Defining Composite Processes with Guided Procedures in SAP NetWeaver Composition Environment 7.1

Applies to:
SAP NetWeaver Composition Environment 7.1, SR3 – also the SDN downloadable SAP NetWeaver CE 7.1 trial version can be used for working this exercise.

Summary
This tutorial explains the features of SAP NetWeaver Composition Environment 7.1 component guided procedures based on a business process. The business process is an example to create business partners in an SAP backend system. By the end of the session you will understand major capabilities of guided procedures. The examples & exercises are accompanied by videos equipped with voice.

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Author Bio

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Introduction to Business Process which is the Base for this Tutorial

The outline of the process is as follows:

- Information is submitted for a business partner.
- Research is done on the business partner, checking external sources (google) for their viability as a partner.
- A decision is made whether or not to continue with the creation process.
- If yes, the partner is created in the ERP system. If no, the user is given the option to start the process again with a different business partner.
- If the business partner was created, the business partner is displayed with the new business partner number from the backend.

This picture depicts the business process:

That is turned into the following process flow:

Additionally, you will have some optional exercises as well.
Prerequisites

In this tutorial, two remote function modules (RFC) are used: one for the creation of a business partner and a second to get the details of the business partner. The tutorial was prepared to be used in a pre-configured SAP system surrounding, so you have to make available an SAP system with RFCs for the creation of a business partner and for getting the details of a business partner.

The sample code for the function module that creates the business partner is listed here:

```plaintext
FUNCTION Z_BAPI_BUPA_CREATE_FROM_DATA.
*----------------------------------------------------------------------
*  Local Interface:
*  IMPORTING
*      VALUE(CENTRALDATA) TYPE  BAPIBUS1006_CENTRAL OPTIONAL
*      VALUE(CENTRALDATAPERSON) TYPE  BAPIBUS1006_CENTRAL_PERSON
*      OPTIONAL
*  EXPORTING
*      REFERENCE(BUSINESSPARTNER) TYPE  BAPIBUS1006_HEAD-BPARTNER
*  TABLES
*      RETURN STRUCTURE  BAPIRET2 OPTIONAL
*----------------------------------------------------------------------

constants: partner_cat value '1'.

CALL FUNCTION 'BAPI_BUPA_CREATE_FROM_DATA'
  EXPORTING
    BUSINESSPARTNEREXTERN              =
      PARTNERCATEGORY                    = partner_cat
    *      PARTNERGROUP
    *      CENTRALDATA
    *      CENTRALDATAPERSON
    *      CENTRALDATAORGANIZATION
    *      CENTRALDATAGROUP
    *      ADDRESSDATA
    *      DUPLICATE_MESSAGE_TYPE
    *      ACCEPT_ERROR
    IMPORTING
      BUSINESSPARTNER                    = businesspartner
    TABLES
      TELEFONDATA
      *      FAXDATA
      *      TELETEXDATA
      *      TELEXDATA
      *      E_MAILDATA
      *      RMLADDRESSDATA
      *      X400ADDRESSDATA
      *      RFCADDRESSDATA
      *      PRTADDRESSDATA
      *      SSFADDRESSDATA
      *      URIADDRESSDATA
      *      PAGADDRESSDATA
      *      ADDRESSNOTES
      *      COMMUNICATIONNOTES
      *      TELEFONDATANONADDRESS
      *      FAXDATANONADDRESS
      *      TELETEXDATANONADDRESS
```

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* TELEXDATANONADDRESS =
* E_MAILDATANONADDRESS =
* RMLADDRESSDATANONADDRESS =
* X400ADDRESSDATANONADDRESS =
* RFCADDRESSDATANONADDRESS =
* PRTADDRESSDATANONADDRESS =
* SSFADDRESSDATANONADDRESS =
* URIADDRESSDATANONADDRESS =
* PAGADDRESSDATANONADDRESS =
* COMMUNICATIONNOTESNONADDRESS =
  RETURN = return
* ADDRESSDUPLICATES =
.

CALL FUNCTION 'BAPI_TRANSACTION_COMMIT'
  * EXPORTING
    * WAIT =
  * IMPORTING
    * RETURN =
.
ENDFUNCTION.

For the function module for getting the business partner details the SAP BAPI BAPI_BUPA_SIMPLE_GETDETAIL can be used.

Additionally we'll talk about forms based on Adobe technology, please find attached an xdp-file "CE150_CreateBusinessPartner.xdp" for that.

You can get the solutions/source code for this scenario here: https://www.sdn.sap.com/irj/sdn/go/portal/prtroot/docs/library/uuid/90dabd55-62e0-2a10-4695-d8ca8159b656.
Tutorial Structure

Design, model and test the business process for the creation of a business partner. The steps are assigned to different roles. The structure of this tutorial is that you start to build a simple process with three steps. It will be enhanced later on. Partly you’ll find recordings equipped with voice to explain and ease the exercises.

Build process with first test

It consists of three steps – but will be enhanced later. This recording supports you in doing this exercise: Build process with first test (14 min).

Complete process build

This part shows how the process flow is completed. You can check out the following recording: Complete process build (11 min).

