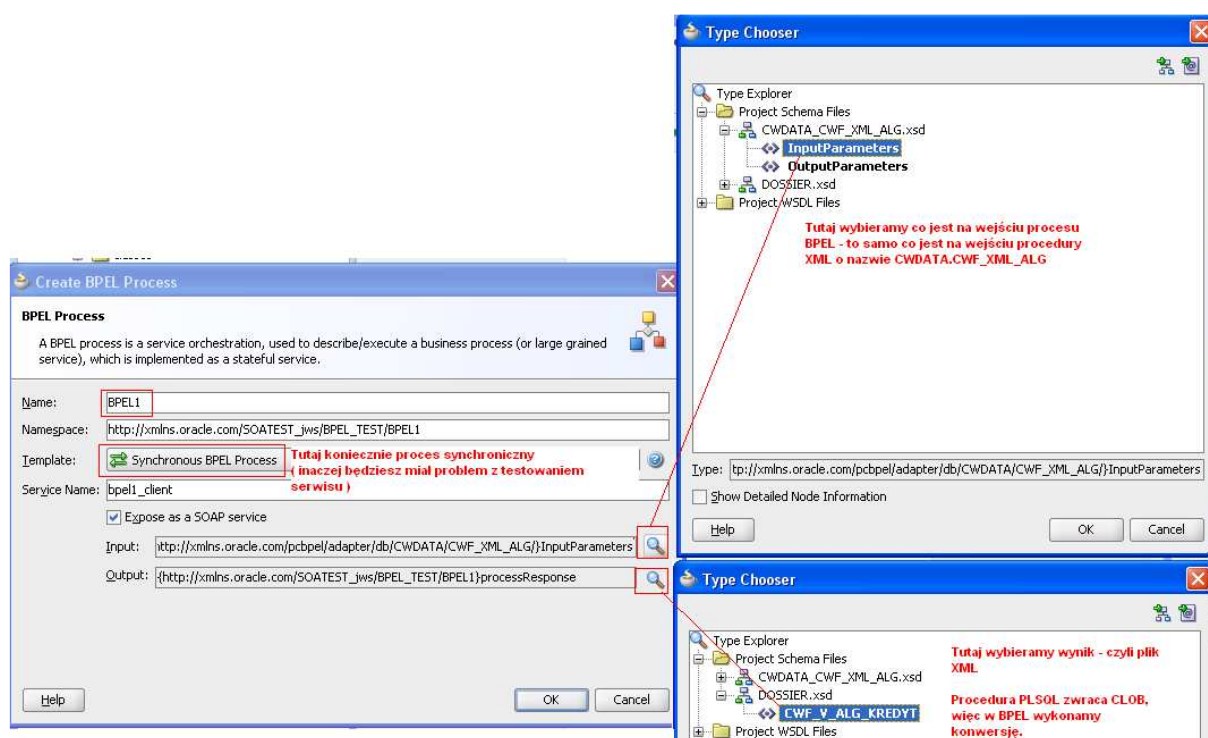




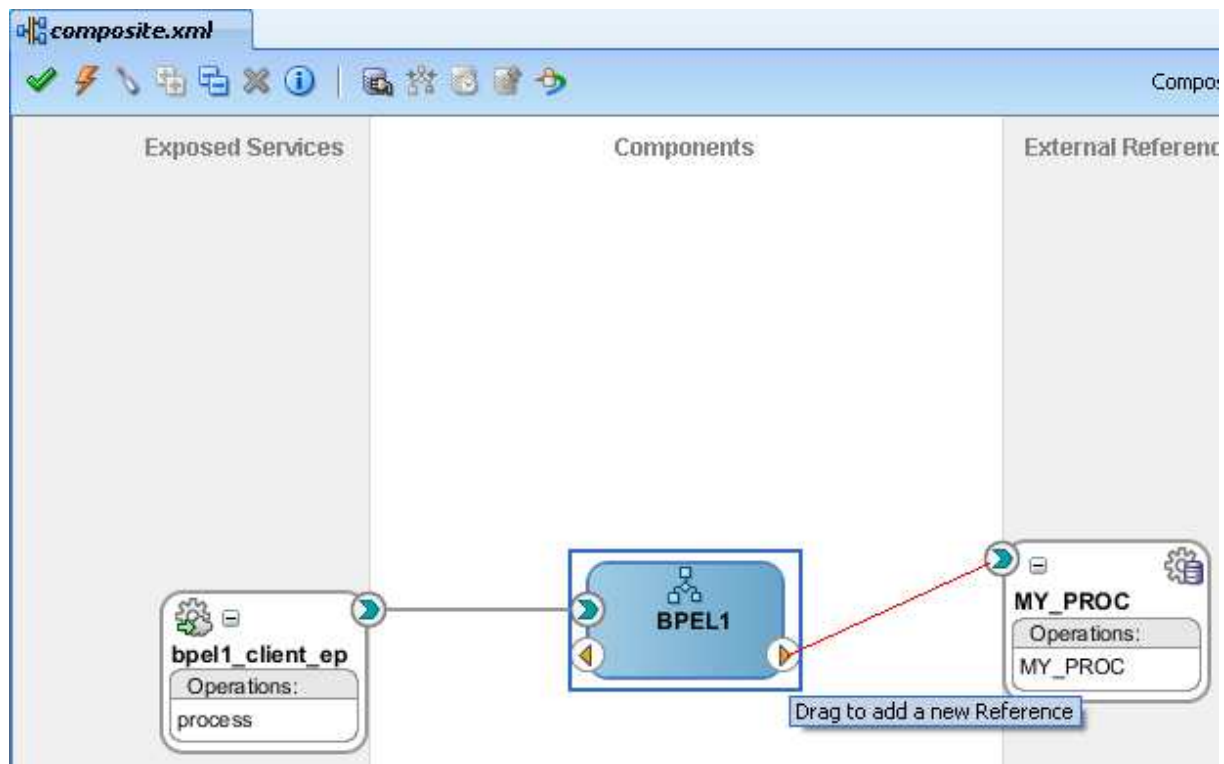
Pamiętaj, żeby wybrać proces synchroniczny, nie jest potem łatwo zmienić proces



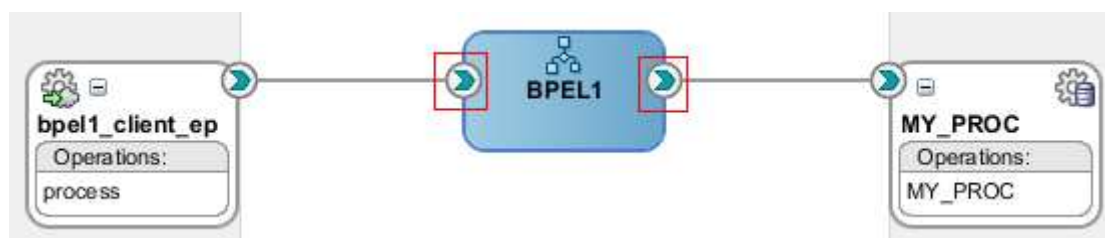
asynchroniczny na synchroniczny, bo np. proces synchroniczny ma klocek `replyOutput` a proces synchroniczny callback.



