Usage Scenario: Travel Allowance Calculation using NW BRM

Applies to
NetWeaver Composition Environment 7.2, Business Rules Management.
For more information, visit the Business Rules Management homepage.

Summary
This article showcases the use of SAP NetWeaver BRM in calculating the travel allowance for an employee travelling on an official tour. The calculation is based on the travel policies laid down by the Company.
This article explains the case scenario being handled, the NW BRM feature set used and a quick guide on how to use the reference application provided at the following location:

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Introduction
In the current situation of the market, every penny you save for the company will be a big plus for its survival and in-turn the survival of the employees. For that reason, all the companies are following some policies laid down for their travel needs. And this demo will try to capture some of the common travel policies that are practiced across the corporate world. In this demo, we would like to showcase how travel policies related to employees going on work related tours can be handled using SAP NetWeaver BRM.

Case Scenario: Travel Allowance Process
In this demo we have considered some of the travel policies that are used in corporate sector. Any employee who is travelling to another location pertaining to a work, he will be given assistance and benefits. The demo will help the user in knowing the allowances that the employee is eligible for, based on the provided input.

Eligibility calculation
Whenever an employee is sent to another location pertaining to a work, then he will be provided with financial assistance for travel. That will be provided in the following areas:
- Travel ticket bookings
- Daily personal expenses (Per diem) which will include:
  1. Accommodation charges
  2. Food & groceries,
  3. Telephone (in excess of the eligible telephone allowance),
  4. Laundry (in excess of the eligible laundry allowance),
  5. Toiletries for personal use,
  6. hair cut (once in a month),
  7. parking fees,
  8. fuel bills (in excess of the eligible fuel allowance)
- Car rental bookings if opted for, and
- Baggage allowance

And this demo will be considering the above mentioned points for the calculation of the allowances that will be given to the employee before he is going on the trip.

The scenario will be, the employee travelling will provide the required details to the travel admin for calculating the Travel Allowance he is eligible for. Some of the inputs shall be as follows
- Name
- Designation
- Trip duration
- Flight duration
- Car facility needed or not, etc.

And basing on travel policies and rules, the Travel Allowance will be calculated and displayed back to the employee. The details that are shown to the employee include:
- Total travel allowance
- Per Diem eligibility
- Fuel allowance (if eligible)
- Baggage allowance (if eligible), and
- Air ticket class
Solution for this scenario

The above mentioned scenario can be solved in the following way:

1. The employee enters his personal and trip details and submits to the travel admin
2. The total Travel allowance, Per Diem eligibility along with other details will be calculated and will be sent back to the employee.
3. The employee views the details of his travel allowance eligibility and the process ends

Components used in the scenario

- Rules Composer (for writing rules)
- Process Composer & Server
- Web Dynpro & UML

The usage of the above Components across the scenario

Rules Composer

- Calculation of the Travel Allowance is done using Flow Ruleset feature of Rules Composer
- The flow rule set is exposed as a web service

Process Composer & Server

- Rules DC has been deployed on to the server.
- WSDL file that’s been generated is consumed in the Process Composer

Web Dynpro & UML

- To provide the Trip Details, Employee Details and to view the Travel Allowance details, WebDynpro UI framework & UML are used.

Working with the readily available Travel Allowance Scenario

1. Creating Rules, Process and WebDynpro DCs in NetWeaver Developer Studio
2. Building and deploying the Rules, Process and WebDynpro DCs
3. Creating required users in NWA
4. Running the application created

1. Creating Rules, Process and WebDynpro DCs in NetWeaver Developer Studio

Extract the zip file from this location
(http://www.sdn.sap.com/irj/scn/portal/prtroot/docs/library/uuid/4008df79-c29b-2d10-2fb2-d7dd693e399e) into the workspace

"\Workspace.jdi\LocalDevelopment\DCs\demo.sap.com"

- Open NetWeaver Development Studio
- Choose Window → Open Perspective → Development Infrastructure
- In the Development Infrastructure Perspective, select component Browser
- Choose “Local Development” → My Components
- Right click on the My Components and select Refresh Option
- The extracted DC’s appears.
- Right click the DC’s and choose Sync/Create Project → Create Project
- The project will open in their corresponding Perspectives.
2. Building and deploying the Rules, Process and WebDynpro DCs

Building and deploying Rules DC
- Open Rules Composer Perspective
- In the context menu of the Rules DC, choose Development Component > Build.
- Deploying the Rules DC

Note: Before deploying the Project, you should have a running instance of the SAP AS, and should have configured the SAP NetWeaver Developer Studio with this instance. To do this, choose Windows > Preferences > SAP AS java. You will see a Add new SAP System button on the right side. Choose the button and enter the Server Name and Instance Number. Open the Rules Composer Perspective.

- In the context menu of the Rules DC, choose Development Component > Deploy.
- The Rules project is deployed into the server.

Building and deploying Process and WebDynpro DCs
- Open Process Composer Perspective
- In the context menu of the Process DC, choose Development Component > Build
- Deploying the Process DC

Note: Before deploying the Project, you should have a running instance of the SAP AS, and should have configured the SAP NetWeaver Developer Studio with this instance. To do this, choose Windows > Preferences > SAP AS Java. You will see an Add new SAP System button in the right side. Choose the button and enter the Server Name and Instance Number.

- Open the Process Composer Perspective
- In the context menu of the Process DC, choose Development Component > Deploy

Note: In the Deploy DCs wizard, select the dependent WebDynpro DC as well.

- The Process & WebDynpro DCs are deployed onto the server

3. Creating required user in NWA
- Enter the path http://<server>:<port>/nwa in your browser
- Navigate to Operation Management -> Users and Access -> Identity Management
- Search for Administrator in Users. Select the Administrator user.
- Click on Copy User button and fill in all the required fields (marked with a star) in the General Information tab. Fill in the following information for the mandatory fields:

<table>
<thead>
<tr>
<th>Login Id</th>
<th>Last Name</th>
<th>Password</th>
</tr>
</thead>
<tbody>
<tr>
<td>employee</td>
<td>Employee</td>
<td>abcd1234</td>
</tr>
</tbody>
</table>

- Click the Assigned Roles tab
- Add the following roles to the employee user:
  - pcd:portal_content/every_user/general/eu_core_role
  - SAP_BPM_SuperAdmin
- Click on Save button
4. Running the Application created
   ● Starting the Travel Allowance process
     ✓ Enter the path http://<server>:<port>/nwa in your browser
   ● Navigate to Configuration Management -> Processes and Tasks -> Process Repository
   ● Select the test pcdc component from the Components list
   ● Select Rules Process definition from the Details of Component test pcdc (demo.sap.com) and Version <Version Number> (local Development) table
   ● Click on Start Process button and this opens a new window BPM Process Startup : Process
   ● Click on the Start Process button

5. Checking the task entry in the Employee screen
   ● Enter the path http://<server>:<port>/irj in your browser
   ● Provide the login credentials as follows:
     ✓ User Name: employee
     ✓ Password: abcd1234
   ● In the UWL click on the Enter Travel Details link that is shown. Corresponding task window is shown
   ● Enter the required input in the form provided and click on Approve button and close the task window
   ● Now refresh the Work list, you should find on new task in the work list with the name Show Travel Allowance Details
   ● By clicking on Show Travel Allowance Details task in the work list a new task window will be shown in which the details of all the travel allowances that the employee is eligible for are displayed. Click on Approve button and close the window to complete the scenario execution.
Related Content

SDN link for NetWeaver Business Rules Management:

Getting started with BRM:

For more information, visit the Business Rules Management homepage.