



SAP® Formulare mit
System und Produkt

Testdatencontainer für Entwicklertests und dynamisch wachsende Unit Tests



Tipp 49:

Testen Sie Ihre Software, sonst tun es Ihre Anwender



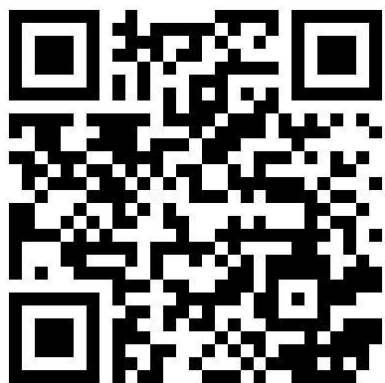
SAP® Formulare mit System und Produkt

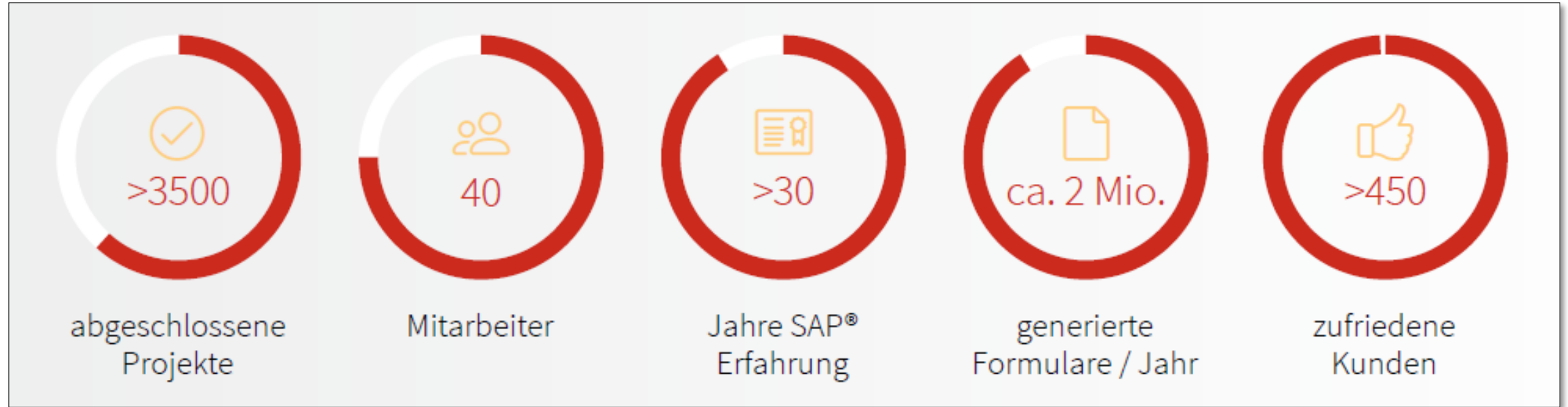


Frank Engert

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 Software AG





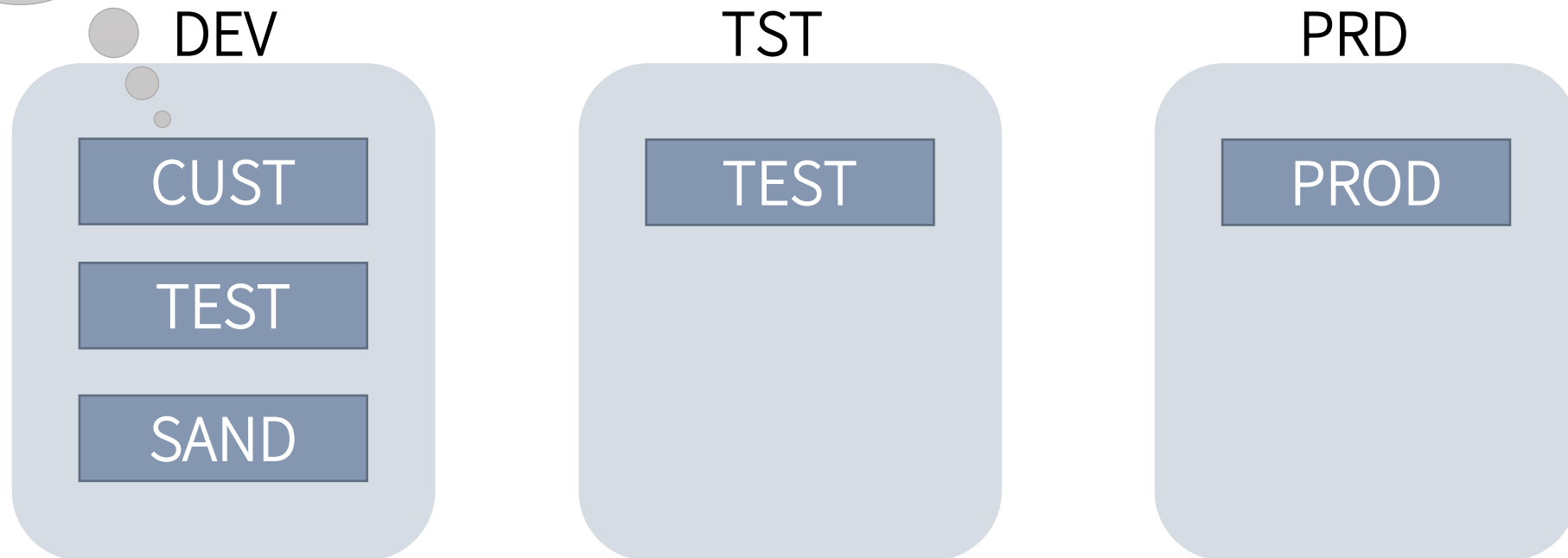
- Was sind Testdatencontainer?
- Verwendung für Entwicklertests
- Verwendung in Unit Tests