Połącz BPEL z adapterem bazy danych

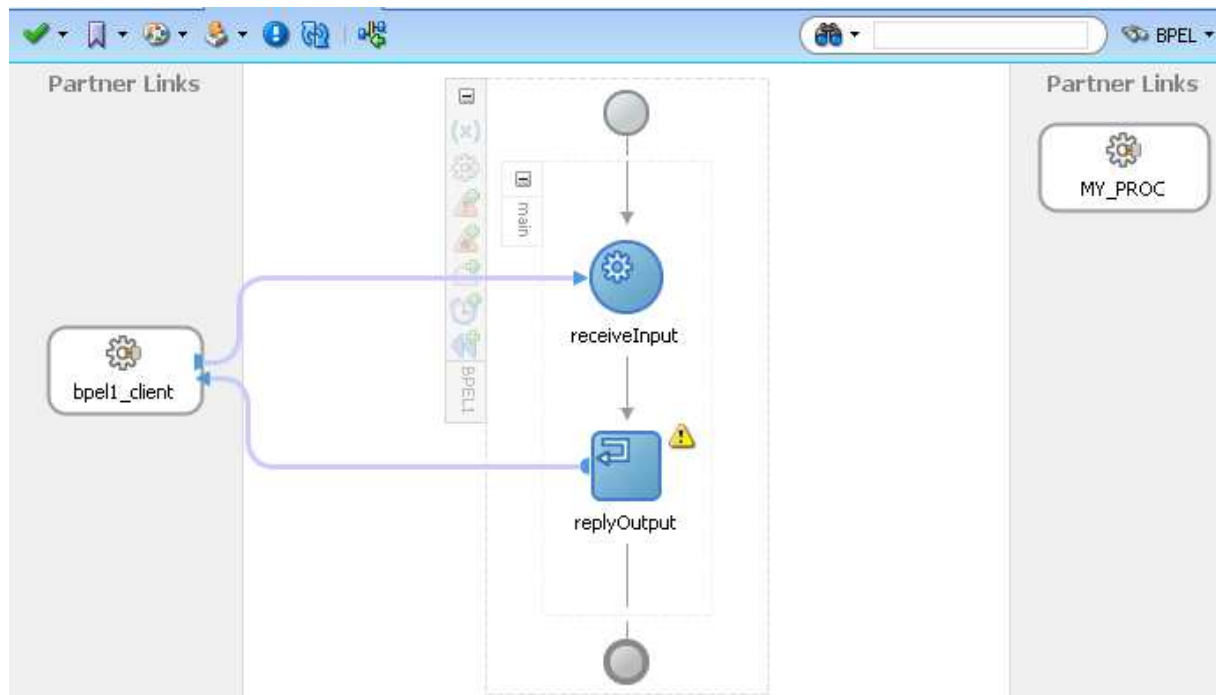


Po kliknięciu w zaznaczone elementy możesz sprawdzić jakie są parametry wejściowe i wyjściowe:

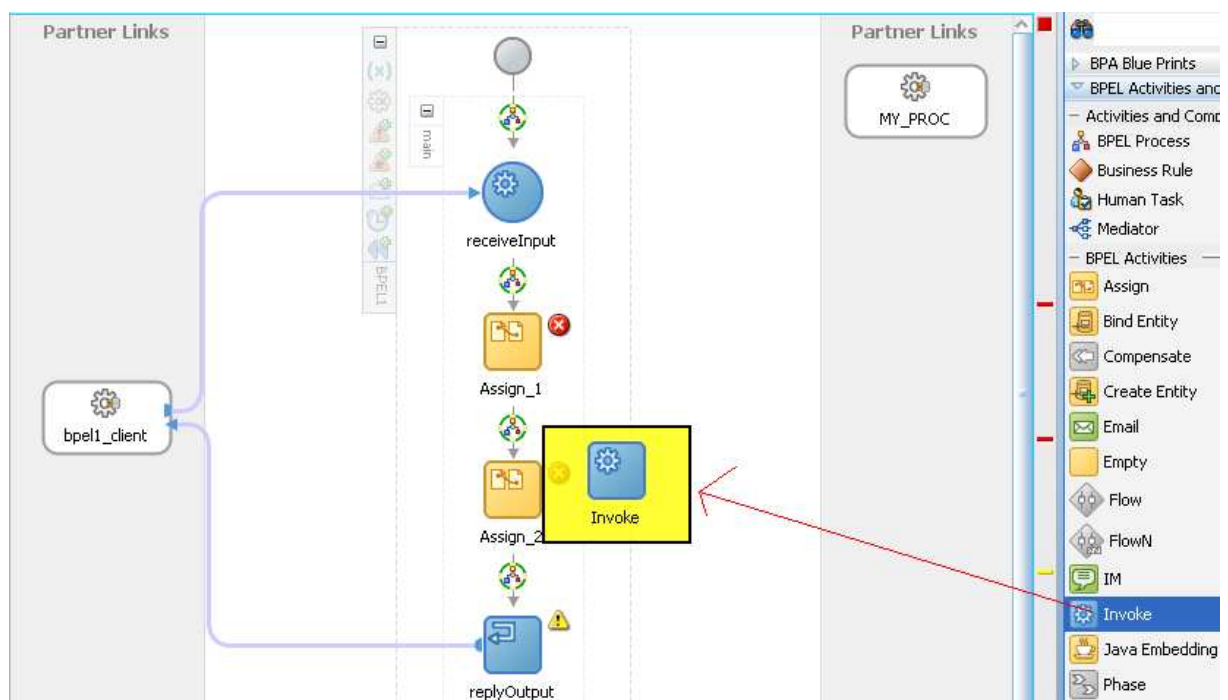


Zbuduj wewnątrz procesu BPEL. Z reguły do szkieletu trzeba dodać elementy:

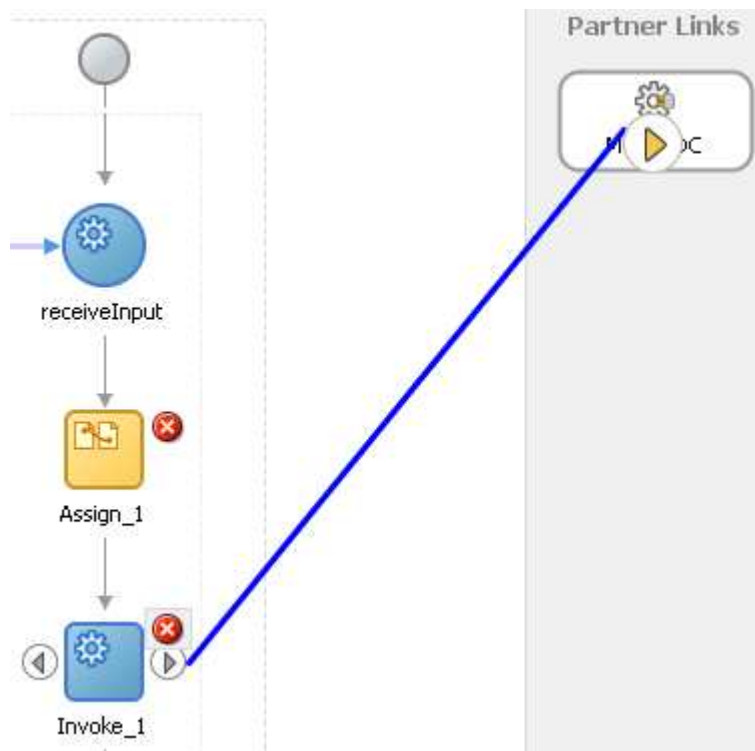
- assign: które przepisują zmienne wejściowe procesu do zmiennych wejściowych wywołania
- invoke: wywołanie procedury PLSQL
- assign: które przepisują zmienne wyjściowe procesu do zmiennych wyjściowych wywołania



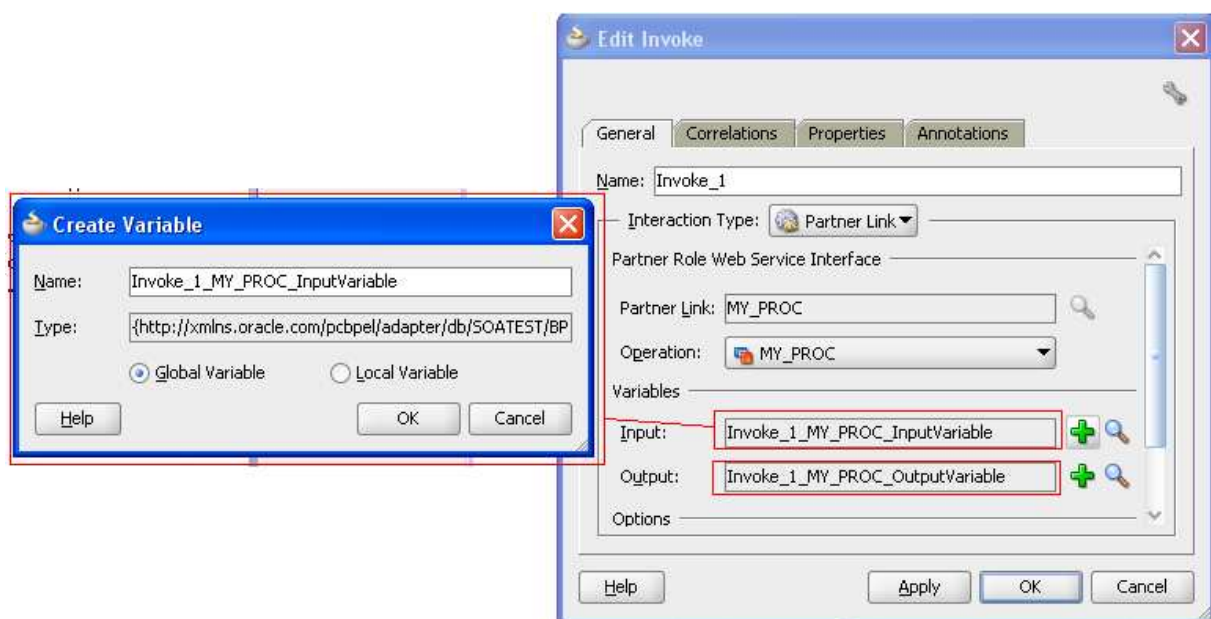
Dodajemy klocki assign, invoke, assign



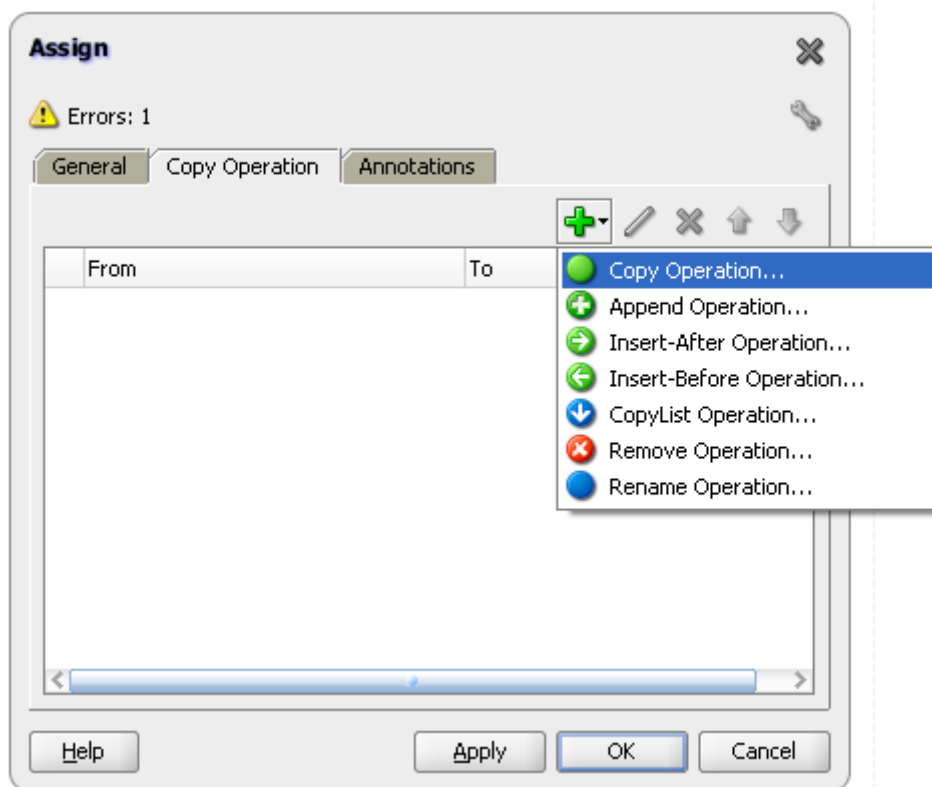
Konfigurujemy invoke – łączymy z MY\_PROC i dodajemy zmienne wejściowe i wyjściowe