Parameter mapping

Learn here how the GP parameter mapping works and how the parameters of our business process have to be made to get a reasonable outcome. Refer also the recording Complete the process and test it (6 min).

Role assignment and final setup for the process

This chapter of this demo scenario concentrates on the assignment of each process step to the dedicated role. Additionally some further configurations are executed, so the process can be tested in the next step.

Final test and add work item variables

Test out the result of your work and in an optional step this tutorial describes how variables can be forwarded. The recording Complete the process and test it (6 min) explains the test.

Further interesting topics:

Form based on Adobe technology to start the process

You can use forms based on Adobe technology to start GP processes. This chapter gives a practical overview about this interesting feature.

Form based on Adobe technology within the process

Not only at the beginning of a process forms may be used; they can also be integrated within the process flow.

Ad hoc steps in a Guided Procedures process

A very nice feature that is offered by Guided Procedures are the so-called Ad hoc steps. This means when the user is processing a step, they have the option to do something in addition to that step. It will display in an “Options” area at runtime.
Build the Process with First Test

In this task you will build the first three process steps and do a first test.

This recording supports you in doing this exercise: Build process with first test (14 min).


(From your browser you can also select Favorites → SAP NetWeaver Portal)

Use the needed credentials to login.

2. Click on Guided Procedures → Design Time.
3. Select Create Folder to create a folder to hold all your objects.

4. Enter the following data.

   Name: CE150
   Description: CE150 Exercise

   Select Create.

5. Select your new folder and select Create Process.
6. Choose English and click on Create

7. Provide the following info
   Name: **CE150_BP_Process**
   Description: **business partner process**

8. Create a New Block by clicking the **Create new** icon.
9. Choose sequential block and click create.

10. Highlight the block that was created and provide it with the following name and description:

   Name: CE150_BP_Process
   Description: CE150_BP_Process

   Then click Save All.

11. Highlight the block. Ensure Action (as subnode) is selected as the Item. Select create new three times to create three actions.
12. The result should be as shown in the diagram.

13. Click on the first Action and give it a name and description.

Name: AC_InputBPInfo
Description: input information for the business partner

*Hint*: After entering a name and description you can see the name in the process line by clicking on the action line.

14. Repeat the steps for the other two actions, giving the names provided below:

Name: AC_Concatenate
Description: combines the first and last name to prepare for Google research for the business partner.
Name: **AC_GoogleResearch**
Description: *research the business partner*

Select Save All.

15. Add the callable object for **AC_InputBPInfo**. Select the action, **AC_InputBPInfo**, and select *create new* to create a callable object.

16. Enter the following information:

**Name:** **CO_InputBPInfo**

**Description:** *input the information for the business partner*

Select Form → Web Dynpro Form for the Type of callable object.

Then select *Next*.
17. Select Add → Input Field to enter a field for our Web Dynpro form.

![](image1)

18. Enter **FirstName** for the Input Field ID and the Input Field Label and select Create.

Note: While adding input fields you may see the cursor continue to spin. This is OK; you can go on and type your input fields.

![](image2)
19. Repeat the previous step for the fields **LastName** and **SearchBy**.

20. Select **Next**. Then select **Finish**.

21. Test the callable object by selecting the callable object and selecting the **Test** tab.

   Select **Execute** to test your form.
22. Enter some test data and select Complete.
23. You will receive the message **Completed successfully**.

24. Highlight your action **AC_concatenate** and select to create a new callable object.
25. Enter the following information for the callable object:

**Name:** CO_concatenate

**Description:** concatenate the first and last name for researching the business partner

**Type:** Process Control → Business Logic

In the first step we will receive a first and last name as different strings. In this step we concatenate them into one string to pass to Google to research the business partner.

26. Select *next* until you get to *Define Input.*
27. Select Insert New.

The default name for the parameter is Parameter 1.

28. Rename the parameter to **firstName** for the Name and Technical Name fields.

29. Repeat the steps so that you have another input field, **lastName**.

Select Next.
30. In the **Define Output** area select *Insert New*. Name the new field **fullName**.

Select **Next**.

31. You are now in the **Set Configuration** area. Click on the “…” on the far right of the **fullName** output parameter.

32. We want to concatenate the first name and last name fields. To do this double-click on **firstName**.
33. Type `&'`

34. Add `&` and double-click on `lastName`.

The expression should read:

```
@firstName & ' ' & @lastName
```

35. Select `Validate` then select `Apply`. 
36. Your output parameter should look like the diagram.

37. You are still in the Set Configuration area. In the Result States section select Add.
38. Enter OK for the result state and select Add State.

39. Click on the “…”.
40. Enter true select Validate then Apply.

Select Next and select Finish.
41. Test the callable object by selecting the callable object and the *Test* tab.

**Callable Object CO_concatenate**

**Test Callable Object**

**Input Parameters**

**Edit/View Attribute Values**

**Settings**

- Execution Mode: □ Execution mode
  □ Display mode
42. Enter information in the *firstName* and *lastName* fields then select *Execute*.

43. The result should be a concatenation of the two names. In our example *bob barker* is now concatenated.

Select *Save all*.
44. Select AC_GoogleSearch. Select create new to create a new callable object.

