

**SAP Composite Application
Framework**



**Implementing
Permission Checks**



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Icons

Type Style	Represents	Icon	Meaning
<i>Example Text</i>	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options.		Caution
	Cross-references to other documentation.		Example
Example text	Emphasized words or phrases in body text, graphic titles, and table titles.		Note
EXAMPLE TEXT	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.		Recommendation
Example text	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.		Syntax
Example text	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.		
<Example text>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.		
EXAMPLE TEXT	Keys on the keyboard, for example, F2 or ENTER.		

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Requirements and Dependencies

Before you start with this tutorial you should have installed the following Software:

- SAP Web Application Server Java 7.0
- SAP NetWeaver Developer Studio 7.0

This tutorial is based on the following How-to Guides:

- Create an Application Service

Additionally you should have configured CAF as described in the How-to Guide "Installation and Configuration Guide".

Applicable Releases

This tutorial is compatible with the following releases:

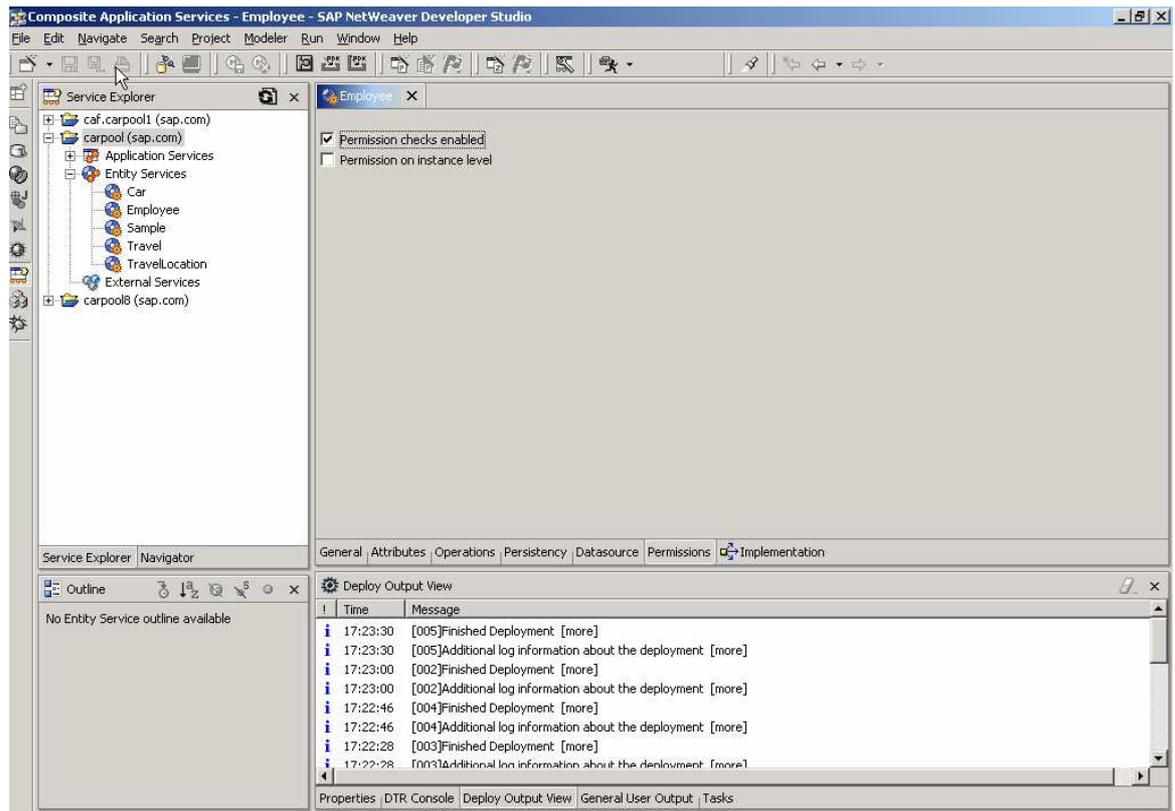
- SAP NetWeaver '04s
- SAP Composite Application Framework (CAF) 7.0

Disclaimer

Any software coding and/or code lines / strings ("Code") included in this documentation are only examples and are not intended to be used in a productive system environment. The Code is only intended better explain and visualize the syntax and phrasing rules of certain coding. SAP does not warrant the correctness and completeness of the Code given herein, and SAP shall not be liable for errors or damages caused by the usage of the Code, except if such damages were caused by SAP intentionally or grossly negligent.