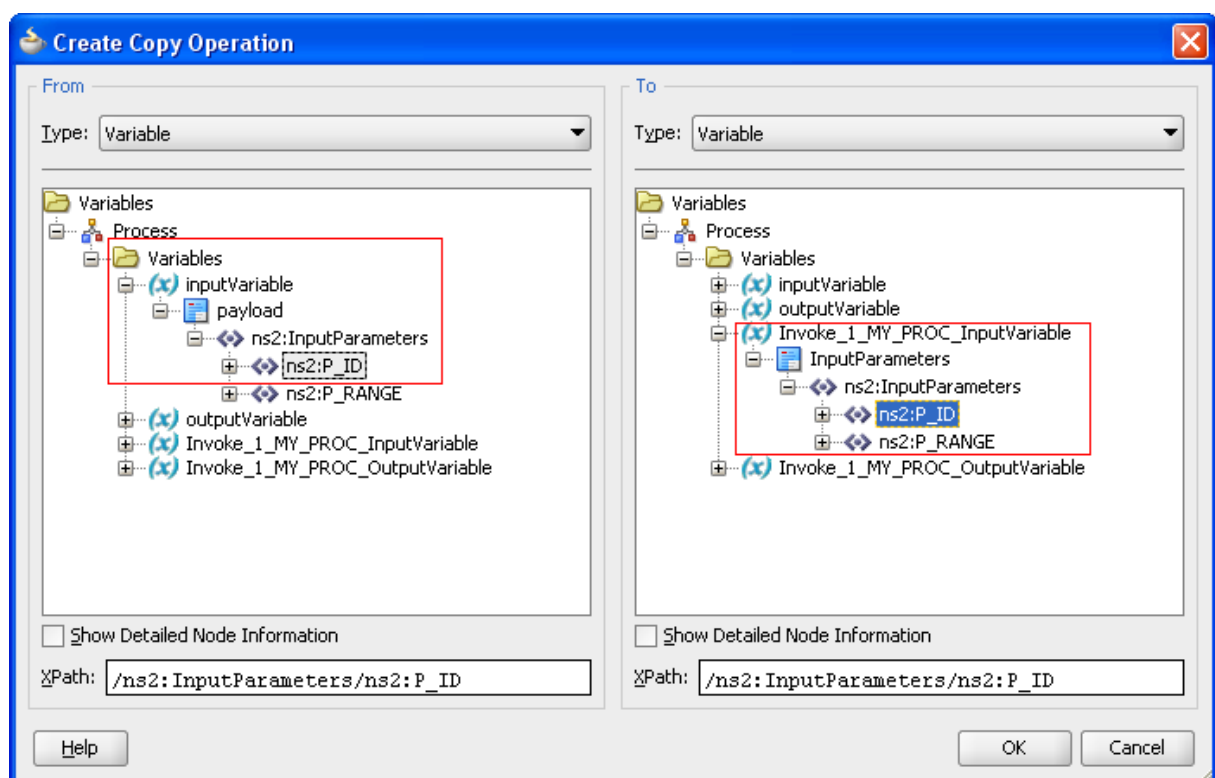
input i output musi być podany. Najprościej- kliknij w plusa i naciśnij OK., wówczas zmienna utworzy się automatycznie.



Dopiero teraz konfigurujemy assign1 ( wcześniej nie mielibyśmy dostępnych w drzewku zmienny wejściowych i wyjściowych procedury PL/SQL ):

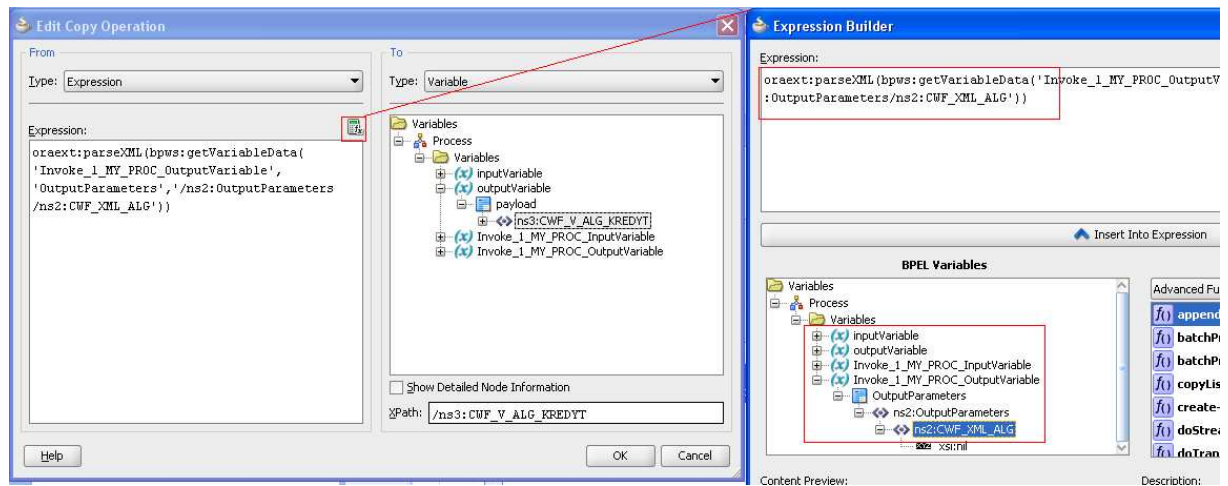


Łączymy zmienną procedury ze zmienną wej. procedury PL/SQL – klikając w drzewko:

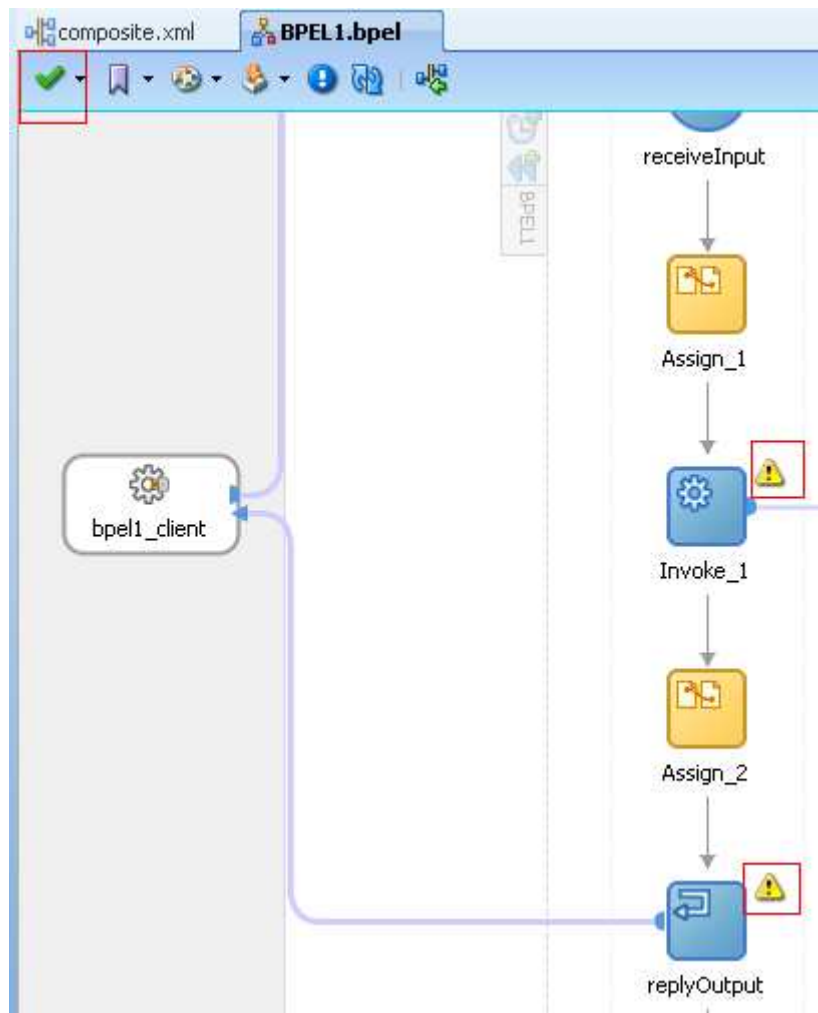


Konfigurujemy assign2:

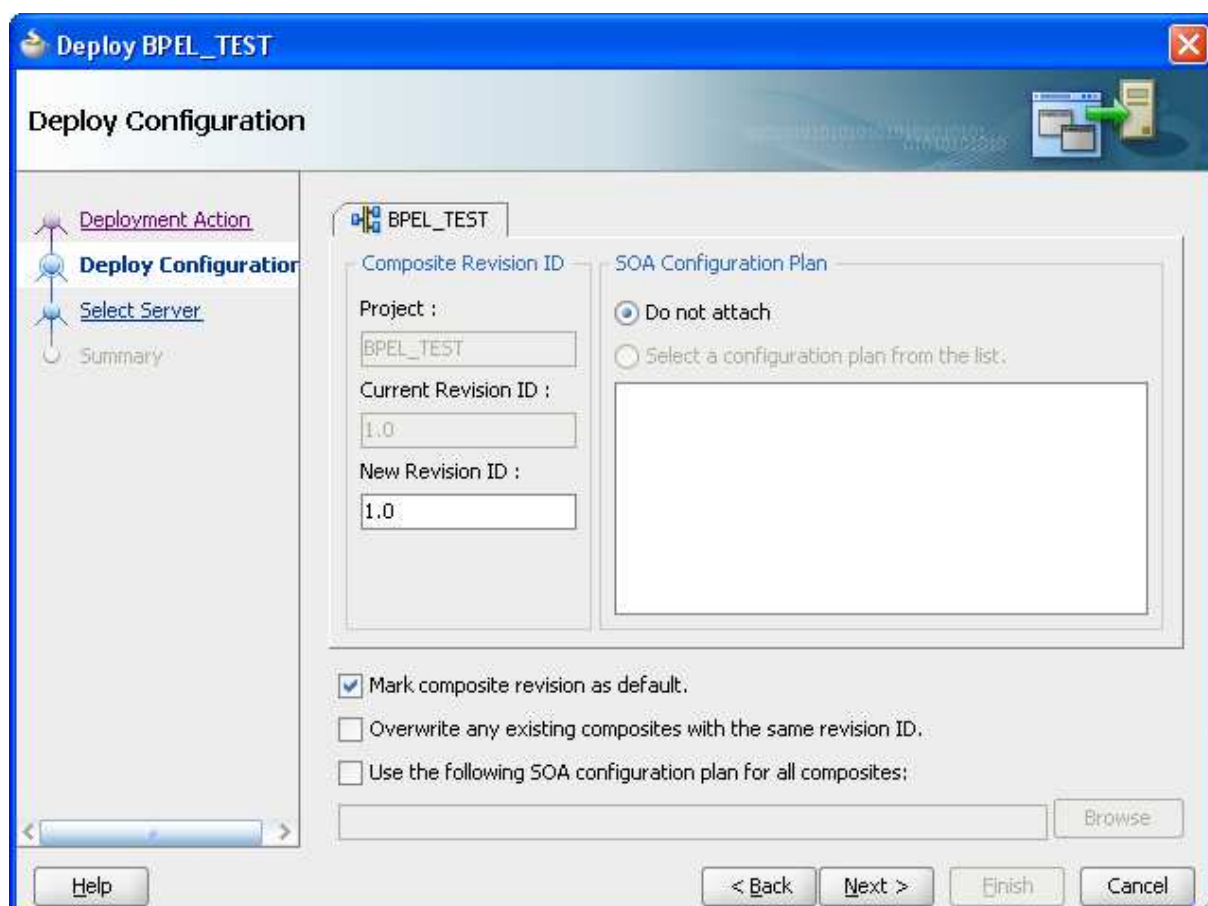
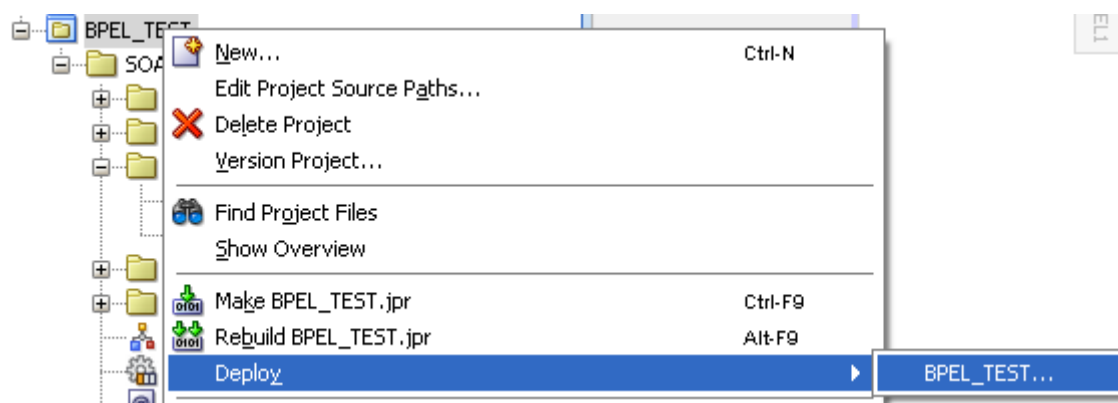
Musimy skonwertować CLOB ( to zwraca PL/SQL ) na XML, do tego używamy funkcji ParseXML. Nie piszemy expression ręcznie, lecz klikamy myszą !



