CATT: Computer Aided Test Tool (BC-CAT-TOL)

Release 4.6C
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## Icons

<table>
<thead>
<tr>
<th>Icon</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Caution Icon" /></td>
<td>Caution</td>
</tr>
<tr>
<td><img src="image" alt="Example Icon" /></td>
<td>Example</td>
</tr>
<tr>
<td><img src="image" alt="Note Icon" /></td>
<td>Note</td>
</tr>
<tr>
<td><img src="image" alt="Recommendation Icon" /></td>
<td>Recommendation</td>
</tr>
<tr>
<td><img src="image" alt="Syntax Icon" /></td>
<td>Syntax</td>
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</tbody>
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**CATT: Computer Aided Test Tool (BC-CAT-TOL)**

**Use**

The Test Workbench contains the Computer Aided Test Tool (CATT) to create automatic test cases.

Automatic test cases are performed by the R/3 System without user dialog, and are most useful for function tests. The result of an automatic test case is a detailed log which documents the test. The use of automatic tests can considerably reduce the test effort.

Test cases test individual transactions or whole business transactions.

**Integration**

The [enhanced CATT maintenance mode](#) provides additional test functionality. This mode is intended above all for experienced test creators.

**Functions**

The transaction test case is recorded with a transaction recorder for the test module. You run the application as in normal dialog operation. You go to a test case editor after the recording.

You can make test cases flexible by subsequently defining test case variants.

You can pass the results of transactions in a business transaction to subsequent transactions. The chain function does this.

You can also define transaction result checks. The results can be in screen fields or system messages.

💡

You can familiarize yourself with CATT in the [CATT Tutorial: Easy Mode](#).

**Call CATT**

**Use**

You use CATT to create and edit automatic test cases.

**Procedure**

You can access the tool in various ways. The most important are:

- Test Organizer
- System menu
- User menu
Call CATT

Test Organizer

1. Go to the structure display of a test catalog or plan.
2. You can now create a new test case or edit an existing one:
   - edit existing test case:
     i. position the cursor on an automatic test case. automatic test cases are identified by the execution icon  
     ii. Choose  . You go to the test case attribute screen.
   - create new test case:
     i. Create a new structure node.
     ii. Select the Test case radio button in the Insert nodes dialog box, and enter a test case name. Customer names begin with Y, Z or your namespace prefix.
     iii. Choose  . You go to the test case attribute screen. Enter a test case short text.
3. Choose CATT. You go to the CATT test case editor [Page 7].

   If the test case has no test functions, you are prompted to record them.

   If other functions have been put in the test case in extended CATT mode, you are asked whether you want to display the test case in CATT mode, or whether you want to go directly to the extended CATT mode (if you are authorized).


   You must change the Test Organizer settings in the extended CATT mode test case editor. Go to the test catalog or plan maintenance initial screen and choose Utilities → Settings. The CATT Expert mode checkbox in the CATT tab must not be selected.

System or User Menu

1. Go to the CATT initial screen in one of the following ways.
   - System menu: Choose System → Services → CATT → Record.
   - User menu: Choose Test Workbench → CATT.
2. Choose a test case. You can use the Favorites [Page 7] or the F4 help [Page 26]. You can also enter a test case name directly.
3. From the initial screen you can choose:
   -  or  to go to the test case editor [Page 7] change or display mode respectively.
   -  to delete a test case [Page 21].
Favorites List

Use
You can put the test cases which you use most often in your favorites list.

Functions

Choose Test Case
You can choose a test case from your favorites list by double-click.

Insert Test Cases
Test cases which you create from the CATT initial screen are automatically put in the favorites list. You can also put favorites in the list manually by entering an existing test case in the Test case field and choosing Put in favorites list.

Edit Favorites List
Choose Manage favorites. You can make new entries and delete existing entries. Save the changes which you have made to the favorites list.

The Test Case Editor

Definition
The test case editor is the central CATT maintenance interface. You never leave the editor during test case maintenance. The functions and information relevant to each maintenance mode is shown.

Use
The test case editor has the following functions:

Create variants [Page 17]
Chain transactions [Page 14]
Define checks [Page 15]
Add new transaction [Page 13]
Add comment [Page 13]
The Test Case Editor

Delete subobjects [Page 14]
Rerecord transaction [Page 19]

Structure
Test case editor:

Navigation
The navigation area is on the left-hand side of the test case editor. The test case name is displayed at the top hierarchy level.