Testdatencontainer

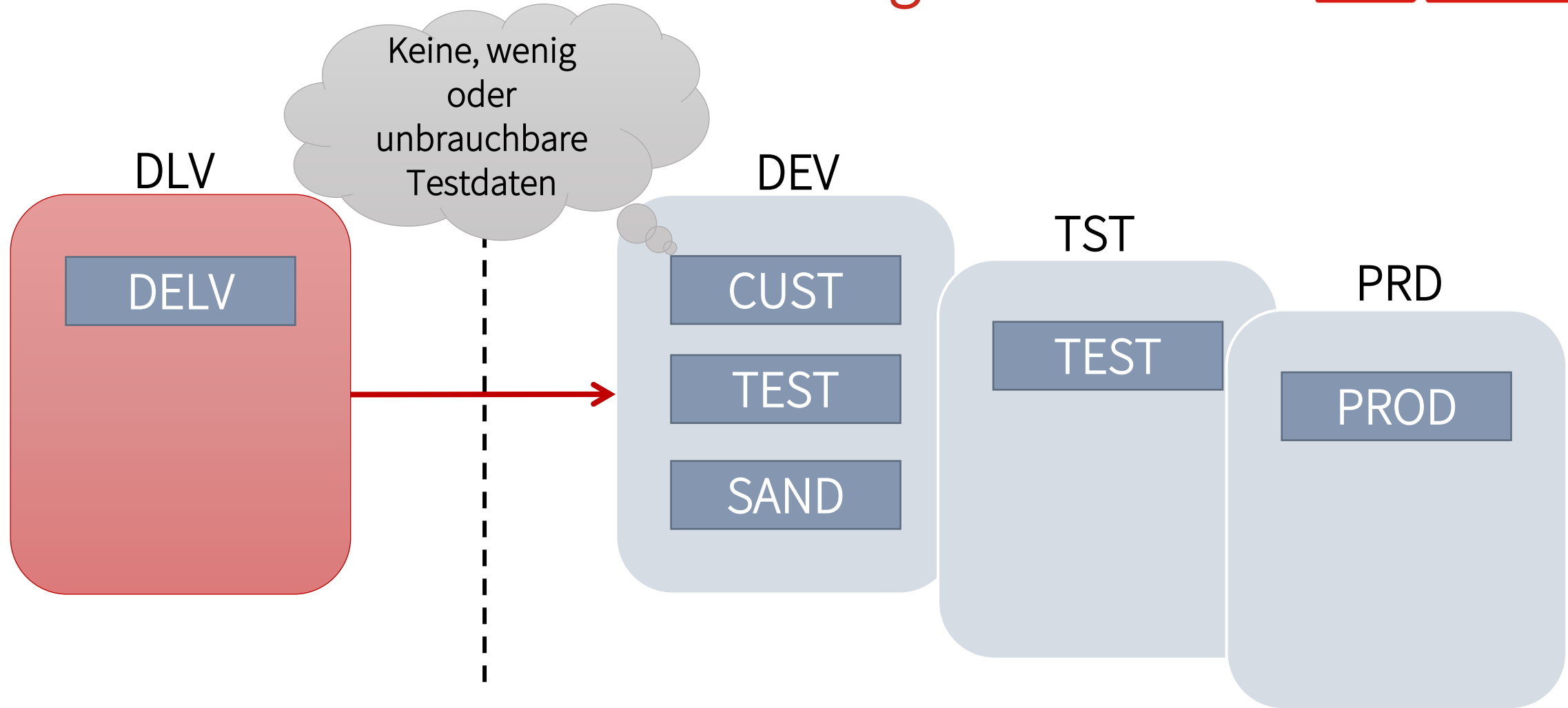
Was ist nochmal das Problem?

Kunden-Problematik

Keine, wenig
oder
unbrauchbare
Testdaten



Addon-Problematik - Auslieferung



Ausgabe mit Testdaten



Auftragsbestätigung

ESG Holding AG, Postfach 16 05 26, D-60370 Frankfurt

Firma
C.A.S. Computer Application Systems
Chemnitzer Strasse 42
01187 Dresden

Auftrags-Nr.:	14423
Lieferdatum:	24.02.2017
Kunden-Nr.:	1460
Incoterms:	Dresden

Rechnungsempfänger

Firma
C.A.S. Computer Application Systems
Chemnitz Strasse 42
01187 Dresden
USt-Id.Nr. DE324154321

Reguller

Firma
C.A.S. Computer Application Systems
Chemnitz Strasse 42
01187 Dresden
USt-Id.Nr. DE324154321

Das ist ein Formulkopfzeile / VBBK / 0001 Z1

Das ist ein Formulkopiezeit / VBBK / 0001 Z2

Das ist ein Formularkopfzeile / VBBK / 0001 Z3

Bitte treffen Sie eine Auswahl

Formular	/SOFTW/SDF_V1_ORDER
RFC-Destination	
Testdatencontainer	ZTDC_FENGERT_V1_SSP
Variante	SR2_V1_01

Pos.	Artikel Nr.	Menge	Ein.	GrEin.	Einheitspr. n. MwSt	Preis n. MwSt	MwSt
	Beschreibung				EUR	EUR	
10	Das ist ein Materialverkaufsteil - VSDP / 0001 - POS 10 Z1						
	Das ist ein Materialverkaufsteil - VSDP / 0001 - POS 10 Z2						
	Das ist ein Materialverkaufsteil - VSDP / 0001 - POS 10 Z3						
	DPG1013						
	Textator Professional - Modell NATURAL						
	Positionen Netto Neu						
	Das ist eine Positionsnote / VSDP / 0002 - POS 10 Z1	6	ST	1	96,40 EUR		536,40 15
	Das ist eine Positionsnote / VSDP / 0002 - POS 10 Z2						
	Das ist eine Positionsnote / VSDP / 0002 - POS 10 Z3						
	Das ist ein Verpackungshilfs / VSDP / 0003 - POS 10 Z1						
20	Das ist ein Verpackungshilfs / VSDP / 0003 - POS 10 Z2						
	Das ist ein Verpackungshilfs / VSDP / 0003 - POS 10 Z3						
	BruttoVollgewicht pro Pos. 6.000 / 6.000 KG						
	Warenempfänger						
	Roma						
	C.A.S. Computer Application Systems						
	Chemnitz Strasse 42						
	01107 Dresden						
	Das ist ein Materialverkaufsteil - VSDP / 0001 - POS 20 Z1						
	Das ist ein Materialverkaufsteil - VSDP / 0001 - POS 20 Z2						
	Das ist ein Materialverkaufsteil - VSDP / 0001 - POS 20 Z3						
20	DPG1013						
	Textator Professional - Modell NATURAL						
	Positionen Netto Neu						
	Das ist eine Positionsnote / VSDP / 0002 - POS 20 Z1	5	ST	1	96,40 EUR		447,00 15
	Das ist eine Positionsnote / VSDP / 0002 - POS 20 Z2						
	Das ist eine Positionsnote / VSDP / 0002 - POS 20 Z3						
	Das ist ein Verpackungshilfs / VSDP / 0003 - POS 20 Z1						
	Das ist ein Verpackungshilfs / VSDP / 0003 - POS 20 Z2						
	Das ist ein Verpackungshilfs / VSDP / 0003 - POS 20 Z3						
	BruttoVollgewicht pro Pos. 5.000 / 5.000 KG						

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Wie sind Testdatencontainer aufgebaut?