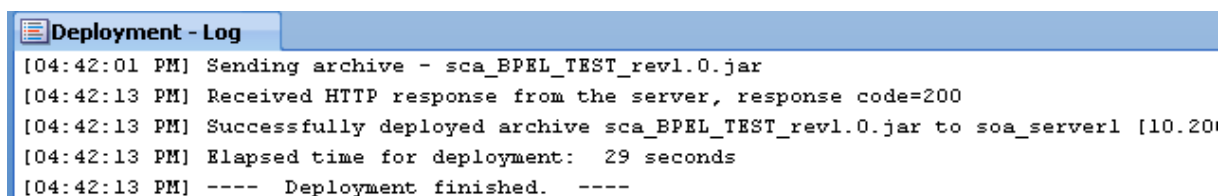
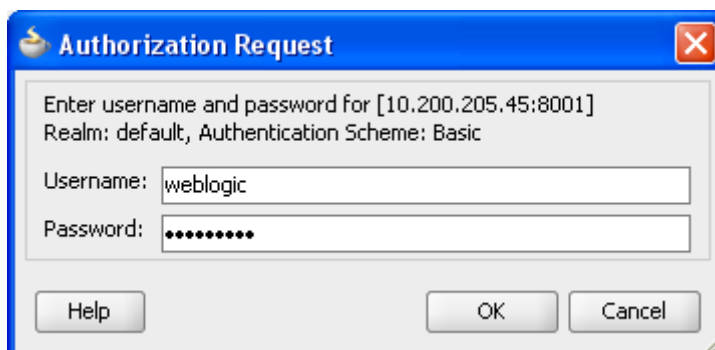
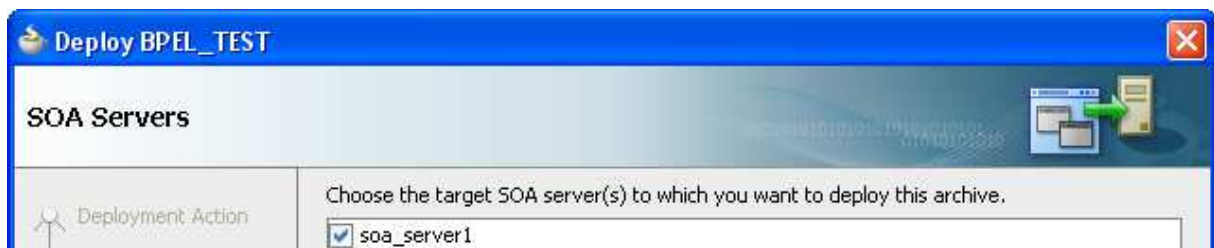
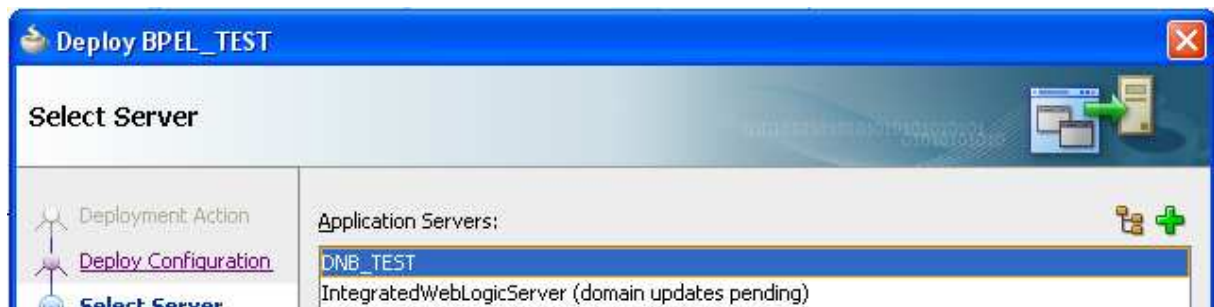
To wszystko. Jeżeli nie zniknęły wykrzykniki z ekranu, to naciśnij przycisk validate.



**Deployment**

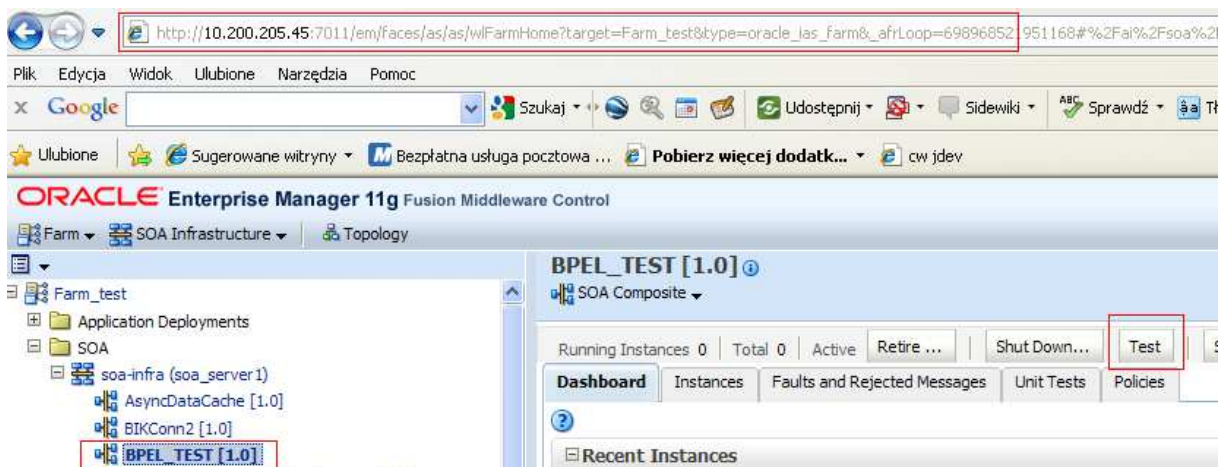


Możemy zdeployować projekt na serwer zdalny lub serwer zintegrowany z jdeveloper.



## Testy

<http://10.200.205.45:7011/em>



Input Arguments

Tree View

| Name      | Type    | Value |
|-----------|---------|-------|
| * payload | payload |       |
| P_ID      | string  | 6400  |
| P_RANGE   | string  |       |

Request

Response

Test Web Service

Przeglądanie wyników

Request

Response

Test Status Passed

Response Time (ms) 328

Tree View

Launch Message Flow Trace

| Name                 | Type                 | Value |
|----------------------|----------------------|-------|
| * payload            | payload              |       |
| CWF_V_ALG_KREDYT_ROW | CWF_V_ALG_KREDYT_ROW |       |
| CWF_V_ALG_KREDYT_ROW | CWF_V_ALG_KREDYT_ROW |       |

## Diagnostyka

Można przeglądać graficznie proces bpel i wyniki wszystkich kroków procesu

Request

Response

Test Status Passed

Response Time (ms) 328

Tree View

Launch Message Flow Trace

| Name                 | Type                 | Value |
|----------------------|----------------------|-------|
| * payload            | payload              |       |
| CWF_V_ALG_KREDYT_ROW | CWF_V_ALG_KREDYT_ROW |       |
| CWF_V_ALG_KREDYT_ROW | CWF_V_ALG_KREDYT_ROW |       |

## Flow Trace

This page shows the flow of the message through various composite and component instances. 

### Faults (0)

#### Faults

Select a fault to locate it in the trace view.