The transactions which are tested in this test case are listed at the next hierarchy level, with comments about the test case.

Under each transaction the screens which it uses in the test are listed.

Go to an object by double-clicking on it in the navigation area. Detail information about this object is displayed in the detail view of the object.

Detail View of Object
Detail information about the objects selected in the navigation area is displayed in the bottom right-hand area of the test case editor. Depending on the node, this can be:

- Transaction information
- Screen Definition
- Message information
- Comments
### Transaction information

**Create Vendor (Accounting) (FK01)**

#### Rerecord function:
- See [Rerecord transaction](Page 19)

You get this information when you select a transaction in the navigation area. Transactions are indicated by the ![icon](image)

The following information is displayed:

- **Active or inactive** with the icons ![icon](image) and ![icon](image) respectively.
- **Transaction code**: technical name of the transaction
- **Text**: descriptive transaction text
- **Rerecord function**: see [Rerecord transaction](Page 19)

### Screen Definition

You get this information when you select a transaction in the navigation area. Transactions are indicated by the ![icon](image)

The following information is displayed:

- **Field value read from this field for field check or chaining**
- **Field check against e value**
- **Field check against another field**
- **Input value in the field**

You get this information when you select a transaction in the navigation area. Transactions are indicated by the ![icon](image)

The following information is displayed:
The Test Case Editor

- active or inactive with the icons ☀ and ☐ respectively.
- screen definition with additional information:
  - field value: the field is ready for input and the value can be changed directly.
  - field check against a constant: the field is not ready for input. '=' is displayed before the check value.
  - field check against another field: the field is not ready for input. it contains '='.
  - source field for a chain or a field check: it is not ready for input. it contains '?'.

Message information

<table>
<thead>
<tr>
<th>Transaction message (SAPMSCEM 0001)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected message</td>
</tr>
<tr>
<td>Message ID</td>
</tr>
<tr>
<td>Message text</td>
</tr>
<tr>
<td>Variable part 1</td>
</tr>
<tr>
<td>Variable part 2</td>
</tr>
<tr>
<td>Variable part 3</td>
</tr>
<tr>
<td>Variable part 4</td>
</tr>
</tbody>
</table>

You get this information when you select the last screen in a transaction in the navigation area. Transactions are indicated by the [icon].

This screen contains information about the last system message sent.

You can get the result of a transaction from the system message and pass it to fields of a subsequent transaction (see Define chain [Page 14]).

You can also define checks [Page 15] on the displayed system message.
**Comments**

You get this information when you select the last screen in a transaction in the navigation area. Comments are indicated by the icon.

You can make notes about the test case with comments.

**Select Maintenance Mode**

The maintenance mode symbols are in the SAP application toolbar:

- Maintain the recorded transaction input values.
- Define chains [Page 14]
- Define checks [Page 15]
- Edit variants [Page 17]

**Maintenance Mode Information and Functions**

The top right-hand area of the test case editor displays maintenance mode information and functions.

It always contains the test case title and general function keys:

<table>
<thead>
<tr>
<th>Title</th>
<th>Recording of: EDINGERM 05.12.1999 14:56:05</th>
</tr>
</thead>
</table>

The general functions are:

- Delete current field contents. You must choose a screen in the navigation area and put the cursor on a filled field in the detail screen before you can use this function.
- go to the previous or next test case function (transaction or comment) respectively.
- go to the previous or next screen in a transaction.

**Define Chain**

Define chains has the additional function...
Editing a Test Case

Define Checks

Checks have the additional functions:

Edit Variants

The following function keys are shown:

- **New**: Create a new variant (see Individual creation [Page 17])
- **All variants**: goes to quick variant creation (see Quick creation [Page 18])
- **Cancel**: leave variant maintenance

Variant fields are also displayed. The first field contains the name and the second field a description, of the current variant.

## Editing a Test Case

### Use

The general procedure for creating test cases with CATT is described here.

Exceptions can be appropriate in particular circumstances.

### Procedure

1. **Create [Page 12]** the test case.
2. If you have recorded several transactions in a test case, and some of these transactions use the result of previous transactions, you must now **chain [Page 14]** these transactions in the test case.
3. You can define transaction output field **checks [Page 15]**.
4. If you do not want to always run the test case with the recorded values, create **variants [Page 17]**.
5. **Run [Page 21]** the test case.
Create Test Case

Use
You create test cases in CATT by recording all the entries and functions in a transaction. You can record more than one transaction.