45. Enter the following information for the callable object:

**Name:** CO_googleSearch

**Description:** CO_googleSearch

**Type:** User Interface → Web Pages

Select Next
46. Before entering the URL for the Google search, bring up a new browser, and execute a Google search. In the diagram we have a Google search for SAP. Notice the Google URL:

http://www.google.com/search?hl=en&q=sap

Within the search there are two parameters, one for language and another for the search term. In our guided procedure we will pass in a search term, so we need to enter the following URL as our callable object:

http://www.google.com/search?hl=en&

47. Return to your callable object creation and paste the URL for the Google search. The URL should be:

http://www.google.com/search?hl=en&

Select Next.
48. Select *Insert New* to insert an input parameter to the URL. We need this in order to pass the search string.

![Create callable object diagram]

49. Change the parameter name to *q*. The *Technical Name* must be *q* in order for the search to work correctly. Google expects the search term in a parameter named *q*:

http://www.google.com/search?hl=en&q=sap

Select *Next*.
50. Select Add to add a new result state. Provide the following information:

**Technical Name:** Again

**Name:** Change Information

Select Next and Finish.

Optionally, select Save all and test the callable object before continuing.

---

51. You have now built the first few steps in the process. We will do a first test of our process. Before doing this we must map parameters so that the business partner name is correctly passed to the Google search.

Select your block and select the Parameters tab.
52. Notice the parameters. From AC_InputBPInfo we have FirstName, LastName, SearchBy. From AC_concatenate we have firstName, lastname, fullName. From AC_GoogleResearch we have q.

53. Before doing the parameter mapping, ensure you understand what needs to be mapped. The first name from AC_InputBPInfo needs to be mapped to first name of AC_concatenate. The last name of AC_InputBPInfo should be mapped to the lastName of AC_concatenate. AC_concatenate returns fullName. This should be mapped to q of AC_GoogleResearch.

54. We will start with mapping the first name. To do this select FirstName from AC_InputBP_Info.
55. Press the <CTRL> key and select firstName from AC_concatenate. Select Group.

56. Name the group GRP_FirstName and select Create.

57. The result will be a group that looks like the diagram.

58. Repeat the steps for the last name fields calling the group GRP_LastName.

59. Repeat the same steps for q and fullName. Call the group GRP_GoogleSearchField.

Select Save all.
60. Before testing there are a few more things we need to do. First select the process and select the tab Roles. Notice there is a role for each step in our process. There is a role for the AC_GoogleResearch, AC_concatenate, and AC_InputBPInfo. There are also default roles that exist for every process: Administrator, Overseer, Owner.

61. For our test, we can assume the same person will do each step in our process. Select the Processor of AC_GoogleResearch, press <CTRL>, then select the other two roles. In the Consolidate To field enter Clerk and select Go. This says that all three of our steps will be done by the same person, we will call this role Clerk.
62. The result should look like the diagram.

63. We will say that each step will be done by the *Initiator*. To do this select the *Role Type* drop down and select *Initiator*. Do this for all roles in the process plus the default roles.

64. The result should look like the following diagram.
65. Select Save all.

66. Select Activate.

67. We are now ready to for the first test. Select the Instantiation tab.
68. Select **Include Default Parameters** and **Start Process Automatically**. Then select **Generate Instantiate URL**. This creates a URL that can be used to start the process. Finally, select **Open Instantiate Application**.

69. A new browser window will open and your process will launch.
70. Enter a first name, last name, search by of your choice and select Complete.

71. Notice the Google search launches and the name is concatenated for the search. Also notice you have two options, Change Information and Complete. Select Change Information.

72. When we select Change Information the process ends. That is not what we want, the process should return to AC_InputBInfo.
73. Return to your process in the Design Time. Notice that your process is activated and you are at version 0.1. Select Change all. This option may also be called Toggle-multi-edit mode. Just ensure you select to change your process.

74. You will receive a message that the version will be updated. Select Yes.

75. Now notice the version has been updated to 0.2.

76. Open up AC_GoogleResearch and notice the Result States. There is one for Change Information and one for Complete.

77. Select the drop down for the Change Information result states and select AC_InputBInfo.
78. Select **Save all**. Select your *process* and select **Activate**.

Let's test again!

79. Select the **Instantiation** tab and start your process from the URL as we did in the last test.

80. A new browser launches with your process. Enter information and select **Complete**.
81. The Google search launches with your concatenated search field. Select *Change Information*.

82. The process has now returned to the input step.

83. Enter some new information and select *Complete*. 
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84. Your Google search launches again. This time you can select Complete.

CONGRATULATIONS on your first test!!

Complete Process Build
In this task you will complete the building of your process. You can check out the following recording: Complete process build (11 min).

1. Return to your process and select Change all. Answer Yes to create a new version.

2. Select your block and select Create to add a new action.
3. Do this four times so that you now have four new actions in your block.

Note: Your actions may have different numbers, such as Action4, Action5, and Action6. That is fine. For now just ensure you have four new actions in your block.