Implementing Permission Checks for Entities

- 1) In the NetWeaver Development Studio, Open the Entity Service *Employee*.
Switch to the tab Permissions. Select the checkbox *Permission Checks Enabled*.



Generate the Project Code, Build the component and deploy it to the J2EE engine.

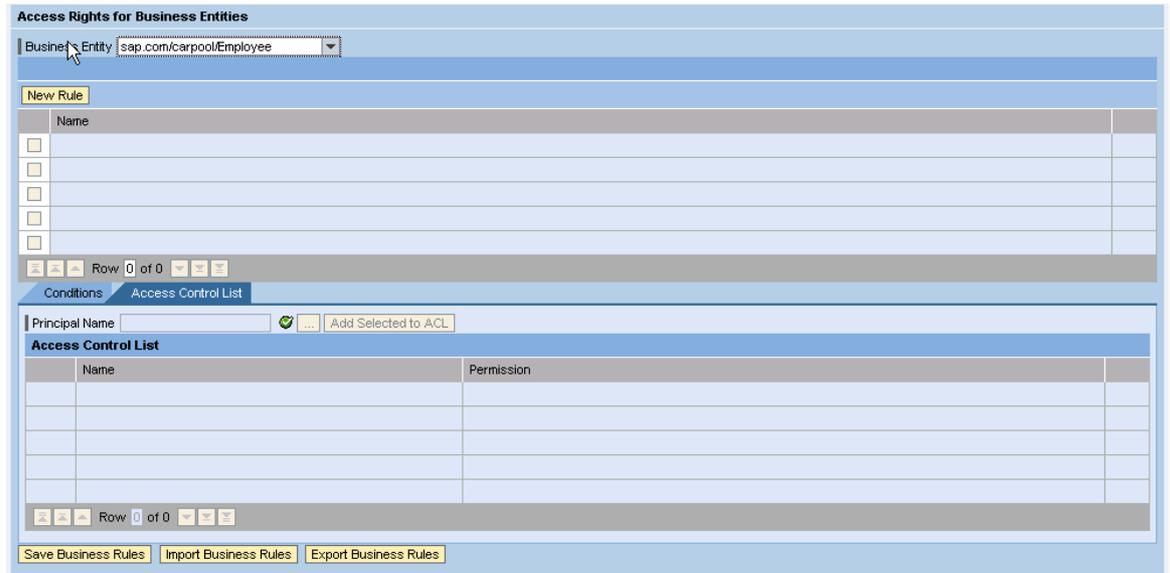
- 2) Now try to create an instance of Employee using the URL
http://<was_host>:<was_port>/webdynpro/dispatcher/sap.com/caf~UI~ptn~objectedit or/ObjectEditor?app.configName=createEmployee (see How-to "Create local entity with maintenance UI", chapter "Maintenance UI configuration using Pattern UI").

You will receive an error message such as "User <username> has no create permissions for the Object Id sap.com/carpool/Employee"