Procedure

To create the test case in the Test Organizer structure maintenance, start at step 3.

1. Assign a name for the test case to be created. Customer names begin with Y, Z or your namespace prefix.
2. Choose  
3. Enter a transaction code in the following dialog box. If you do not know the transaction code, use the possible entries help. You can find the appropriate transaction by navigating through the menu tree display. Position the cursor on the menu and choose Copy.
4. Choose Record. You go to the transaction.
5. Run the transaction using the functions to be tested.
6. End the transaction.
7. You are asked in a dialog box whether you want to record another transaction or end the recording.
   - to record another transaction, continue at step 3.

Insert Transaction

Use
This function puts another transaction in an existing test case.

6. Analyze the log [Page 22].
Create Comment

Procedure

1. Go to the test case editor [Page 7].
2. Go to change mode.isión toggles between display and change modes.
3. Select the transaction before which the new transaction is to be inserted, in the navigation area.
4. Choose íson.
5. Choose Transaction in the Insert new function dialog box, and confirm with íson.
6. Enter the transaction code of the new transaction in the CATT - Record transaction dialog box. You can get the transaction code with the F4 help.
7. Choose Record.
8. You go to and run the transaction. At the end of the transaction, you return to the test case editor. The transaction is put in the test case.

Create Comment

Use

This function creates explanatory comment texts in a test procedure.

Procedure

1. Go to the test case editor [Page 7].
2. Go to change mode.isión toggles between display and change modes.
3. Select the transaction before which the comment is to be inserted, in the navigation area.
4. Choose íson.
5. Choose Comment in the Insert new function dialog box, and confirm with íson.
   A new node is inserted in the navigation area. You can now enter the comment text for this node in the detail view.

Delete Subobjects

Use

Use this function to delete transactions or comments from your test case.
Define Chain

Procedure
1. Go to the test case editor [Page 7].
2. Go to change mode. 📊 toggles between display and change modes.
3. Select the transaction or comment to be deleted in the navigation area.
4. Choose 🗑️. The object is deleted from the test case.

Define Chain

Use
Business processes are represented in the SAP environment as a chain of transactions. Transactions in a chain often use the results of previous transactions.

The result of a transaction is often in the form of a key (order number, customer number, material, …). Subsequent transactions need this key. The key is usually output in a system message.

When you create test cases, you must often read the result of a transaction and pass it to one or more subsequent transactions. The chain function does this.

Prerequisites
This function passes the result of a transaction or transaction screen field contents to subsequent transactions. You cannot chain within a transaction. Results cannot be passed to previous transactions.

Procedure
6. Go to the test case editor [Page 7].
7. Go to change mode. 📊 toggles between display and change modes.
8. 🗓️ goes to chain maintenance.
9. Position the cursor on a field containing the transaction result which you want to pass to a subsequent transaction. Navigate to the screen in the test case editor [Page 7].
   🌟 If the transaction result is in a system message, it is in the last screen of the transaction.
10. Select field selects the output field where the cursor is.
11. Put the cursor on the field in the subsequent transaction into which the result is to be copied.
12. Select field defines this field as the target for the result of the previous transaction.
Define Checks

Use
This function defines field and system message contents checks.
You can check constant values (e.g. Name: Müller) or field values from screens of previous transactions (e.g. Field Name).

Procedure
1. Go to the test case editor [Page 7].
2. Go to change mode. 
   toggles between display and change modes.
3. goes to variant maintenance.
4. Go to the transaction screen for which you want to define a check.
5. Position the cursor on the field to be checked.
6. You can check:
   – a value
   – against another field
7. Save the changes.

Check a Value
1. In step 6, choose Check value.
2. A dialog box appears. Enter the value against which you want to check in the New check value field.
   If there was already a check for this field, it is in the Previous check value field.

Check Against Another Field
1. In step 6, choose Check value.
   Specify the field against whose contents you want to check.
2. Put the cursor on the field in a previous transaction which will contain the check value at runtime.
3. Check value defines this field as check value source.
   The check is made against the runtime value of this field.

You can Cancel the dialog at any time.
Utilities → Display chains shows all chains and checks in the test case.

Check System Message

Use
At the end of each transaction, the last system message sent is displayed in an extra screen. You can check this screen to see whether a particular system message was sent by the transaction.