Transaktion SECATT

Testdatencontainer - Varianten


Parameter Varianten Attribute

Modus

☐ Externe Varianten / Pfad

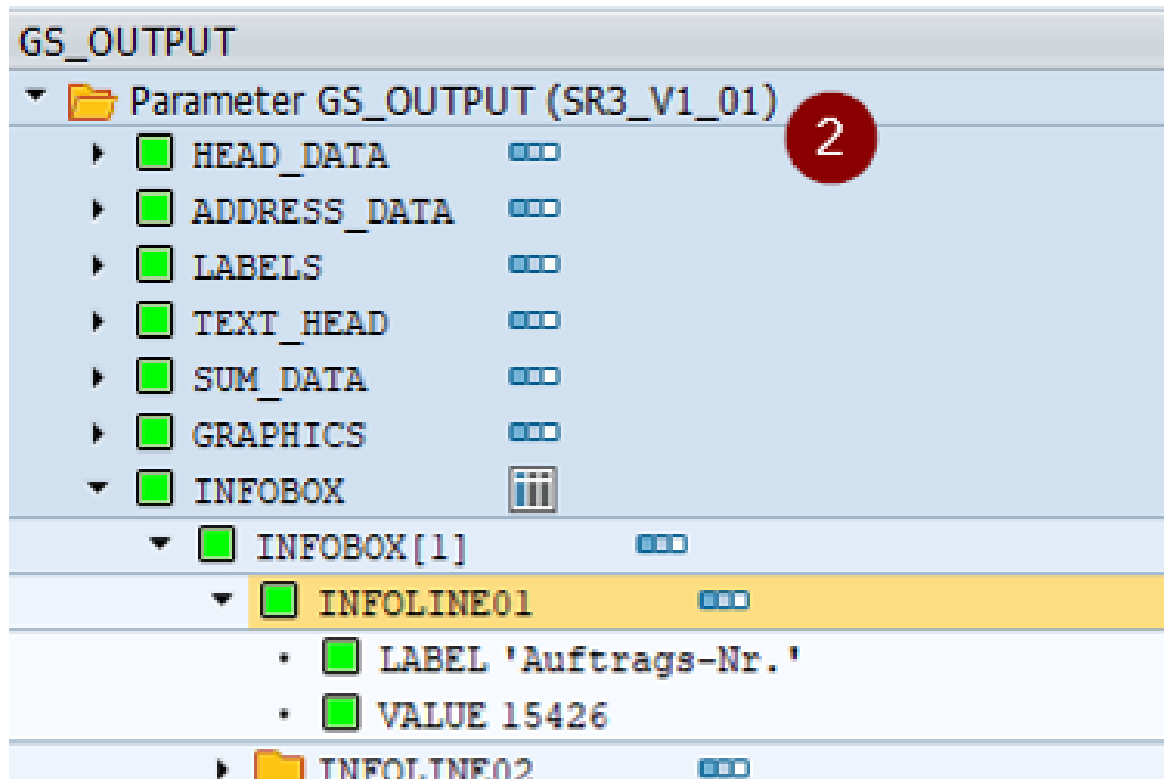
Datei

☒ Interne Varianten



Varianz	Beschreibung	GS_OUTPUT	DOCPARAMS
ECATTDEFAULT		<INITIAL>	
SR3_V1_01	SR3: Auftrag 15426 (Remote-Daten)	<VALUE>	<?xml version="1.0" encoding="UTF-8">
SR2_V1_01	SR2: Auftrag 14423 (3 Pos.)	<VALUE>	<?xml version="1.0" encoding="UTF-8">

Testdatencontainer - Varianten



Testdatencontainer - Varianten

INFOBOX[1]-INFOLINE01			
Element	Beschreibung	Wert	D
INFOLINE01	ADS		
LABEL		'Auftrags-Nr.'	
VALUE		15426	

3

Testdatencontainer - Attribute




The screenshot shows a configuration window for 'Testdatencontainer' with the 'Attribute' tab selected. The 'Attribute' tab is highlighted in blue. Below it, there are four sub-tabs: 'Allgemeine Daten', 'Versionierungsdaten', 'Zusätze', and 'Einschränkungen'. The 'Allgemeine Daten' sub-tab is selected. Under this sub-tab, there is a section titled 'Datenzugriff über API'. Within this section, there is a checkbox labeled 'API Zugriff erlaubt' which is checked. A red circle with the number '1' is placed next to this checkbox, indicating a specific configuration point.