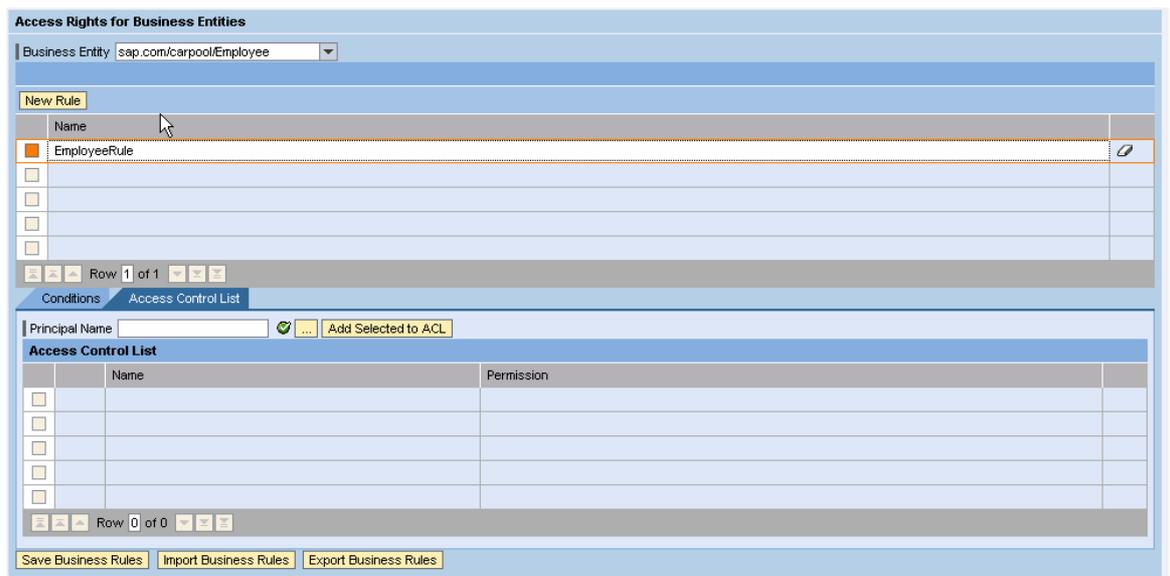
This is caused by the new Permission settings you have made in the Employee service: permission checks are done at runtime.

The following section explains the procedure to setup the permissions for different users.

- 3) To set the Authorization for the Entity Service launch the URL
http://<was_host>:<was_port>/webdynpro/dispatcher/sap.com/caf~UI~ptn~authorization/Authorization

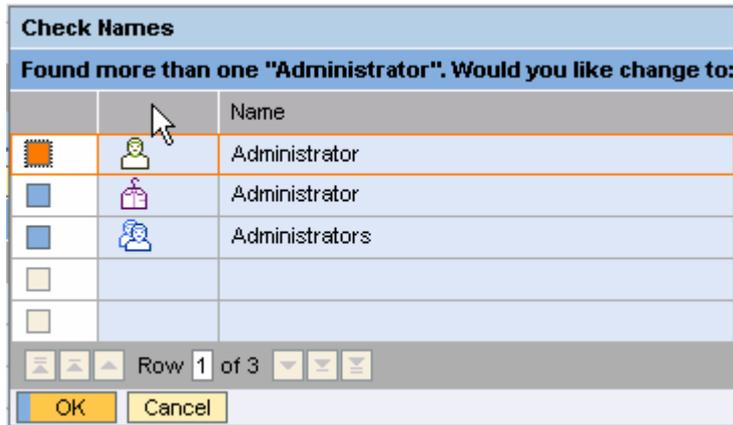


- 4) Select *sap.com/carpool/Employee* from the *Business Entity* dropdown and click the button *New Rule*. Enter the rule name *EmployeeRule*.



- 5) In the *Principal Name* input field, enter the *User Name* (e.g. *Administrator*) to whom you want to give access to *Employee* entity. Then click on the button *Add Selected to ACL*.