![Diagram of CE150_BP_Process]

4. Rename each of your actions so that they have the following names in the following order:

Name: AC_DecideToCreateBP
Description: decide if you want to continue the business partner creation

Name: AC_CreateBPinERP
Description: creates the business partner in the ERP system

Name: AC_ReadBPFromERP
Description: reads the business partner information from the ERP system

Name: AC_DisplayNewBP
Description: displays the new business partner
Select Save all.

5. Select the action AC_DecideToCreateBP and select the icon to create a callable object.

6. Enter the following information:

Name: CO_DecideToCreateBP
Description: make a decision
Type: Process Control → Decision Dialog

Select Next.

7. Ensure the option Decision for loops is selected.

Select Next until you get to Set Configuration.
8. Enter information in the decision dialog according to the diagram.

Select *Next*. Then select *Finish*.

9. Test the callable object by selecting your object and select the *Test* tab.
10. Select **Execute** to test your callable object.

11. You will see a test screen with your user decision. Select **yes**.
12. Notice the return value: continue.

13. Select your action AC_CreateBPinERP. Select Create to create a new callable object. Enter the following information:

   **Name:** CO_CreateBPinERP  
   **Description:** Create the bp in ERP  
   **Type:** Service → Web Service

Select Next.

14. Select Logical Destination

15. Click on Select.
16. Select the drop down. You are now looking at a list of logical destinations that map to a web service WSDL and the user credentials required to execute the web service. There is an optional exercise to look at these logical destinations in more detail.

When you use the WSDL URL option, you enter the WSDL, but you don’t have the chance to enter user credentials if the web service requires a login. The other option is to setup a logical destination in the SAP NetWeaver Administrator to tie a service call to the required user credentials.

17. Select the logical destination that is prepared in the SAP NetWeaver Administrator (NWA). This destination should contain the RFC for the business partner creation.

Select Search.
18. Select `Z_CREATE_BUSINESS_PARTNER` and select `Accept`.
19. Select Z_BAPI_BUPA_SIMPLE_CREATE which is the only operation for this web service. Once you select it you can see the input parameters.

Update the Logical Destination Endpoint to be appropriate logical destination that contains the RFC for the creation of the business partner.

Before selecting Next ensure you screen looks like the diagram.

20. Notice the input parameters for the service call.
21. Select Next and notice the output parameters include a BusinessPartner. This is the business partner number that is created on the ERP system.

Select Next and Finish.
22. To test the callable object, select the callable object `CO_CreateBPInERP` and select the `Test` tab.

Provide information for the `FirstName`, `LastName`, `Search1`, `Search2` fields.

Select `Execute`. 
23. This will execute the web service and return a business partner number, such as the one returned in the diagram. Please note this business partner number.

24. OPTIONAL: We will now look at the created business partner your ERP system. To do this, open up the SAPLogon. Look for the appropriate system and log on. Here M38 for example.
25. **OPTIONAL:** Login with appropriate credentials:

```plaintext
---
SAP
---

New password

<table>
<thead>
<tr>
<th>Client</th>
<th>800</th>
</tr>
</thead>
<tbody>
<tr>
<td>User</td>
<td>ce150-30</td>
</tr>
<tr>
<td>Password</td>
<td>************</td>
</tr>
<tr>
<td>Language</td>
<td></td>
</tr>
</tbody>
</table>
```

26. **OPTIONAL:** Select the green check mark on the Copyright popup.
27. **OPTIONAL:** Enter **bp** in the command field. Press `<enter>`.

28. **OPTIONAL:** Enter the business partner number that was created in the *Business Partner* field. Press `<enter>`.
29. OPTIONAL: You will see your business partner on the ERP system.

30. Return to your process and select *Save all*.

31. Select your action **AC_ReadBPFromERP**. Select create a new callable object. Enter the following information:

   **Name:** CO_ReadNewBP
   
   **Description:** Get the business partner details
   
   **Type:** Service → Web Service

   Select *Next*. 
32. Select **Logical Destination**, then click on **Select**. Next, select the destination that contains the RFC for getting the details of the business partner.

Select **Search**.
33. Select `Z_GETDETAILS_FOR_BP` and select Accept.
34. Select the operation that provides the details of the business partner, set the appropriate **Logical Destination Endpoint**.

Notice the input parameters.

Select **Next** until you can select **Finish**. As you go through the Input and Output parameters, notice the inputs and outputs from the service call.
35. Test the callable object **CO_GetBPDetails** by selecting the callable object and select the **Test** tab. Test your callable object by entering the business partner number you created in the field **BUSINESSPARTNER**.

Be sure to enter the preceding zeros like in the diagram. The field is 10 characters long. The example has 0000002812.

Select **Execute**.
36. The result will be information from your business partner. Select **Save all**.

37. **OPTIONAL:** Look at the definition of the web services in the SAP NetWeaver Administrator. To do this open a new browser and navigate to http://localhost:50100/nwa

Provide the appropriate logon data.

Select **Configuration Management** → **Infrastructure**.

38. **OPTIONAL:** On the lower right select the link **Web Services Configuration**.
39. **OPTIONAL:** Select *WS Destinations.* On the right you will see a list of destinations. As we look at these, please do not make any changes!