Procedure
1. Go to the test case editor [Page 7].
2. Go to change mode. toggles between display and change modes.
3. goes to check maintenance.
4. Go to the last transaction screen (Transaction message (SAPMSCEM 0001)).
5. Define a message check. You can check the message number or the combination of message class (Message ID) and message number.
   Put the cursor on the Number field and choose Check value. Enter the expected message number in the following dialog box.
   To check the message class, position the cursor on the Message ID field and choose Check value. Enter the message class in the following dialog box.
6. You can define other allowed messages by performing step 5 using the Other allowed messages fields.

Result
You have defined system message checks. If these system messages are sent, the test is a success, even if the transaction ended with an error (check error). If you have defined several allowed messages, the transaction must send one of them during the test for it to be a success.

Editing Variants

Use
In a test case, values are put in the input fields of the transactions to be tested. A complete set of these values is a variant. The variant provides test case data at runtime.

A standard variant with the name Test case is created automatically when a test case is created. It contains the values which you entered when you recorded the test case. You can edit this
Individual Entry

variant in a special editing mode which you access with 📝. The procedure is the same as when creating individual variants [Page 17].

When you create other variants, any input fields which you do not specify take the values in the standard variant. The standard variant should contain the values which are most commonly used.

Procedure

1. Go to the test case editor [Page 7].
2. Go to change mode. 📝 toggles between display and change modes.
3. 📝 goes to variant maintenance.
4. You can maintain variants in two ways:
   - individually [Page 17]: create one test case variant
   - quickly [Page 18]: create several variants
5. Save the changes.
6. Cancel variant maintenance.

Individual Entry

Use

Use individual entry to create or change individual variants.

Procedure

Create Variant

1. Go to variant maintenance [Page 17].
2. Choose New.
3. Enter a variant ID and a descriptive text in the following dialog box.
4. Define the variant as described under Maintain variant, skipping steps 1 and 2.

Maintain Variant

1. Go to variant maintenance [Page 17].
2. Choose the variants to be maintained from the F4 help for the Variant field.
3. Put the values for this variant in the input field values of the transactions involved. Go to the transaction screens using the navigation area.
4. Save the changes.
Fast Entry

Use
Use fast entry to create or change several variants at the same time.

Prerequisites
You must create a first variant individually [Page 17] before you can use fast entry. You must enter values for all fields in the tested transactions which you want to use in your variants.

Procedure
1. Choose All variants.
   All existing variants are displayed in a table in a dialog box. The standard format of the table is:

<table>
<thead>
<tr>
<th>Variant</th>
<th>Description</th>
<th>Input field 1</th>
<th>Other input fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variant ID</td>
<td>Short description of the variant</td>
<td>Value for input field 1</td>
<td>a cell for each additional input field</td>
</tr>
</tbody>
</table>

2. Edit the existing variants by entering new values in the input field columns.
3. Add new variants as follows:
   - 📋 copy existing variant
   - ✍️ insert new variant
4. Load the variants locally on your PC (➡️) and edit them with a desktop application.
5. Import the variants from an external text file (➡️).
6. Delete one or more variants by selecting them and choosing 🗑.
7. End fast entry with 🌿.

Rerecord Transaction

Use
Test cases run the transactions to be tested as they were recorded. If changes are made to the transactions which change the procedure, the test cases must be modified accordingly. The Rerecord transaction function does this.

You can still use existing test case variants [Page 17] after modification.
Deactivate Transactions or Screens

If you made an error while recording a transaction for a test case, you can use this function to correct it instead of deleting the test case.

Procedure
1. Go to the test case editor [Page 7].
2. Go to change mode. 
3. Double-click on a transaction node in the test case editor navigation area. The transaction code, the transaction text and the Active flag are displayed in the detail maintenance area. The Rerecord function key remains visible.
4. Choose Rerecord.
5. A transaction code dialog box appears. Confirm this dialog box if you want to rerecord the same transaction. To record another transaction, enter its transaction code or choose one from the F4 help.
6. You go to the transaction. Run the transaction using the functions to be tested.
7. At the end of the transaction, return to the test case editor.

Result
After rerecording, the node selected in step 3 is flagged inactive. You can reactivate this node (see Deactivating transactions or screens [Page 20]).