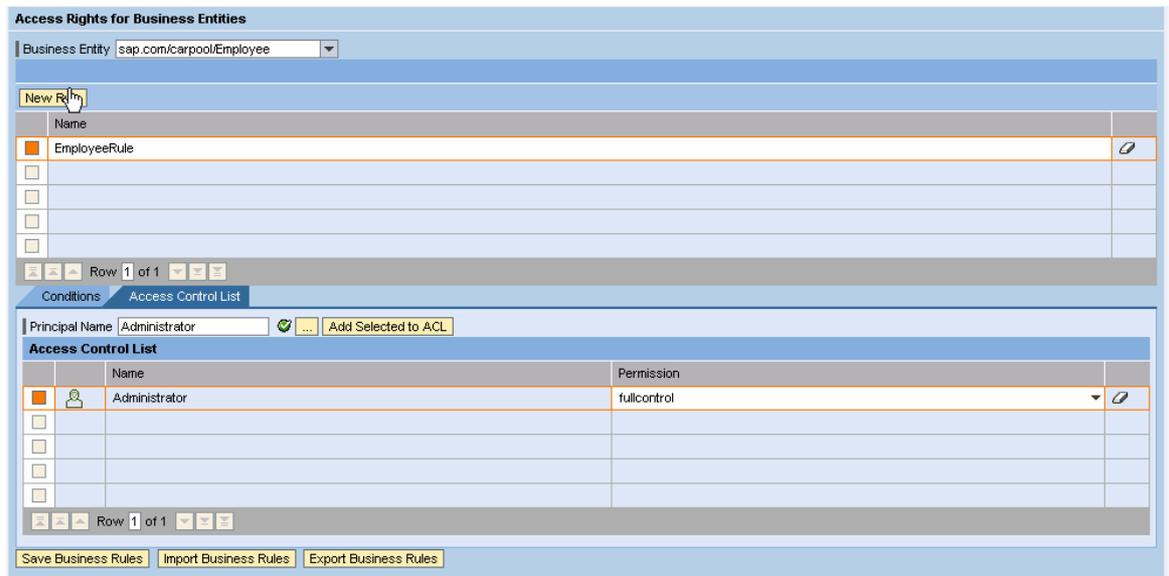
If the name entered has multiple matches, a popup will be displayed with all the options. Select one and click on the *OK* button.



The User will be added to the Access Control List (ACL). Select full control as the permission for the user. This allows the user to read, create, update and delete Employee.

6) Select the required Authorization in the Permission field. The following options can be used.

- Read - The user has display rights to all instances of Employee Service.
- Create - The user can create an instance of Employee service.
- Update - The user can modify an existing instance of Employee Service
- Delete - The user can delete an instance of Employee.
- Full Control - The user has all of the above rights.



Click on the *Save Business Rules* button to save the access settings.

This completes the permission settings for the user. To verify, create an instance of Employee Service through the Object Editor. It should be successful now.

Implementing Permission Propagation for Entities

Entities might have related entities. For example, in our business case, entity Travel is related to other entities Car, Employee and TravelLocation. CAF provides options to propagate the permissions (authorizations) from parent entity to the related entities.

The access rights to a certain object could depend on the context in which the entity is invoked. To reduce complexity and maintenance effort these permissions must not be stored redundantly at each single instance of the entities that belong to the relationship network but need to be determined dynamically from the relationships of every entity.

In the following section we will discuss how to propagate permissions for Travel Entity to the TravelLocation entity. This can be extended to other related entities.

- 1) At the beginning you will set up an UI pattern to test the Permission Propagation scenario.
Open the *carpool* project in your IDE and enable permission checks for the entities *Travel* and *Travel Location*. Select only the first checkbox in the Permission tab. Save, Build and Deploy the DC.

Launch

http://<was_host>:<was_port>/webdynpro/dispatcher/sap.com/caf~UI~ptn~authorization/Authorization, and assign *fullcontrol* rights for the user for the Entity *Travel*.

Create a *Relation Tab* pattern – *relationTravelTravelLocation*. Please not to select *id* and *name* in the list of fields.

Relation Object Tab Configurator

Save and Return Cancel and Return Configuration Name: relationTravelTravelLocati Reload

Service: sap.com/carpool/TravelLo ... Header Aspect: TravelLocation ... Retrieve Metadata

Max Row Count in Table: 2

Fields Displayed in Tab		
Enabled	ID	Name
<input checked="" type="checkbox"/>	key	Key
<input checked="" type="checkbox"/>	id	ID
<input type="checkbox"/>	createdBy	Created By
<input type="checkbox"/>	createdAt	Created At
<input type="checkbox"/>	lastChangedBy	Last Changed By

Row 1 of 7

Object Browser Configuration Name: * browseTravelLocation ... Configure...

Button Title (Call Object Browser): * Browse

Next Create the *Object Editor* pattern *createTravel*. Select the *id* and *startDate* from the fields list. Also add the Relation Tab *relationTravelTravelLocation* in the Tabs for the aspects *startLocation* and *targetLocation*.