40. **OPTIONAL:** Select the entry *CreateBusinessPartner.* Notice the URL in the details; this is how we are calling the BAPI web service. If you select the *Security* tab you will see security settings for this web service call.
41. We need one more callable object. Select your action **AC_DisplayNewBP** and select create to add a new callable object.

42. Enter the following information for the new callable object:

- **Name**: CO_DisplayNewBp
- **Description**: display the business partner
- **Type**: Form → Web Dynpro Form

Select Next.
43. Select Add → Add Input Field to add a new field.

44. Add the following four fields:

- BPNumber
- FirstName
- LastName
- SearchBy

Notice in the diagram that all but one are ‘grey’. This is because the fields were marked as ‘read only’. Have all your fields be ‘read only’.

Select Next and select Finish.
45. Select \textit{Save all} for your process. Congratulations, your process now has all the steps we need! Next we will do parameter mapping!

\section*{Parameter Mapping}

In this task we do the parameter mapping required for our process. Refer also the recording \textit{Complete the process and test it} (6 min).

1. Before doing the parameter mapping, let us look at what needs to happen for our process to work.

The first name and last named entered in \texttt{AC\_InputBPInfo} should be mapped to \texttt{AC\_concatenate}, \texttt{AC\_CreateBPinERP}, and \texttt{AC\_DisplayNewBP}.

The search by field should be mapped to \texttt{AC\_CreateBPinERP} and \texttt{AC\_DisplayNewBP}.
The AC_CreateBPInERP returns a business partner number. This should be passed to AC_DisplayNewBP.

2. Highlight your block and select the Parameters tab.

3. Notice the parameters available. You already did some parameter mapping before the first test, so you will see mapping groups for GRP_FirstName, GRP_LastName, and GRP_GoogleSearchField.

4. We need to pass the first name that we already mapped to the AC_CreateBPInERP first name field. To do this select the FIRSTNAME from the Input Parameters of AC_CreateBPInERP.
5. Press <CTRL> and select **FirstName** from **AC_DisplayNewBP**.

6. Press <CTRL> and select your **GRP_FirstName** and select *Add to Group*.

7. Your **GRP_FirstName** should look like the diagram. The order in which you see your fields does not matter. (The order does not matter as you compare your parameter mapping to the diagrams in this exercise.)

8. Repeat these steps for the last name selecting the **LASTNAME** from the **Input Parameters** of **AC_CreateBPInERP**. **LastName** from **AC_DisplayNewBP**. Then use the <CTRL> key and select **GRP_LastName** then select *Add to Group*.

9. Your **GRP_LastName** should look like the diagram.
10. Select `SearchBy` for `AC_InputBPInfo`. Drill into the `Input Parameters` for `AC_CreateBPinERP` and select `SEARCH1`.

```
<table>
<thead>
<tr>
<th>Display Name</th>
<th>Defined For</th>
</tr>
</thead>
<tbody>
<tr>
<td>SearchBy</td>
<td>AC_InputBPInfo</td>
</tr>
<tr>
<td>Input Parameters</td>
<td>AC_CreateBPinERP</td>
</tr>
<tr>
<td>FIRSTNAME</td>
<td>Input Parameters</td>
</tr>
<tr>
<td>LASTNAME</td>
<td>Input Parameters</td>
</tr>
<tr>
<td>RETURN</td>
<td>Input Parameters</td>
</tr>
<tr>
<td>SEARCH1</td>
<td>Input Parameters</td>
</tr>
</tbody>
</table>
```

11. Also select `SearchBy` from `AC_DisplayNewBP`.

12. Select `Group` and name the group `GRP_SearchBy`.

13. Your `GRP_SearchBy` should look like the diagram.
14. We want to display the business partner number from ERP. To do this select the Return Parameter for AC_CreateBPinERP and select BUSINESSPARTNER.

15. Press the <CTRL> key and select AC_ReadBPFromERP → Input Parameters → BUSINESSPARTNER.

16. Also select BPNumber for AC_DisplayNewBP.

17. Select Group and name the group GRP_BusinessPartner.
18. Your diagram should look like the one shown below.

Select Save all.
19. Still within your block, notice that many of the parameters are *Exposed In*. This means these parameters are passed to the guided procedure when it starts. We do not need parameters to be exposed, so deselect each entry so no parameters are marked as *Exposed In*.

Select *Save all*.
Role Assignment and Setup for the Process

We will do role assignment and some final setup such as ensuring our process follows the correct steps in the correct flow.

1. Select your process and select the Roles tab.

2. Currently we have several roles for our process. They will all be done by the same person. Select each role, enter **Clerk** in the **Consolidate To** field and select **Go**.
3. Select Initiator as the Role Type for Clerk.

You should now have the following roles, all with the Role Type of Initiator.

4. Update your AC_DecideToCreateBP so that if they decide not to continue, you either choose Terminal to stop the process, or select AC_InputBPMInfo to start the process again. In the diagram we use AC_InputBPMInfo.

Select your process, select Save all and Activate.
Final Test and Work Items Variables

In this task you will do a final test and add work item variables. Refer also the recording Complete the process and test it (6 min).

