

**Configuring Exception Handling in GP
Processes**



**SAP Composite
Application
Framework**

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Typographic Conventions

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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Introduction

About This Document

This tutorial demonstrates how exception handling can be modelled in a Guided Procedures (GP) process.

Scenario Overview

We will create a GP process with a background step that can return an error message. This error message should then be handled by the exception handling mechanisms coming with GP. The background step will retrieve user detail data that refers to a user ID. If the user is not available, the exception handling will be activated and the user can re-enter a new User ID to continue.

Prerequisites

The following table describes the prerequisites for running this tutorial.

Software	<p>The tutorial is compliant with:</p> <ul style="list-style-type: none"> • SAP NetWeaver 2004s <p>You must have the following capabilities installed:</p> <ul style="list-style-type: none"> • SAP Composite Application Framework • SAP NetWeaver Developer Studio
Documents	<p>Before you start with this tutorial, see:</p> <ul style="list-style-type: none"> • Technical Aspects of CAF • Search SAP Web Pages or Google Search Process

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.

Configuring Exception Handling

1. Launch the GP design time and create a folder named **Exception Handling** which will contain all GP development objects for this project.
2. Create the following callable objects:
 - A *data input form* for entering the User ID

▼ Data Forms

- ☑ Data Input Form
- ☑ Data Display Form
- ☑ Data Display and Acknowledgement
- ☑ Input
- ▶ Process Control
- ▶ User Management
- ▶ Miscellaneous

Name: *

Description: *

Original Language: *

Location: *

Create Callable Object

▶ **1** — **2** — **3** — **4** —

Basic Data Define Object **Define Output** Finish

Context parameter		Object type
<input type="checkbox"/>	User ID	String

- A *data display form* to show the user details retrieved by the background step



- ▼ Data Forms
 - ☞ Data Input Form
 - ☞ Data Display Form
 - ☞ Data Display and Acknowledgement
 - ☞ Input
- ▶ Process Control
- ▶ User Management
- ▶ Miscellaneous

Name: *

Description: *

Original Language: *

Location: *

Create Callable Object



Context parameter		Object type
<input type="checkbox"/>	User ID	String
<input type="checkbox"/>	Firstname	String
<input type="checkbox"/>	Lastname	String

- An *external service* callable object for the background step

- External Service
- Composite Application Service
- Web Dynpro Component (GP Interface)
- Portal Application
- Content Package
- Web Dynpro Application
- Background Execution
- Web Pages
- Interactive Form
- ▶ Data Forms
- ▶ Process Control
- ▶ User Management
- ▶ Miscellaneous

Name: *

Description: *

Original Language: *

Location: *

Create Callable Object



Select an endpoint alias first, and then choose a service



Endpoint Aliases

An endpoint alias defines the parameters for connection to an external service provider

You have selected the following endpoint alias:

Name:: DR3
Type:: Endpoint Alias for Remote Function Call (RFC)



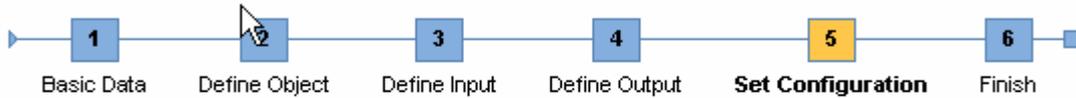
Service

A service provides business-level or system-level functions; for example, it retrieves information for a user

You have selected the following service:

Name:: BAPI_USER_GET_DETAIL

Create Callable Object



 Remote Function Call Service
The service provides data from several SAP Systems

Callable Object Configuration

Error Handling Mode: *

Error Table Reference: *

Error Field Name: *

Error Values: *

Error Message Field Name: *

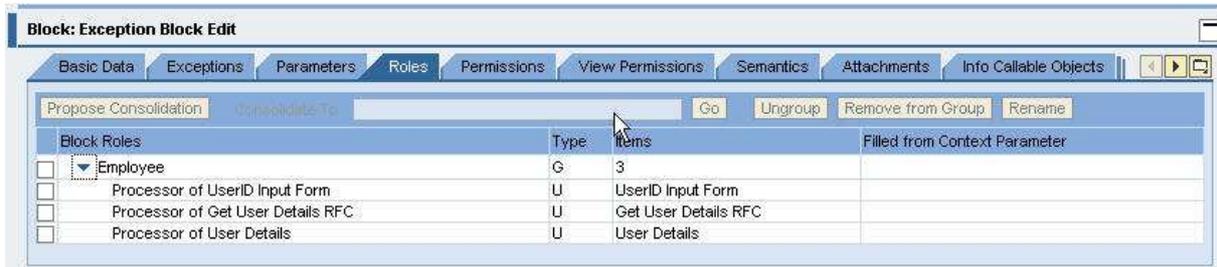


By defining the **Error Handling Mode** the GP runtime will activate the Exception Handling mechanisms within GP if the RFC indicates an error by setting the error field **TYPE** of the returned table **RETURN** to **E**. This error can then be further processed as exception by the GP runtime.

3. Once the callable objects are in place, create the relevant actions.
4. For exception handling create an additional action. This action is called once an exception is recognized. Therefore create the action **Handle: Input User ID** and assign the Callable Object **UserID Input Form** to it. So the input form gets called again to recover from the error.
5. Define the sequential block **Exception Handler**, and add the actions to its flow, as shown below.

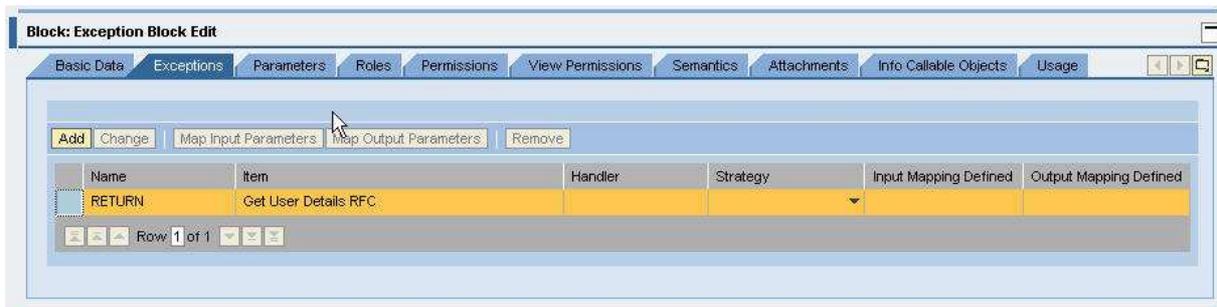
Name	Type	Target	Item	Status	Version	Optional	Description
Exception Block	Sequential Block		Exception Block		0.1		Exception Block
UserID Input Form	Action		UserID Input Form		0.1	<input type="checkbox"/>	UserID Input Form
Result States							
UserID Input Form	Callable Object for Execution		UserID Input Form		0.1		UserID Input Form
Get User Details RFC	Action		Get User Details RFC		0.1	<input type="checkbox"/>	Get User Details RFC
Result States							
Get User Details RFC	Callable Object for Execution		Get User Details RFC		0.1		Get User Details RFC
User Details	Action		User Details		0.1	<input type="checkbox"/>	User Details
Result States							
User Details	Callable Object for Execution		User Details		0.1		User Details

Row 2 of 11

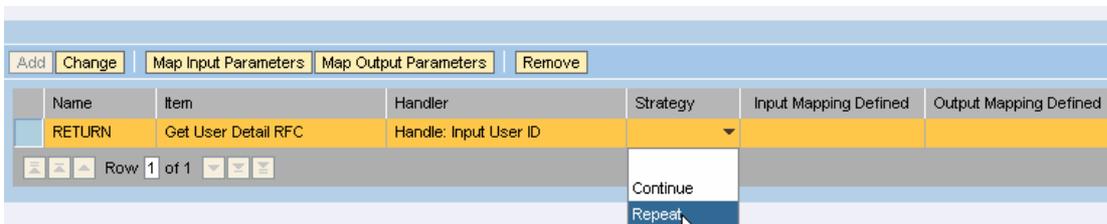


User ID	String		<Group>
User ID	String		UserID Input Form
Username	String		Get User Details RFC
User ID	String		User Details
First Name	String		<Group>
Address	Structure		Get User Details RFC
First Name	String		User Details
Last Name	String		<Group>
Address	Structure		Get User Details RFC
Lastname	String		Address
Last Name	String		User Details

6. Now configure the exception handling in the Exceptions tab page for the block.



- a. Select the row in the table (this row appears because of the definition of the error handling mode during CO creation) and click **Add**. By doing this you assign an action to this exception that gets called every time the exception occurs. Select the Action **Handle: Input User ID** that is intended for this case. The action appears in the **Handler** column.