Object Editor

Object editor configuration

Save and Return Cancel and Return Configuration Name createTravel Reload

Service: sap.com/carpool/TravelSe... Header Aspect: Travel Retrieve Metadata

Object Related Entries

Fields to be Shown in Object Editor Header			Buttons that Should Appear as Footer of Object Editor				
ID	Name		Action	Name	Application Name	DC Name	Parameters
key	Key	STRING	\$submit\$	Save			
id	ID	STRING					
createdBy	Created By	STRING					
createdAt	Created At	TIMESTAMP					
lastChangedBy	Last Changed By	STRING					

Title of Object to Appear in Header (for example: Project Information...): Create Travel

Object has Own Component Implementation

Component: com.sap.caf.ui.ptn.object Development Component: Configuration Name: Configure

Tab Settings

Tab Container Height

Interface	Name to Appear for Tab	Associated Aspect	Component Name	Development Component	Configuration Name	Config
Tab	Tab no :1	startLocation	com.sap.caf.ui.ptn.objecteditor.relationtab.RelationTab	sap.com/caf-UI-ptn-objecteditor	relationTravelTravelLocation	Config
Tab	Tab no :2	targetLocation	com.sap.caf.ui.ptn.objecteditor.relationtab.RelationTab	sap.com/caf-UI-ptn-objecteditor	relationTravelTravelLocation	Config
Tab	Tab no :3		com.sap.caf.ui.ptn.objecteditor.tabcomp.DummyComponent			Config
Tab	Tab no :4		com.sap.caf.ui.ptn.objecteditor.tabcomp.DummyComponent			Config
Tab	Tab no :5		com.sap.caf.ui.ptn.objecteditor.tabcomp.DummyComponent			Config

Create an Object Selector UI pattern with the settings given below.

Object Selector

Object Selector Configurator

Save and Return Cancel and Return Configuration Name travelSelector Reload Preview

Search Configuration

Development Component: sap.com/caf-UI-ptn-searchbar
 Component: com.sap.caf.ui.ptn.searchbar.SearchBar
 Configuration Name: searchBarTravel Configure...

List Configuration

Development Component: sap.com/caf-UI-ptn-objectselector
 Component: com.sap.caf.ui.ptn.objectlist.ObjectList
 Configuration Name: travelList Configure...

Configure the Search Bar as given below.

Object Selector

Search Bar Configurator

Save and Return Cancel and Return Configuration Name: searchBarTravel Reload

Service: sap.com/carpool/TravelService Query Name: getAll Retrieve Metadata

Select Input Parameters for SearchBar

Name	Description

Row 0 of 0

Set Advanced Search Parameters

Starting Phrase for SearchBar (e.g. Search for Projects): Search Travel

Configure the Object List as shown below. Note that the Object Editor pattern createTravel is used for New/Edit mode.

Object List Configurator

Save and Return Cancel and Return Configuration Name: travelList Reload

Service: sap.com/carpool/TravelService Query Name: getAll Retrieve Metadata

Select Object Identifier for Display: key Tooltip for Object Identifier: key

Header for Object List: Trave List Terminology for New: New

Allow Delete Text View as Default Only List View

Allow Action Execution Action Name:

List View

Fields Displayed in Table

Name	Description
key	Key
id	ID
createdBy	Created By
createdAt	Created At
lastChangedBy	Last Changed By

Row 1 of 7

Text View

Fields Displayed as Attributes of List (not more than 3)		Field Displayed as Detail in List (single selection)	
Name	Description	Name	Description
key	Key	createdBy	Created By
id	ID	createdAt	Created At
createdBy	Created By	lastChangedBy	Last Changed By
createdAt	Created At	lastChangedAt	Last Changed At
lastChangedBy	Last Changed By	startDate	Start Date

Row 1 of 7

Row 3 of 7

Web Dynpro Application Launched for Selected Object

- 5) Save, Generate Code, Build and Deploy the project.

- 6) Now you have to test the implications. Repeat step 3 and test Object Selector pattern.

On click of Save, you will receive a success message.

Both the entities –*Travel* and *Travel Location* will be updated. Though you have given authorization only for the *Travel* entity, you'll still be able to update the *Travel Location* entity. This is because you have defined propagation of permissions from *Travel* to its aspects *startLocation* and *travelLocation*.

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