1. To start your test this time select Guided Procedures → Runtime. Select Initiate new process.

2. Select your folder and select your process then select Next.

3. Select Initiate.
4. Notice your process has started. You can see the activity you are in and the subsequent activities in the process. Enter some information and select **Complete**.

5. The Google search page now appears. Select **Change Information**.

6. Notice the process is returned to **AC_InputBPInfo**. Enter some information and select **Complete**.
7. This time in the Google research step select Complete.

8. In the decision step select Yes. Optionally, after this test do another test where you test the option no.

9. You now see the message “The next activity is not yet available; try again later using the Refresh button”. You receive this message because the web service that calls a BAPI is currently executing. Select Refresh.

10. You can now see your business partner information with the business partner number. Note the business partner number and select Complete.

CONGRATULATIONS – your process works!!!
11. OPTIONAL: Return to ERP system, log in and use transaction code BP to look at your business partner that was created in your ERP system.

12. OPTIONAL: Add work item variables. Return to your process and select your action AC_DisplayNewBP, and select Change.

13. OPTIONAL: Select the Task tab and select Customize Task Title.
14. OPTIONAL: Enter text that looks like the diagram.

Action: AC_DisplayNewBP Edit

- Customize Task Title
  - Select a required parameter from the table to the right to add it to your text. During execution, note that the following are special characters: (), and !. To use them as a part of your text, apply text pattern: 
  - Text pattern: `{BPNumber} {FirstName} {LastName}`

15. OPTIONAL: **Activate** your process and test again. This time start your process from the **Instantiation** tab.

- Name: CE150_BP_ProcessXX
  - Type: Process

- Name: CE150_BP_ProcessXX
  - Type: Sequential Block

**Process: CE150_BP_ProcessXX**

- Default Roles
- Due Date
- Permissions
- Control Items
- View Permissions

- Process ID:
  - Number of Instances per Initiator:

- Process Started Automatically
- Can Be Scheduled
- Set Start Date at Initiation

- URL for Instantiating Process:
  - Include Default Parameters
  - Start Process Automatically

  `/sap/com/caf+eu-go-uniq/inst/AInstantiation?process_template.id=5F449C4F8011DCAE3001641E3FCF7&process.autostart=t`
16. OPTIONAL: Execute your process until the AC_DisplayNewBP step. When you get to this step navigate to Guided Procedures → Runtime.

Select your task from Tasks that require my action.

17. OPTIONAL: You will see variables passed in to the work item text.
Optional step: Form based on Adobe technology to start the process

In this step we will use an Adobe form to start the process. You can start with step 7. The first 6 steps are just looking at the ADS configuration. This was added to the exercise in case we need to use a different ADS (Adobe Document Services).

1. OPTIONAL: In order to generate PDF forms, we must connect with an Adobe Document Service. This is a web service provided to us by Adobe. In our session, we are using an ADS that was configured on a different system. Before beginning, let us check your system and ensure you are pointing to the correct ADS. Navigate to http://localhost:50100/nwa.

2. OPTIONAL: Select Configuration Management → Infrastructure.

3. OPTIONAL: Select Web Services Configuration.

   - **Message Server**: The Message Server plug-in provides functionality for inspecting the Message Server parameters and settings.
   - **System Info**: System information provides administrators with an overview of the system configuration. It shows all of the system’s instances and their important parameters (such as ports) that may be required for support cases, as well as the versions of the components installed.
   - **Trusted Systems**: You can use the trusted systems configuration in order to maintain the relationship between issuing and accepting systems.
   - **Web Services Configuration**: Provides functions for administration and configuration of both ABAP and Java Web services and Web service clients. For each Web service, you can create one or more service endpoints and apply specific run-time configuration such as security, reliable messaging, logging, tracing, etc. In addition you can see the list of its WSDL URLs as well as start the WS-Dispatcher for testing it. For each Web service client, you can create one or more logical ports, view and change its run-time configuration such as service endpoint URL, security settings, timeouts, HTTP Proxies, etc.
4. OPTIONAL: Select WS Destinations then select ConfigPort_Document.

5. OPTIONAL Notice the settings. The URL should be the following:

   http://iwdf2332.wdf.sap.corp:50100/inspection.wsil

   If yours is set to some other value, you will need to update the URL to be the one listed above.
6. OPTIONAL: Select the Security tab. The user id is ADSUSER, the password is ads$123. Once this is setup, we will now start to use Adobe with our guided procedure.

7. Look at an example form that is on your desktop. Select the folder Session Content that is on your desktop.
8. Double-click on the folder CE150.

9. Notice the file CE150_CreateBusinessPartner.xdp. Double-click on this file to open it. It will launch Adobe Live Cycle Designer.

10. You will see the form. Feel free to change the form. To see the technical name of the field, highlight the field and you can see the name.

   For example, if you select the First Name field and look at the Binding for the field, you will see the technical name of the field is FirstName.
11. The only requirement guided procedures has for the form is the Submit button. The Submit button must point to a specific URL variable so that when Submit is selected it communicates with the guided procedures runtime. The URL must be exactly as in the diagram.

12. In order for your process to start with an Adobe form, we only need to make a couple of small changes. Return to your process in Guided Procedures → Design Time.