- b. Define what should happen after the exception handler action is called. This is done using the **Strategy** drop-down list. Two options are possible:

- **Continue:** the next step after finalizing the exception handler action will be the step **after** the action that reported the exception
- **Repeat:** the next step after finalizing the exception handler action will be the action that reported the exception

Choose **Repeat** as we want the user to re-key the User ID.

- c. To make sure that the user ID coming from the exception handler action as output parameter is mapped to the right parameter of the existing block, choose **Map Output Parameters** and map the **UserID** of the **Exception Handler** block to the **User ID** of the **Handle: Input User ID** action.

Map Output Parameters

Exception Handler						Handle: Input User ID	
Remove Mapping Set Default						Parameter	Object Type
Parameter	Object Type	Mapped To	Default	List			
▸ Systems	Structure				• User ID	String	
▸ Uclasssys	Structure						
▸ Address	Structure						
▸ Alias	Structure						
▸ Company	Structure						
▸ Defaults	Structure						
▸ Islocked	Structure						
▸ Lastmodified	Structure						
▸ Logondata	Structure						
▸ Refuser	Structure						
▸ Snc	Structure						
▸ Uclass	Structure						
• UserID	String	User ID					

- d. Click **Done** to return to the **Define Exception Handling** dialog. Make sure a confirmation of the mapping appears in the **Output Mapping Defined** column.

Define Exception Handling

Add Change Map Input Parameters Map Output Parameters Remove

Name	Item	Handler	Strategy	Input Mapping Defined	Output Mapping Defined
RETURN	Get User Detail RFC	Handle: Input User ID	Repeat		<input checked="" type="checkbox"/>

Row 1 of 1

7. Activate the block and insert it in a process.

Name	Type	Target	Item	Status	Version	Optional	Description
Exception Process	Process		Exception Process	<input checked="" type="checkbox"/>	0.1		Exception Process
Exception Block	Sequential Block		Exception Block	<input checked="" type="checkbox"/>	0.1		Exception Block

Set the built-in role type to **Initiator**.

Administrator: Initiator

Overseer: Initiator

Owner: Initiator

Save Cancel

Consolidate the processor of the exception handler action and the processor of the other steps to **Employee** and choose **Initiator** as role type.

Propose Consolidation		Consolidate To: Employee		Go	Ungroup	Remove from Gr...
Process Roles		Type	Items	Role	Type	
<input type="checkbox"/>	Employee	G	1	Initiator		
<input type="checkbox"/>	Processor of Handle: Input User ID	G	1	Initiation Defined		Default Definition Required: <input type="checkbox"/> Overwritable at Runtime: <input type="checkbox"/>

8. Activate the process and start it.

On the first screen provide a user ID which will not be available in the backend system – for example, 2.

The exception occurs and the processor has to provide the User ID again.

This time enter an existing user ID. As it can be retrieved by the RFC the final step displays the user details.

Exceptional Process

Process Activities

Activities

- User ID Input Form
- User Details

User ID Input Form Role: Attachments: (0)

User ID: 2

Submit

Submit the form data

Exceptional Process

Process Activities

Activities

- User ID Input Form
- User Details

The next activity is not yet available: try again later using the "Refresh" button

Refresh

Exceptional Process

Process Activities

Activities

- User ID Input Form
- Handle: Input User ID
- User Details

Handle: Input User ID Role: Attachments: (0)

User ID:

Submit

Exceptional Process

Process Activities

Activities

- ✓ User ID Input Form
- ✓ Handle: Input User ID
- User Details

Handle: **Input User ID** Role: Attachments:  (0)

User ID

Submit

Exceptional Process

Process Activities

Activities

- ✓ User ID Input Form
- ✓ Handle: Input User ID
- User Details

User Details Role: Attachments:  (0)

User ID

Firstname

Lastname

OK