Two more nodes are inserted before this node. The first node is the rerecording and the second is a comment which documents when the transaction was rerecorded.

Deactivate Transactions or Screens

Use
You can activate or deactivate transactions or screens in a test case. Deactivated transactions or screens do not run in tests.

This affects the transaction or screen sequence, and can prevent the test from being run. Rerecord transaction [Page 19] is an exception.

Procedure
1. Go to the test case editor [Page 7].
2. Go to change mode. 
3. Select the transaction or screen to be edited in the test case editor navigation area.
4. 

Deactivate Transactions or Screens
Copy Test Case

Use
Use this function e.g. if you want to use a test case delivered by SAP (or another existing one) as a template, and do not want to change it.

Procedure
To copy a test case:
1. Go to the CATT initial screen.
2. Specify a test case. You can enter it directly or using F4 help [Page 26] or your favorites list [Page 7].
3. Choose  📝.
4. Enter a name for the new test case which is to be created by copying, in the following dialog box.
5. Confirm the dialog box with ✔️.

Result
You have created a test case with the name specified under 4. You can now edit [Page 12] this test case.

Delete Test Case

Use
You should only use this function when you are sure that you no longer need the test case. When you have performed this function, the test case no longer exists.

Procedure
1. Go to the CATT initial screen.
2. Specify a test case. You can enter it directly or using F4 help [Page 26] or your favorites list [Page 7].
3. Choose  📝.
4. Confirm the next dialog box if you want to delete the test case.
5. The test case is deleted.
Run Test Case

Use
This function performs all the functions defined in a test case.

Procedure

6. Go to the CATT initial screen.
7. Specify a test case. You can enter it directly or using F4 help [Page 26] or your favorites list [Page 7].
8. Choose ,
   You go to the execution screen, in which you specify test case execution options.
9. Choose one of the following execution modes:
   - foreground: All test case transaction screens run in dialog.
   - background: The transactions run without dialog.
   - display errors: The transaction screens run without dialog. If a screen sends an error message, the test stops and the screen is displayed. You can change entries to solve the error and restart the test with . If no more errors occur, the transactions run without dialog again.
5. Choose one or more test case variants to run.
6. Run the test case with .
7. In foreground and display errors modes, go to the next transaction screen with . You can change screen entries.
8. A log is issued after the test. See analyze log [Page 22].
9. returns to the execution screen.
10. returns to the CATT initial screen.

Analyze Log

Use
The log documents a test. Errors are highlighted in color.

Procedure
The log appears automatically after a test. To display logs of previous tests:
1. Go to the test case editor.
2. Choose Utilities → Display log(s).

3. Complete the following selection screen and choose 📋.
   A list of all test logs which satisfy the selection criteria is displayed. If there is only one log, the list is skipped. Continue at 5.

4. Choose a log by double-click.
   The log is displayed.

5. Analyze the log.

6. Leave the log with 📋.

**Result**

Tests are logged. The log is hierarchically structured according to the test case used, and displayed as a structure with nodes.

The test case is displayed on the first level of the log. The transactions called, the screens used and the entries, outputs and checks in these screens are listed below. Errors are displayed with their messages.

**Logs with no Errors**
Logs with Transaction Errors

Errors are marked red. If the test case contains several transactions, only those with errors are marked red.
Log with Positive Field Checks

A successful check is indicated in the log by the color green and the ✔️ icon. The field value is displayed in the log.
The error is indicated by the color yellow and the "↓" icon. The target and actual values are logged in that order.
Logs with Actual Value Read Errors

The error is indicated by the color red and the ✗ icon. Only the target value is logged.
**Marking processed screens**

The screens which were processed during a test are shown in the CATT test plan log: They are displayed in black, screens not processed are in blue. This shows how far a test ran before an error occurred. You can also see any gaps in the screen sequence.

You go to a screen like:

Blue/gray screens were not processed in the test.

This new function is particularly useful for error messages such as ‘Data for screen XX not found’.
Find Test Case

Use
You can use the F4 help for the Test case field in the CATT initial screen to find a particular test case.

Procedure
1. Go to the CATT initial screen.
2. Choose the F4 help.
3. Enter your search criteria in the next dialog window. The search criteria include the User name and the Application component.
4. Start the search with ✨.
5. If several test cases satisfy the search criteria, they are listed. You can select one by double-click.
6. The selected entry is put in the input field. You can also now put this test case in the favorites list [Page 7].