13. Select your process and select Change.
14. Select your block and select the tab Parameters. The form will pass in the first name, last name, and search by fields. So, these fields should be Exposed In. Make each of the following group parameters Exposed In:

- GRP_FirstName
- GRP_LastName
- GRP_SearchBy

Select Save all.

15. Select your process then select the Roles tab. When the form starts the process, you either must pass to the guided procedure who will execute the process, or you need to have the process set for who will receive the form. Update all roles to be of type Initiation Defined rather than Initiator.

Select Save all.
16. Select the Default roles tab. Select one of the roles, select Add Default. Find your user ID, and select Add to add your user ID as the agent for each task.

NOTE: Please make sure you see roles for Overseer, Owner, Administrator, Clerk. If you do not see the clerk role, you may have to save all, log off and back on. Or activate and change your process before you see the Clerk role.

17. When you are done, select each role to ensure it is set to CE150.

Select save all and Activate.

18. Now we will link the Adobe form to your process. Select Gallery (in the upper right-hand corner) to return to the Design Time.
19. Select your folder, CE150, and select Create Interactive Form from the Gallery.

20. Enter the following information:

   Name: CE150_AdobeToStartProcess

   Description: This form will start our process

   Select Next.
21. Select Next until you get to Logical Criteria. Select Add Template. Select Browse, locating the template in desktop\sessioncontent\ce 150\CE150_CreateBusinessPartner.xdp.

22. Select Add Template. Your template will appear in the template list, then select Save.

24. The names you now see: FirstName, LastName, SearchTerm1 are all fields from the form. We want the ability to use all three of these fields in our guided procedure.
25. Using the <CTRL> key, select all three of the fields and select Add Parameter.

26. You will now see the fields appear in the Form Context. This means we have these fields available at runtime. In our situation we need to map the output of the form to the guided procedures context.
27. Select **Map Output Parameters**.

28. Open up the **Form Context.LocalParams** and you will see the fields from the form.
29. To map the fields first select the FirstName from the Form Context on the left. Then select the FirstName from the TemplateParameters.

30. The result will be value in the MappedTo field.
31. Repeat the steps for \textit{LastName} and \textit{SearchTerm1}. Your mapping should look like the diagram.

Select Save.

32. Select Next.
33. In the Configuration area you determine how the form will be used in guided procedures. There are two options for use in a guided procedure:

   a) Use to start a process
   
   b) Use inside of a process where the form is sent out via email.

   Note: ALL interactive forms used in guided procedures are OFFLINE. This means either the form is sent via email, or it is used to start a process. If you want the form to route to someone’s inbox and they open the form online, then you need to use Web Dynpro for Java and call the Adobe from within the Web Dynpro.

34. We will use our form to start a process so select Start process on Completion. Also select Provide Impersonalized Composite Form. This means we can reuse the form as many times as we need.
35. To select the process that should start with this form is submitted, select **Browse Process Template**.

36. Drill into your folder, **CE150** and select your process, **CE150_BP_Process**. Press **Select**.

37. Select **Define Mapping**. Here we will map the form fields to our guided procedure context.
38. You will see all of your grouped parameters from your guided procedure:

- GRP_FirstName
- GRP_LastName
- GRP_SearchBy

39. Map each field by selecting it and selecting the form field from [FormContext.LocalParams ]InteractiveFormFields.

Your mapping should look like the diagram. Select Save.

40. Select Next, Finish and Open, then select Activate.

41. Now we need to generate the PDF. To do this navigate to Guided Procedures → Administration.
42. Select Manage Impersonalized Forms.

43. Select your form, *CE150_Ado**beToStartProc**ess* and select Create Form.
44. Select Create.

45. When you do this, a call is made to an external server that is running ADS (Adobe Document Services). You are returned a PDF.
46. Click on the pdf, then select "Save" to save the pdf.

47. Save it into the c:sessoncontent\CE150 folder.
48. Navigate to that folder, double-click on the CE150_CreateBusinessPartner.pdf to open it. Fill in some information on the form and select Submit.

49. Once you do this, you will receive a new browser window stating that the form was passed to guided procedures. If you do not get this, close your PDF and try again.
50. Navigate to **Guided Procedures → Runtime.**

51. Select **Tasks that require my action.**

52. You will see your task. Launch the task and you should see the information has been passed to your input business partner information step.

**CONGRATULATIONS!** You have passed information from an Adobe form to a guided procedure!!
Optional step: Form based on Adobe technology within the process

In this optional task you will use an Adobe form in a process. This will email out the form. You can only do this step if you have a personal email account. With guided procedures there are two options when emailing out a form. Email the form out, which completes the process step so the guided procedure continues once the form is sent out. The second option is to email out a form and wait for a reply back. The reply comes via the 'submit' button, so it works similar to the previous example where we used the form to start a process. In our example, we will email out the form and the email out will complete the process step.

NOTE: You can only do this exercise if you have an external email account!!

You will take your existing process, and add a step at the end to email your form. Please note, this exercise will provide a description of what needs to be done, but there will not be a picture for each step. ☺ This exercise includes the following major steps:

- Adding your personal email account to your user ID.
- Create an .xdp file to use for the email.
- Create an impersonalized form that links to your .xdp file.
- Update your process, adding an action that emails out the form.
- Update parameter mapping to pass information to the form.
- Activate and test.

