

# Agil, schnell und vollumfänglich Testen in PL/SQL

# Wer ist PITSS?

Der Lösungsanbieter für  
Software-Entwicklung,  
-Analyse und -Modernisierung



4 Standorte in 3 Ländern



70 Mitarbeiter



15 Sprachen



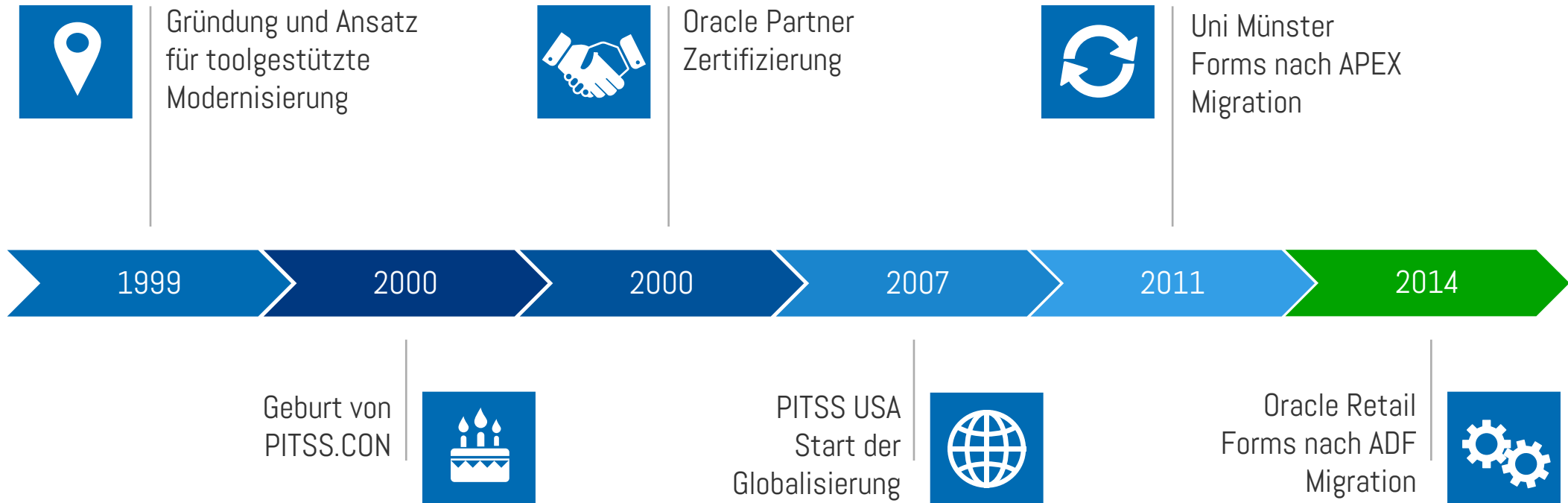
40 Programmiersprachen



22 Jahre Migrationserfahrung

# Historie

Die Meilensteine aus fast 20 Jahren toolgestützter Entwicklung





# Vision

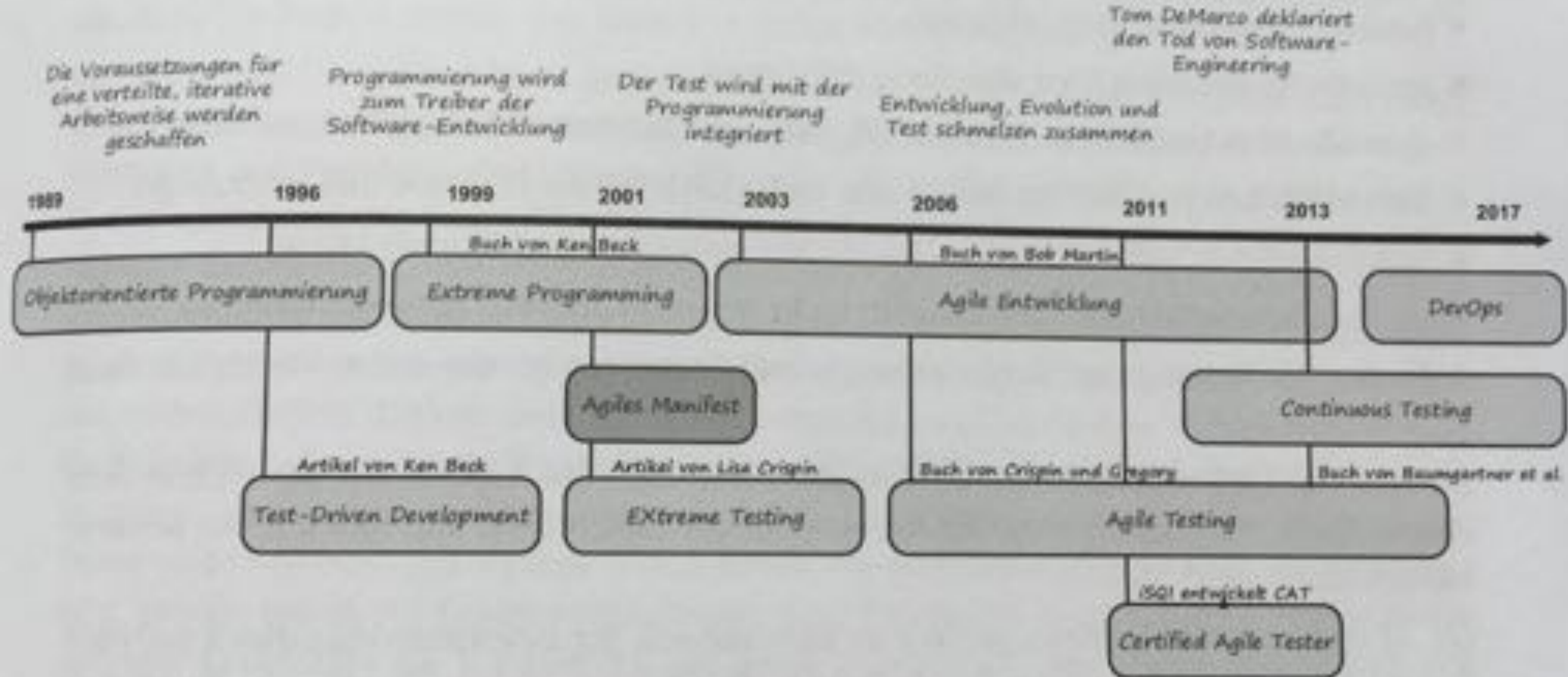
WIR SIND DER FESTEN ÜBERZEUGUNG,  
DASS DIE WACHSENDE KOMPLEXITÄT VON SOFTWARE-SYSTEMEN  
NUR DANN VON MENSCHEN BEWÄLTIGT WERDEN KANN,  
WENN SOFTWARE-TOOLS SIE BEI DER ENTWICKLUNG  
**HOCHWERTIGER ANWENDUNGEN**  
UNTERSTÜTZEN.