Error Message

No faults found

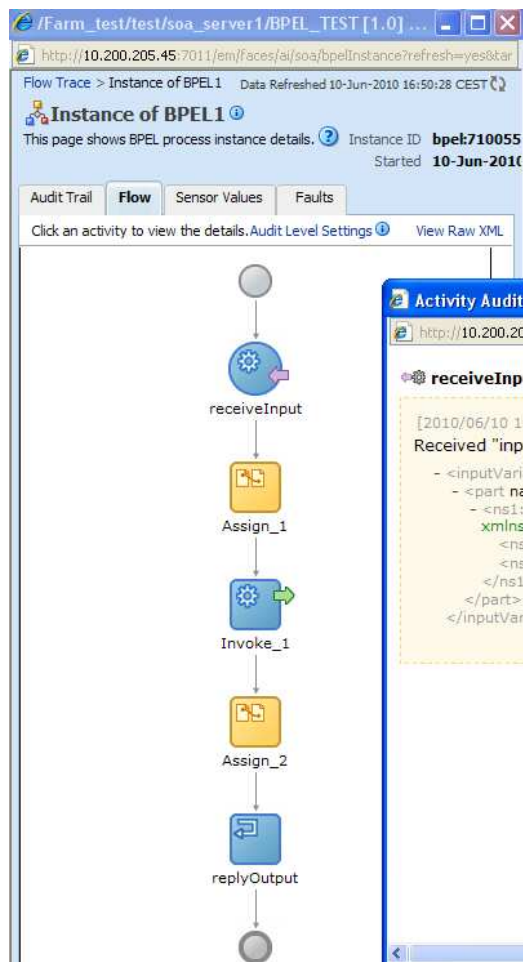
### Sensors (0)

## Trace

Click a component instance to see its detailed audit trail.

Show Instance IDs ☐

| Instance                                                                                          | Type           | State       |
|---------------------------------------------------------------------------------------------------|----------------|-------------|
|  bpel1_client_ep | Service        | ✓ Completed |
|  BPEL 1          | BPEL Component | ✓ Completed |
|  MY_PROC         | Reference      | ✓ Completed |



Activity Audit Trail — okno dialogowe strony sieci Web

<http://10.200.205.45:7011/em/ai/sca/share/audit/nfdg/dlgElementDetails.jsp>

 **receiveInput**

[2010/06/10 16:45:20]  
Received "inputVariable" call from partner "bpel1\_client"

```
- <inputVariable>
- <part name="payload" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
- <ns1:InputParameters
  xmlns:ns1="http://xmlns.oracle.com/pcbpel/adapter/db/CWDATA/CWF_XML_ALG/">
  <ns1:P_ID>6400</ns1:P_ID>
  <ns1:P_RANGE/>
</ns1:InputParameters>
</part>
</inputVariable>
```

## Konfiguracja połączenia z bazą danych na serwerze

<http://10.200.205.45:7011/console/login/LoginForm.jsp>



The screenshot shows a Windows Internet Explorer browser window. The title bar reads "Oracle WebLogic Server Administration Console - Windows Internet Explorer". The address bar shows the URL "http://10.200.205.45:7011/console/login/LoginForm.jsp". The browser's menu bar includes "Plik", "Edycja", "Widok", "Ulubione", "Narzędzia", and "Pomoc". The search bar contains the Google logo and a search button labeled "Szukaj". The toolbar shows "Ulubione", "Sugerowane witryny", "Bezpłatna usługa pocztowa ...", and "Pobierz".

The main content area displays the "ORACLE WebLogic Server® 11g Administration Console" header. Below this is a "Welcome" box with the text "Log in to work with the WebLogic Server domain". The login form contains two fields: "Username:" with the value "weblogic" and "Password:" with masked characters. A "Log In" button is located at the bottom right of the form.

**ORACLE**  
**WebLogic Server® 11g**  
Administration Console

**Welcome**

Log in to work with the WebLogic Server domain

**Username:**

**Password:**

Summary of Deployments - test - WLS Console - Windows Internet Explorer

http://10.200.205.45:7011/console/console.portal?\_nfpb=true&\_pageLabel=AppDeploymentsControlPage

Plik Edycja Widok Ulubione Narzędzia Pomoc

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Ulubione Sugerowane witryny Bezpłatna usługa pocztowa Pobierz więcej dodatk... cw jdev

### ORACLE WebLogic Server® Administration Console

Home Log Out Preferences Record Help

Home > Summary of JDBC Data Sources > Summary of Deployments > DbAdapter > Summary of Deployments

#### Summary of Deployments

Control Monitoring

This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications and modules can be updated (redeployed), or deleted from the domain by first selecting the application name and using the controls on this page.

To install a new application or module for deployment to targets in this domain, click the Install button.

Customize this table

#### Deployments

Install Update Delete Start Stop Showing 1

| Name                             | State    | Health | Type                   |
|----------------------------------|----------|--------|------------------------|
| /MIGModule-Project1-context-root | Active   | OK     | Web Application        |
| AqAdapter                        | Prepared |        | Resource Adapter       |
| b2bui                            | Prepared |        | Enterprise Application |
| composer                         | Prepared |        | Enterprise Application |
| CreditWorkflow                   | Active   | OK     | Enterprise Application |
| CwDocumentGenerator              | Prepared |        | Enterprise Application |
| CWMocks                          | Active   | OK     | Enterprise Application |
| DbAdapter                        | Prepared |        | Resource Adapter       |

Settings for DbAdapter - test - WLS Console - Windows Internet Explorer

http://10.200.205.45:7011/console/console.portal?\_nfpb=true&\_pageLabel=ConnectorApplicationConfigurationOutboundConnectionPoolPage&\_nfpb=true&ConnectorAp

Plik Edycja Widok Ulubione Narzędzia Pomoc

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Ulubione Sugerowane witryny Bezpłatna usługa pocztowa Pobierz więcej dodatk... cw jdev

### ORACLE WebLogic Server® Administration Console

Home Log Out Preferences Record Help

Home > Summary of JDBC Data Sources > Summary of Deployments > DbAdapter > Summary of Deployments > DbAdapter

#### Settings for DbAdapter

Overview Deployment Plan Configuration Security Targets Control Testing Monitoring Notes

General Properties Outbound Connection Pools Admin Objects Workload Instrumentation

This page displays a table of Outbound Connection Pool groups and instances for this resource adapter. The top level entries in the table represent Groups and are listed by connection factory interface and the instances are listed by their JNDI names. Expand a group to obtain configuration information for an Outbound Connection Pool group. Click the name of a group or instance to configure it. Automatically generated Connection Pools are not shown.