Verwendung für Entwicklertests

Beispiel: PP-Report

Beispiel: PP-Report

Selektion

Werk 

☒ bestandsabhängig

Material bis

☐ bedarfsabhängig

Arbeitsplatz bis


Dispo: Stufennummer bis

Auswahl Testdaten

☐ Testdaten verwenden

Testdatencontainer

Variante



Datenbank-Tabellen im TDC ablegen

interne Varianten

1

Variante	Beschreibung	T_MARD	T_OPERA	T_PKHD	T_LTBP	T_LTAP	T_MATN	T_MATNR	T_MARA	T_PLAF
ECATTDEFAULT		<INITIAL>	<INITIAL>	<INITIAL>	<INITIAL>	<INITIAL>	<INITIAL>	<INITIAL>	<INITIAL>	<INITIAL>
V1	Initiellauf	<VALUE>	<VALUE>	<VALUE>	<VALUE>	<VALUE>	<VALUE>	<VALUE>	<VALUE>	<VALUE>
V2	Verrechnung	<VALUE>	<VALUE>	<VALUE>	<VALUE>	<VALUE>	<VALUE>	<VALUE>	<VALUE>	<VALUE>

2

T_MARD(V1)

MANDT	MATNR	WERKS	LGORT	SPERR	LABST	UMLME	INSME	EINME	SPEME
	'A00001'	1032	400		30		1		2
	'A00001'	1032	400		20		10		5
	'A00001'	1032	402		86				
	'A00001'	1032	403		5		1		2
	'A00003'	1032	700		20		5		
	'K1.1.1'	1032	700		92		5		2
	'A00004'	1032	700		20		5		
	'V00004'	1032	700		12		3		1
	'V00004'	1032	701		1		2		3
	'V00004'	1032	402		2		1		2

Datenbeschaffung aus Testdatencontainer

```
method get_mard.  
  
    clear et_mard.  
  
    if is_mard_key is initial.  
        return.  
    endif.  
  
    select matnr werks lgort labst insme speme  
        from mard into corresponding fields of table et_mard  
        where matnr = is_mard_key-matnr and  
        werks = is_mard_key-werks and  
        lgort in is_mard_key-lgort range[ ] .  
  
endmethod.
```

5

Datenbeschaffung aus Testdatencontainer

```
method get_mard.  
  
    data lt_mard type table of mard.  
    data ls_mard2 like line of et_mard.  
  
    gr_testdata->get_values_by_param(  
        exporting  
            if_param = 'T_MARD'  
        importing  
            e_values = lt_mard )  
  
    loop at lt_mard into data(ls_mard)  
        where matnr = is_mard_key-matnr and  
            werks = is_mard_key-werks and  
            lgort in is_mard_key-lgort_range.  
        move-corresponding ls_mard to ls_mard2.  
        append ls_mard2 to et_mard.  
    endloop.  
  
endmethod.
```

4

Datenbeschaffung aus Testdatencontainer

```
method calculate_stock.  
  
data ls_mard_key type XXXXXXXXXX_conwip_ctrl=>typ_s_ma  
  
ls_mard_key-matnr = gs_calc-matnr.  
ls_mard_key-werks = gs_calc-werks.  
ls_mard_key-lgort_range = gt-lgort_range.  
  
gr_dao->get_mard( exporting is_mard_key = ls_mard_key  
                  importing et_mard      = gt_mard ).
```

3

Datenbeschaffung aus Testdatencontainer

```
method set_testdata_dao.
```

```
data(lr_dao_mock) = new ltc_convip_dao_mock( if_tdc_name = gs_sel-pa_tdnam  
                                              if_tdc_var  = gs_sel-pa_tdvar ).
```

```
lrm_dao_convip_dao=>set_instance( lr_dao_mock ).
```

1

```
endmethod.
```

```
method get_instance.
```

```
if ( gr_dao is initial ).
```

```
create object gr_dao.
```

```
endif.
```


```
rr_dao = gr_dao.
```

2


```
endmethod.
```


Beispiel: PP-Report

Selektion

Werk 

☒ bestandsabhängig

Material 

☐ bedarfsabhängig

Arbeitsplatz

Dispo: Stufennummer

Auswahl Testdaten

☐ Testdaten verwenden

Testdatencontainer

Variante V1

T_MARD(V1)									
MANDT	MATNR	WERKS	LGORT	SPERR	LABST	UMLME	INSME	EINME	SPEME
	'A00001'	1032	400		30		1		2
	'A00001'	1032	400		20		10		5
	'A00001'	1032	402		86				
	'A00001'	1032	403		5		1		2
	'A00003'	1032	700		20		5		
	'K1.1.1'	1032	700		92		5		2
	'A00004'	1032	700		20		5		
	'V00004'	1032	700		12		3		1
	'V00004'	1032	701		1		2		3
	'V00004'	1032	402		2		1		2

Debugging
in DEV
möglich

Eine Frage der Einstellung

TIPP 48:
„Entwerfen
Sie fürs
Testen“

Testdatencontainer API

Klasse CL_APL_ECATT_TDC_API




Objektname	Beschreibung
CL_APL_ECATT_TDC_API	eCATT TDC API - Testdatencontainer-Zugriffs
Attribute	
Methoden	
• CHANGE_PARAMETER	Ändert die Eigenschaften eines Parameters
• CHANGE_VARIANT	Ändert die Eigenschaften einer Variante
• CLEAR_EXCEPTION	Löscht die gemerkte Exception
• COMMIT_CHANGES	Schreibt die Änderungen des TDC in die Datenb:
• CONSTRUCTOR	
• COPY_PARAMETER	Kopiert einen Parameter
• COPY_TDC	Kopiert einen TestDatenContainer
• COPY_VARIANT	Kopiert eine Variante
• CREATE_PARAMETER	Legt einen neuen Parameter an
• CREATE_TDC	Legt einen neuen TestDatenContainer an
• CREATE_VARIANT	Legt eine neue Variante an (Einzelverarbeitung)
• CREATE_VARIANTS	Legt neue Variante(n) an (Massenverarbeitung)
• DELETE_PARAMETER	Löscht einen Parameter
• DELETE_TDC	Löscht einen TestDatenContainer
• DELETE_VARIANT	Löscht eine Variante
• GET_EXCEPTION	Liefert die letzte Exception, weitere über ->prev
• GET_INSTANCE	Laden und Vorbereiten eines TDCs
• GET_PARAM_DEFINITION	Liefert die Definition eines Parameters

- » TDC anlegen → `cl_apl_ecatt_tdc_api=>create_tdc()`
- » `create_variant()`
- » `create_parameter()`
- » `write_into_variant()`
- » `commit_changes()`