# Mission

ENTSPRECHEND UNSERER ÜBERZEUGUNG STECKEN WIR  
ALL UNSERE LEIDENSCHAFT, WISSEN UND ZEIT  
IN DAS ERSCHAFFEN JENER ART VON TOOLS UND SERVICES,  
DIE UNS DABEI UNTERSTÜTZEN, DIE  
**SOFTWARE VON MORGEN**  
ZU GESTALTEN.

# Geschichte agiler Entwicklung

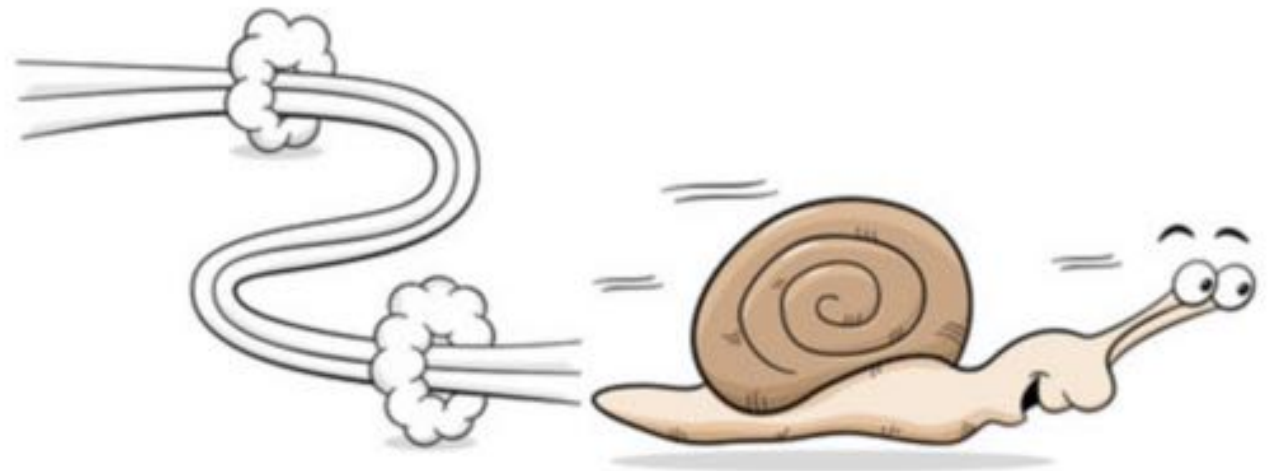
Aus Manfred Baumgartner "Agile Testing"



# Konsequenzen

Welche Auswirkungen hat diese Veränderung für die Entwicklung

- Kürzere Deployment Zyklen
- Key-User näher an der Entwicklung
- Anzahl der Patches
- Anzahl der Releases