1. Update your user profile in the portal to point to your email address.
   a) From the portal select Personalize (in the upper right hand corner). Then select User Profile (in the upper left corner).
   b) Select Modify and update the General Information tab, E-mail Address field to be your email account.
   c) Select Save.

2. Open up the existing CE150_CreateBusinessPartner.xdp file. Save it as a new name and add a field for the business partner number.
   a) Navigate to c:\SessionContent\CE150 folder on your desktop.
   b) Double-click on your CE150_CreateBusinessPartner.xpd file to open it. Adobe Live Cycle Designer will launch.
   c) Select Save As, name the new file CE150_DisplayBusinessPartner.
   d) Remove the Submit button.
   e) Copy the FirstName field and call it BusinessPartnerNumber. Be sure to change the technical name of the field as well.
   a) Navigate to Guided Procedures → Design Time and select your folder, CE150.
   b) Select Create Interactive Form.
   c) Name the form CE150_EmailForm. Enter a description of your choice. Use the steps from the
      previous exercise to import your CE150_DisplayBusinessParnter.xdp form. Select all fields on the form
      to be used as both input and output parameters. You should have the following fields:
      BusinessPartnerNumber, FirstName, LastName, SearchBy.
   d) Select Next until you get to Configuration. Select “Enable Use in Guided Procedures.”
   e) Select Next, Finish and Open, then Activate.

4. Navigate to your CE150 folder in the guided procedures design time and select to change your
   existing block.
   a) Navigate to Guided Procedures → Design time.
   b) Select the folder CE150.
   c) Select your CE150_BP_Process. Highlight your block and select Change.

5. Add an action AC_SendEmail and create a callable object for your form.
   a) Select your block and select to create a new action. Name the action AC_SendEmail. Enter a
      description of your choice.
   b) Select the action and select to create a new callable object. Provide the following information for the
      callable object:
      Name: CO_EmailForm
      Description: email the form
      Type: Form → Composite Form
   Select Next.
   c) Select Choose for the Composite Form Name. Select your folder and choose your form,
      CE150_EmailForm.
   d) Select Completes the Step.
   e) Select Choose Email Template. Select New – HTML Template to create a new template. Alternatively,
      you can also select an existing email template. This email template has the text that will be used in the
      email.
   f) Select Next until you can select Finish.
6. Update parameter mapping to map the guided procedures context to your form.

a) Select your block and select the tab Parameters.

b) Notice the groups at the bottom of the parameter mapping. You should have the following groups:

   GRP_BusinessPartner  GRP_LastName
   GRP_FirstName        GRP_SearchBy

c) We need to add each of the form fields to the existing group. In the mapping look for Interactive Form Fields. When you open this up you will see all the fields in the form.

d) Select the FirstName from the Interactive Form Fields. Press the <CTRL> key and select GRP_FirstName. Then select AddToGroup. This will add the first name from the field to the parameter mapping group.

e) Repeat this step for the LastName, BusinessPartnerNumber, and SearchBy Fields.

f) Activate and test your process. Start the process from the Instantiation tab of the process. Once the process completes, you should go to your personal email account and see if you have an email with the form.
Optional step: Ad hoc steps in a Guided Procedures process

In this optional task you will add an ad hoc step. This means when the user is processing a step, they have the option to do something in addition to that step. It will display in an “Options” area at runtime. In this task you will create an action and a callable object, then you will link this to your AC_InputBPIInfo step.

Please note, this exercise will provide a description of what needs to be done, but there will not be a picture for each step. This exercise includes the following major steps:

- Create an action and callable object called AC_RevenueReport and CO_RevenueReport.
- Update your process, AC_InputBPIInfo, to use this AC_RevenueReport on an optional basis.
- Update the runtime view to show ad hoc actions.
- Test

   a) Navigate to your CE150 folder in the Guided Procedures → Design Time.
   b) Select to create a new action. Name the action AC_InputBPIInfo. Add a callable object to the action using the following information:
      
      Name: CO_RevenueReport
      Description: execute a revenue report
      Type: User Interaction → Web page
      
   c) Select Next. Enter the URL: http://localhost:50100/revenue. Before entering this URL, open up a new browser, test it to ensure it works correctly.
   d) Select Next until you can select Finish. Activate your action and callable object.

2. Update the AC_GoogleResearch step in your CE150_BP_Process to have an ad hoc action.
   a) Open up your process, select the action AC_InputBPIInfo and select Change.
   b) Select the tab Ad hoc.
   c) Insert your action AC_RevenueReport as the Adhoc action.
   d) Select Save all.
3. **Add the ad hoc view to the runtime view and test.**
   a) Select your process and select the *Runtime Views* tab.
   b) Select *Add generic view*.
   c) Select the view "Process Activities (allows to view and execute activities and access activity related information and start ad-hoc items)."
   d) Select *Add*.
   e) Select this new view as the default view.
   f) Select *Save all* to save your entire guided procedure.
   g) Test your guided procedure, notice the *Options* area when you are on the **AC_InputBPIInfo** step.