» TDC auslesen → `cl_apl_ecatt_tdc_api=>get_instance()`

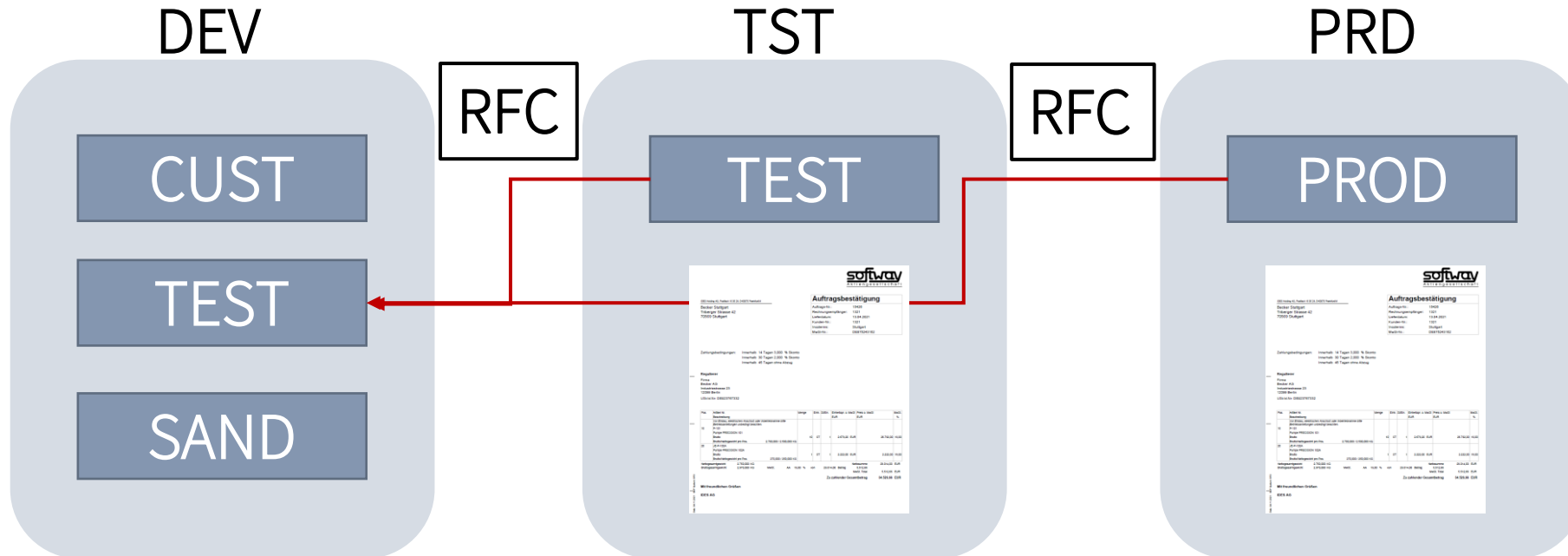
- » `get_param_list()`
- » `get_param_definition()`
- » `get_variant_list()`
- » `get_variant_description()`
- » `get_variant_content()`

A blue oval containing the text "API-Zugriff erlauben" in white, sans-serif font.

API-Zugriff
erlauben

Testdatencontainer per RFC erstellen

Testdatencontainer per RFC erstellen



Verwendung in Unit Tests

Unit Test – Was ist das?

ABAP Unit: Ergebnisanzeige

Priorität

Aufgabe/Programm/Klasse/Metho...

- TASK_ENGERT_20221202_16
 - ZCL_FI_PERIODS=====ul> - LTC_UNIT_TEST
 - PERIOD_TESTS

Fehler und Meldungen

Prio	Meldung
!	Kritischer Assertion-Fehler: 'Variante TEST1, Feld periods total: erwartet 012 tatsächlich 000.'
!	Kritischer Assertion-Fehler: 'Variante TEST1, Feld periods accrual: erwartet 011 tatsächlich 000.'
!	Kritischer Assertion-Fehler: 'Variante TEST1, Feld period start as string: erwartet 02.22 tatsächlich .'.
!	Kritischer Assertion-Fehler: 'Variante TEST1, Feld period end as string: erwartet 12.22 tatsächlich .'.
!	Kritischer Assertion-Fehler: 'Variante TEST1, Feld period end as string: erwartet 01.02.2022 tatsächlich 00.0'.

Analyse

- Unterschiedliche Werte:
 - Erwartet [012], tatsächlich [000]
- Test 'LTC_UNIT_TEST->PERIOD_TESTS' im Hauptprogramm 'ZCL_FI_PERIODS=====CP'.

Unit Test - Welche Ziele verfolgen wir?



Tipp am Ende
der Präsentation

Tests für **kritische** Funktionen

GIVEN – WHEN – THEN

Beispiel: PDF-Ausgabe

PDF-Ausgabe - Infobox



Proformarechnung

Rechnungs-Nr. / Datum: 90000056 / 23.09.2014
Kundennummer: 6000
Ihre USt-Id. Nr.: DE123654U88

Hamburg

S-

3

ei Haus

s zum 29.10.2014 erhalten Sie 2,125 % Skonto

	Menge	Einh.	St/Ein.	Einheitspr. o. MwSt EUR	Preis o. MwSt EUR	MwSt. %
axi grau	10	ST	1	7,20 EUR	72,00	19,00

► Positionskonditionen (IC1)

► Infobox (IF2)

► Infobox (IFB)

• V3_0001_0004_GUTS	RD00	*	0001	0004	O
• V3_0001_GUTSCHRIFT	RD00	*	0001	*	O
• V3_0010_STORNO	RD00	*	0010	*	N
• V3_0020_PROFORMA	RD00	*	0020	*	U
• V3_STORNO	RD00	*	*	*	N
• V3_GUTSCHRIFT	RD00	*	*	*	O
• V3_PROFORMA	RD00	*	*	*	U
• V3_IL	ZLR0	*	*	*	*
• V3_SOFTW	*	*	*	*	*

egen Preiskonditionen

Kr. VerkOrg. V-Belegtyp



Detail	Layoutbez.	Layout	Bereichbez.	Methode	Inaktiv	Sortierung
	Proformarechnung	V3_PROFORMA	2 Spalten, Rahmen	SET_INFO_INVOICE_NO	<input type="checkbox"/>	10
				SET_INFO_BILTO_NO	<input type="checkbox"/>	20
				SET_INFO_GST_NO	<input type="checkbox"/>	30
				SET_INFO_INCO	<input checked="" type="checkbox"/>	40
				SET_INFO_PAYMENT_TERMS	<input checked="" type="checkbox"/>	50
				SET_INFO_ADRNR_AG	<input checked="" type="checkbox"/>	90