#### Outbound Connection Pool Configuration Table

New Delete

| Groups and Instances                 | Connection Factory Interface         |
|--------------------------------------|--------------------------------------|
| javax.resource.cci.ConnectionFactory | javax.resource.cci.ConnectionFactory |
| eis/DB/cwdata                        | javax.resource.cci.ConnectionFactory |
| eis/DB/cwdatadev                     | javax.resource.cci.ConnectionFactory |
| eis/DB/cwint                         | javax.resource.cci.ConnectionFactory |
| eis/DB/DecisionModuleTest            | javax.resource.cci.ConnectionFactory |
| eis/DB/dnbdev                        | javax.resource.cci.ConnectionFactory |
| eis/DB/SOAdemo                       | javax.resource.cci.ConnectionFactory |

## Outbound Connection Properties

| Save                     |                           |                   |                                                   |
|--------------------------|---------------------------|-------------------|---------------------------------------------------|
| <input type="checkbox"/> | Property Name ↕           | Property Type     | Property Value                                    |
| <input type="checkbox"/> | dataSourceName            | java.lang.String  |                                                   |
| <input type="checkbox"/> | defaultNChar              | java.lang.Boolean | false                                             |
| <input type="checkbox"/> | platformClassName         | java.lang.String  | oracle.toplink.platform.database.Oracle10Platform |
| <input type="checkbox"/> | sequencePreallocationSize | java.lang.Integer | 50                                                |
| <input type="checkbox"/> | usesBatchWriting          | java.lang.Boolean | false                                             |
| <input type="checkbox"/> | usesNativeSequencing      | java.lang.Boolean | true                                              |
| <input type="checkbox"/> | usesSkipLocking           | java.lang.Boolean | true                                              |
| <input type="checkbox"/> | xADataSourceName          | java.lang.String  | jdbc/cwdata                                       |

, gdzie cwdata to

Home Page

Information and Resources

Helpful Tools

- Configure applications
- Recent Task Status
- Set your console preferences
- Oracle Enterprise Manager

General Information

- Common Administration Task Descriptions
- Read the documentation
- Ask a question on My Oracle Support
- Oracle Guardian Overview

Domain Configurations

Domain

- Domain

Environment

- Servers
- Clusters
- Virtual Hosts
- Migratable Targets
- Machines
- Work Managers
- Startup And Shutdown Classes

Services

Interoperability

Diagnostics

## Data Sources(Filtered - More Columns Exist)

| New                      | Delete                       | Showing 1 to 10                   |                          |
|--------------------------|------------------------------|-----------------------------------|--------------------------|
| <input type="checkbox"/> | Name ↕                       | JNDI Name                         | Targets                  |
| <input type="checkbox"/> | BIK_DS                       | BIK_DS                            | Server-ADF               |
| <input type="checkbox"/> | CWDATA                       | CWDATA                            | Server-ADF, soa_server1  |
| <input type="checkbox"/> | cwdata                       | jdbc/cwdata                       | AdminServer, soa_server1 |
| <input type="checkbox"/> | cwdatadev                    | jdbc/cwdatadev                    | AdminServer, soa_server1 |
| <input type="checkbox"/> | CWDATADOCGEN                 | CWDATADOCGEN                      | Server-ADF, soa_server1  |
| <input type="checkbox"/> | CWINT                        | jdbc/cwint                        | AdminServer, soa_server1 |
| <input type="checkbox"/> | DecisionModuleDataSourceTest | jdbc/DecisionModuleDataSourceTest |                          |
| <input type="checkbox"/> | DNBDev                       | jdbc/dnbdev                       | AdminServer, soa_server1 |
| <input type="checkbox"/> | EDNDataSource                | jdbc/EDNDataSource                | soa_server1              |

**Settings for cwdata**

**Configuration** Targets Monitoring Control Security Notes

General **Connection Pool** Transaction Diagnostics Identity Options

The connection pool within a JDBC data source contains a group of JDBC connections that applications reserve within it are created when the connection pool is registered, usually when starting up WebLogic Server or when the connection pool is first used.

Use this page to define the configuration for this data source's connection pool.

 **URL:**

 **Driver Class Name:**

 **Properties:**

 **Password:**

**Confirm Password:**

## Konfiguracja połączenia z bazą danych na serwerze - Advanced queuing

(do tego źródła odwołuje się plik w BPEL, odwołanie jest w pliku XML)

[http://10.200.205.45:7011/console/console.portal?\\_nfpb=true&\\_pageLabel=AppDeploymentsControlPage](http://10.200.205.45:7011/console/console.portal?_nfpb=true&_pageLabel=AppDeploymentsControlPage)

Summary of Deployments - dev - WLS Console - Windows Internet Explorer

http://10.200.205.44:7011/console/console.portal?\_nfpb=true&\_pageLabel=AppDeploymentsControlPage

Plik Edycja Widok Ulubione Narzędzia Pomoc

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Ulubione

**ORACLE WebLogic Server® Administration Console**

Change Center  
View changes and restarts  
Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Domain Structure  
dev  
├ Environment  
├ **Deployments**  
├ Services  
├ Security Realms  
├ Interoperability  
└ Diagnostics

How do I...  
• Install an Enterprise application

Home Log Out Preferences Record Help

Home > Summary of Deployments

**Summary of Deployments**  
Control Monitoring

This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications and n (redeployed), or deleted from the domain by first selecting the application name and using the controls on this page.

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Customize this table

**Deployments**  
Install Update Delete Start Stop

| Name                                     | State  | Health | Type             |
|------------------------------------------|--------|--------|------------------|
| adf.oracle.domain(1.0,11.1.1.2.0)        | Active |        | Library          |
| adf.oracle.domain.webapp(1.0,11.1.1.2.0) | Active |        | Library          |
| <b>AqAdapter</b>                         | Active | OK     | Resource Adapter |

**Settings for javax.resource.cci.ConnectionFactory**

Overview Deployment Plan **Configuration** Security Targets Control Testing Monitoring Notes

General Properties **Outbound Connection Pools** Admin Objects Workload Instrumentation

This page displays a table of Outbound Connection Pool groups and instances for this resource adapter. The top level entries in the table represent listed by connection factory interface and the instances are listed by their JNDI names. Expand a group to obtain configuration information for a Cc Connection Pool group. Click the name of a group or instance to configure it. Automatically generated Connection Pools are not displayed in the tab

**Outbound Connection Pool Configuration Table**  
New Delete

| Groups and Instances                                          | Connection Factory Interface         |
|---------------------------------------------------------------|--------------------------------------|
| <input type="checkbox"/> javax.resource.cci.ConnectionFactory | javax.resource.cci.ConnectionFactory |
| <input type="checkbox"/> <b>eis/AQ/aqSample</b>               | javax.resource.cci.ConnectionFactory |

## Konfiguracja połączenia z bazą danych na serwerze - MQ Series

Analogicznie, deployment

|                          |                        |
|--------------------------|------------------------|
| <input type="checkbox"/> | <b>MQSeriesAdapter</b> |
|--------------------------|------------------------|