1	0004	O
1	*	O
0	*	N
0	*	U
	*	N
	*	O
	*	U
	*	*
	*	*

Proformarechnung

Rechnungs-Nr. / Datum: 90000056 / 23.09.2014
Kundennummer: 6000
Ihre USt-Id. Nr.: DE123654U88

Detail	Layoutbez.	Layout	Bereichbez.	Methode	Inaktiv	Sortierung
	Proformarechnung	V3_PROFORMA	2 Spalten, Rahmen	SET_INFO_INVOICE_NO	<input type="checkbox"/>	10
				SET_INFO_BILTO_NO	<input type="checkbox"/>	20
				SET_INFO_GST_NO	<input type="checkbox"/>	30
				SET_INFO_INCO	<input checked="" type="checkbox"/>	40
				SET_INFO_PAYMENT_TERMS	<input checked="" type="checkbox"/>	50
			Adresse, Rahmen	SET INFO ADRNR AG	<input checked="" type="checkbox"/>	90

Summenblock

Kontext 2

2
 Laufzeitdaten
 (Rechnung)

3
 Layoutcontainer
 zur Laufzeit (PDF-
 Ausgabe)

Variante	Beschr.	GIVEN_KSCHL	GIVEN_VBTYP	GIVEN_VKORG	GIVEN_VBTYP
ECATTDEFAULT					
LT_ZUT01	1	ZMSR	M	1000	1000
LT_ZUT02	2	ZMSR	M	1000	1000
LT_ZUT03	3	ZMSR	M	1000	1000
LT_ZUT04	4	ZMSR	M	1000	1000
LT_ZUT05	5	ZMSR	M	1000	1000
LT_ZUT06	6	ZMSR	M	1000	1000
LT_ZUT07	7	ZMSR	M	1000	1000

Layouttypen / Layoutcontainer	Nachr.art	BuKr.	VerkOrg.	V-Belegtyp
Unitest 01 (ZUT01)				
• ZUT_LAY_06	Z*S	1000	1000	*
• ZUT_LAY_04	Z*	1000	1000	*
• ZUT_LAY_01	Z*	*	*	*
• ZUT_LAY_05	*MSR	1000	1000	M
• ZUT_LAY_02	*	1000	*	*
• ZUT_LAY_03	*	*	1000	*
• ZUT_LAY_DEF	*	*	*	*

1
 Layoutcontainer-
 Darstellung im
 Customizing

THEN_LAYOUTDEFINITIONEN
Parameter THEN_LAYOUTDEFINITIONEN
[1]
[2]
[3]
[4]
[5]
[6]
[7]

THEN_LAYOUTDEFINITIONEN(LT_ZUT01)						
ADSLAYKEY	KSCHL	BUKRS	VKORG	VBTYP	ADSLAYOUT	
00461	'Z*S'	1000	1000	'*'	'ZUT_LAY_06'	
00459	'Z*'	1000	1000	'*'	'ZUT_LAY_04'	
00457	'Z*'	'*'	'*'	'*'	'ZUT_LAY_01'	
00460	'*MSR'	1000	1000	'M'	'ZUT_LAY_05'	
00431	'*'	1000	'*'	'*'	'ZUT_LAY_02'	
00458	'*'	'*'	1000	'*'	'ZUT_LAY_03'	
00259	'*'	'*'	'*'	'*'	'ZUT_LAY_DEF'	

Beispiel: Periodenermittlung

Testfälle in Excel



Leistungsbeginn	Leistungsende	Buchungsdatum	Perioden abzugrenzen	Abgrenzung Von	Bis
01.01.2022	31.12.2022	10.01.2022	11	02/22	12/22
01.01.2022	31.12.2022	15.03.2022	9	04/22	12/22
01.01.2022	31.12.2022	20.12.2021	12	01/22	12/22
10.05.2022	09.05.2023	10.05.2022	11	06/22	04/23
10.05.2022	09.05.2023	20.08.2022	8	08/22	04/23
10.05.2022	09.05.2023	13.04.2022	12	05/22	04/23
10.05.2022	09.05.2023	01.05.2023	0		

Testfälle im Testdatencontainer



Testdatencontainer		PERIODS		Version				Perioden		Abgrenzung			
Titel		Testdaten für Perioden Berechnung		Leistungsbeginn		Leistungsende		Buchungsdatum		abzugrenzen		Von Bis	
Parameter		Varianten		Attribute		01.01.2022		31.12.2022		10.01.2022		11 02/22 12/22	
						01.01.2022		31.12.2022		15.03.2022		9 04/22 12/22	
Modus						01.01.2022		31.12.2022		20.12.2021		12 01/22 12/22	
<input type="radio"/> Externe Varianten / Pfad													
Datei						10.05.2022		09.05.2023		10.05.2022		11 06/22 04/23	
<input checked="" type="radio"/> Interne Varianten						10.05.2022		09.05.2023		20.08.2022		8 08/22 04/23	
						10.05.2022		09.05.2023		13.04.2022		12 05/22 04/23	
						10.05.2022		09.05.2023		01.05.2023		0	
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Periodenermittlung - Abdeckungsmessung

Ergebnisknoten

Abdeckungsergebnis für CALCULATE_PERIODS

▼ ZCL_FI_PERIO Programm ZCL_FI_PERIODS=====CP

▼ ZCL_FI_PE

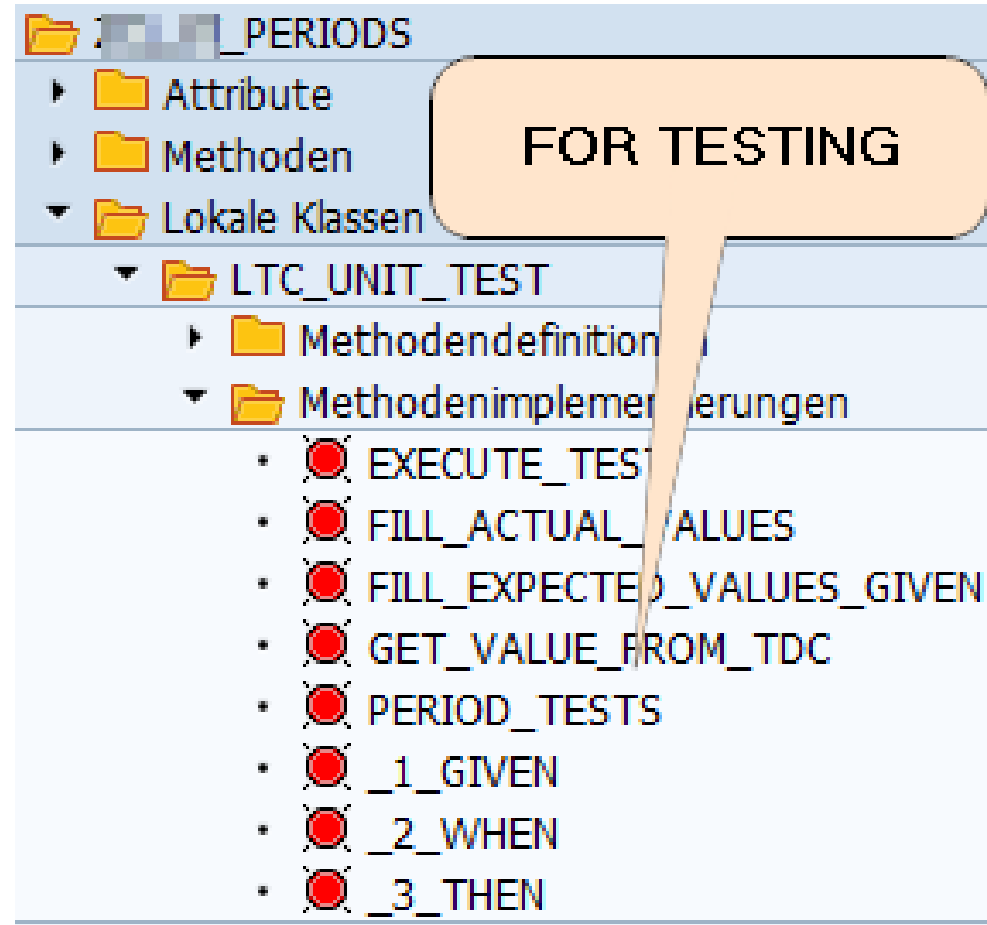
- * CALCUL
- * CONST
- * GET_PI
- * GET_PI
- * GET_PI
- * GET_PI
- * GET_PI
- * GET_PI

```
1 METHOD calculate_periods.  
2  
3     gf_periods_total = cl_reca_date=>months_between_two_dates(  
4         id_date_to    = gf_end_date  
5         id_date_from  = gf_start_date  
6         if_incl_to    = abap_true  
7     ).  
8  
9     IF gf_posting_date < gf_start_date.  
10        gf_periods_already_posted = 0.  
11    ELSE.  
12        gf_periods_already_posted = cl_reca_date=>months_between_two_date  
13            id_date_to    = gf_posting_date  
14            id_date_from  = gf_start_date  
15            if_incl_to    = abap_true  
16        *  
17        ).  
18        ADD 1 TO gf_periods_already_posted.  
19    ENDIF.  
20  
21    IF gf_periods_total LE gf_periods_already_posted. "Bereits alles ab  
22        gf_periods_already_posted = gf_periods_total.  
23    ENDIF.  
24  
25    gf_periods_accrual = gf_periods_total - gf_periods_already_posted.  
26  
27    ENDMETHOD.
```

Periodenermittlung – der Weg ...

```
29 methods: calculate_periods_1 for testing.
30 methods: calculate_periods_2 for testing.
31 methods: calculate_periods_3 for testing.
32 methods: calculate_periods_4 for testing.
33 methods: calculate_periods_5 for testing.
34 methods: calculate_periods_6 for testing.
35 methods: calculate_periods_7 for testing.
36 meth 49 method calculate_periods_1.
37 meth 50
38 meth 51     gr_cut = new zcl_fi_periods(
39 meth 52         if_start_date = '20220101'
40 meth 53         if_end_date   = '20221231'
41 meth 54         if_posting_date = '20220110'
42 meth 55     ).
43 meth 56
44 endclass 57     gr_cut->calculate_periods( ).
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59 cl_abap_unit_assert=>assert_equals(
60     act    = gr_cut->get_periods_total( )
61     exp    = 012
62     quit   = if_aunit_constants=>no
63 ).
64
```

Periodenermittlung - Unit Test Code



Periodenermittlung - Unit Test Code



```
50 METHOD period_tests.  
51  
52     gr_ecatt = cl_apl_ecatt_tdc_api=>get_instance( 'Z_FI_PERIODS' ).  
53  
54     DATA(lt_varnames) = gr_ecatt->get_variant_list( ).  
55  
56     DELETE lt_varnames WHERE table_line = 'ECATTDEFAULT'. "Variante  
57  
58     LOOP AT lt_varnames INTO DATA(lf_varname).  
59         execute_test( lf_varname ).  
60     ENDLOOP.  
61  
62 ENDMETHOD.
```

Periodenermittlung - Unit Test Code



```
65 METHOD execute_test.  
66  
67     DATA(ls_values_given) = _1_given( if_variant_name ).  
68  
69     DATA(lr_cut) = _2_when( is_values_given = ls_values_given ).  
70  
71     _3_then(  
72         EXPORTING  
73             if_variant_name = if_variant_name  
74             lr_cut          = lr_cut  
75     ).  
76  
77 ENDMETHOD.
```

```
79 *     _3_then(  
80 *         EXPORTING  
81 *             if_variant_name = if_variant_name  
82 *             lr_cut          = _2_when( _1_given( if_variant_name ) )  
83 *     ).
```


GIVEN

```
168 METHOD _1_given.  
169  
170     rs values = fill values given from tdc( if variant name ).  
171     85 METHOD fill_values_given_from_tdc.  
172     EN 86  
      87     get_value_from_tdc(  
      88         EXPORTING  
      89             if_par_name      = 'GIVEN_START'  
      90             if_variant_name = if_variant_name  
      91         IMPORTING  
      92             ef_param_value   = rs_values-given_start ).  
      93  
      94     get_value_from_tdc(  
      95         EXPORTING  
      96             if_par_name      = 'GIVEN_END'  
      97             if_variant_name = if_variant_name  
      98         IMPORTING  
      99             ef_param_value   = rs_values-given_end ).  
     100  
     101     get_value_from_tdc(  
     102         EXPORTING  
     103             if_par_name      = 'GIVEN_POSTING_DATE'  
     104             if_variant_name = if_variant_name  
     105         IMPORTING  
     106             ef_param_value   = rs_values-given_posting_date ).  
     107  
     108     ENDMETHOD.
```

WHEN



```
172 METHOD _2_when.  
173  
174     CLEAR rr_cut.  
175  
176     CREATE OBJECT rr_cut  
177     EXPORTING  
178         if_start_date    = is_values_given-given_start  
179         if_end_date      = is_values_given-given_end  
180         if_posting_date  = is_values_given-given_posting_date.  
181  
182     rr_cut->calculate_periods( ).  
183  
184 ENDMETHOD.
```

THEN

```
185 METHOD _3_then.  
186  
187     DATA lf_msg TYPE string.  
188  
189     1 DATA(ls_values_expected) = fill_values_expected_from  
190  
191     2 DATA(ls_values_actual)    = fill_values_actual( ir_cu  
192  
193     MESSAGE i000(zfi_periods_unittest) INTO lf_msg WITH  
194     cl_abap_unit_assert=>assert_equals(  
195     3 act    = ls_values_actual-then_periods_total  
196     exp    = ls_values_expected-then_periods_total  
197     msg    = lf_msg  
198     quit   = if_aunit_constants=>no ).  
199  
200     MESSAGE i001(zfi_periods_unittest) INTO lf_msg WITH  
201     cl_abap_unit_assert=>assert_equals(  
202     act    = ls_values_actual-then_periods_accrual  
203     exp    = ls_values_expected-then_periods_accrual  
204     msg    = lf_msg
```

Beispiel: Abgrenzungsbuchung

Die Alarmanlage – Job-Überwachung

Die Alarmanlage - ABAP Unit Runner: RS_AUCV_RUNNER



ABAP-Unit-Runner

Objekte für Modultests auswählen

☒ Nach Paket auswählen
☐ Nach Programm auswählen

Nach Paket auswählen

Pakete

☒ Mit Unterpaketen
☐ Ausgewählte Obj. ausschließen

Ausgabemodus

☒ Mails senden ...
☐ Ergebnis anzeigen (nur Dialog)

Optionen für das Senden

E-Mail-Adresse

☒ Nur im Fehlerfall senden

[1] :- (AUnit (Variant SSP_FORMS) 14.09.2021 09:15:53)



Frank Engert <f.engert@softway.de>

An [Redacted]


↩ Antworten

↩ Allen antworten





 Nachricht übersetzen in: Deutsch | Nie übersetzen aus: Englisch | [Übersetzungseinstellungen](#)

----- ABAP UNIT TEST REPORT -----

Run Details

Variant	SSP_FORMS
System	[Redacted]
Client	[Redacted]
User Name	FENGERT
Run Date	[Redacted]
Start Time	[Redacted]
End Time	[Redacted]
Overall result	 Failures occurred



Method Statistics

Packages	Programs	Testclasses	Testmethods	OK 	With Failures 	With Warnings 	Indisposed 
11	13	13	37	36	1	0	0













Message Summary

Abortions 	Failures 	Warnings 
0	1	0

Message/Error List


Kind 	Obj_Type	Obj_Name	Package	Testclass	Testmethod	Description
	CLAS	/SOFTW/CL_CA_ADS_LAYOUT	/SOFTW/CA_ADS	ABAP_UNIT_TEST	GET_LAYOUT_09	Kritischer Assertion-Fehler: 'Testing value Rf_Adslayout'


Jobübersicht

 Aktualisieren  Freigegeben    Spool  Job-Log  Step  AppServers    

Jobübersicht von :  um : : :

bis :  um : : :





selektierte Jobnamen : 

selektierte Benutzernamen : 

☐ geplant ☒ freigegeben ☒ bereit ☒ aktiv ☒ fertig ☒ abgebrochen

☐ eventgesteuert Eventid :

☐ ABAP Programm Programmname :

Jobname	Spoolliste	Job Dokumentation	Job-Ersteller	Status	Startdatum	Startzeit
<input type="checkbox"/> SSP_FORMS_SYNTAX_CHECKS			FENGERT	fertig		
<input type="checkbox"/> SSP_FORMS_UNIT_TESTS			FENGERT	fertig		


softway

Fazit

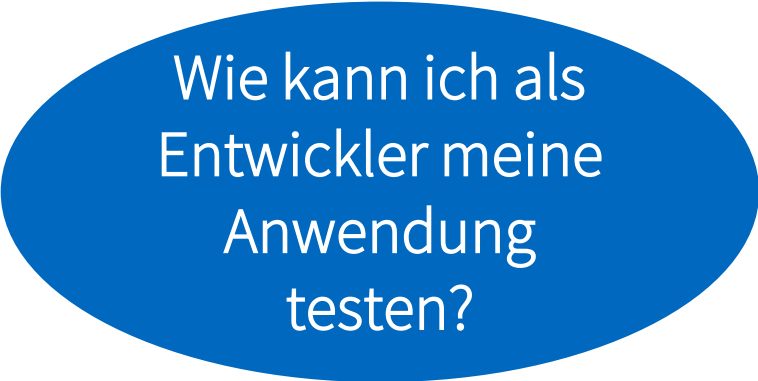
Key Take Aways - I



Testen auf Entwicklungssystem
ist sehr wichtig

A blue oval shape containing white text. The text is centered within the oval and reads 'Programmierung und Debugging gehören zusammen'.

Programmierung
und Debugging
gehören
zusammen

A blue oval shape containing white text. The text is centered and reads: "Wie kann ich als Entwickler meine Anwendung testen?".

Wie kann ich als
Entwickler meine
Anwendung
testen?

Eine Frage der **Einstellung**:
Testen von vorne herein berücksichtigen.

Key Take Aways - III



Testen Sie Ihre
Software, sonst
tun es Ihre
Anwender

Testdaten in Testdatencontainern können
flexibel erweitert werden

Vielen Dank!