# Dilemma

Welche Anforderungen wirken wechselseitig

**Produktivität**



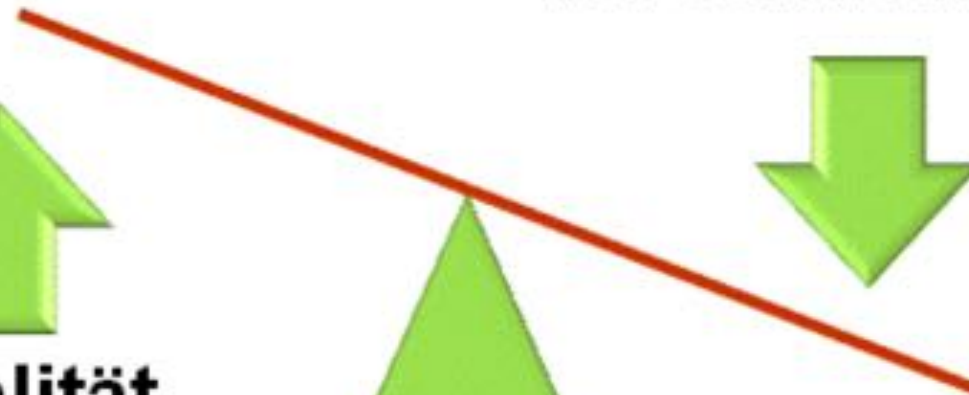
**Fehler  
Nacharbeit  
Verschwendung**



**Qualität**

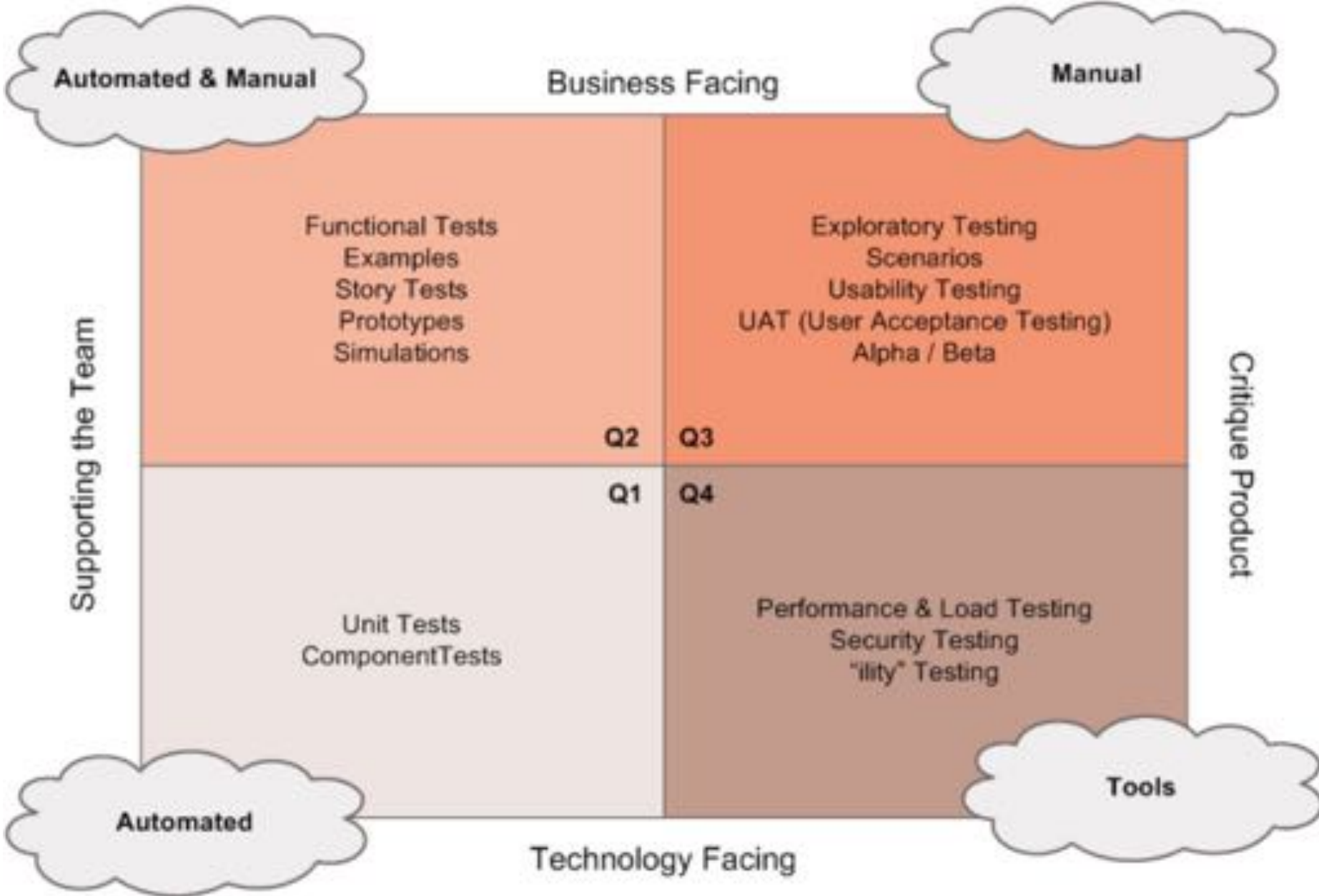


**Zeit  
Kosten**



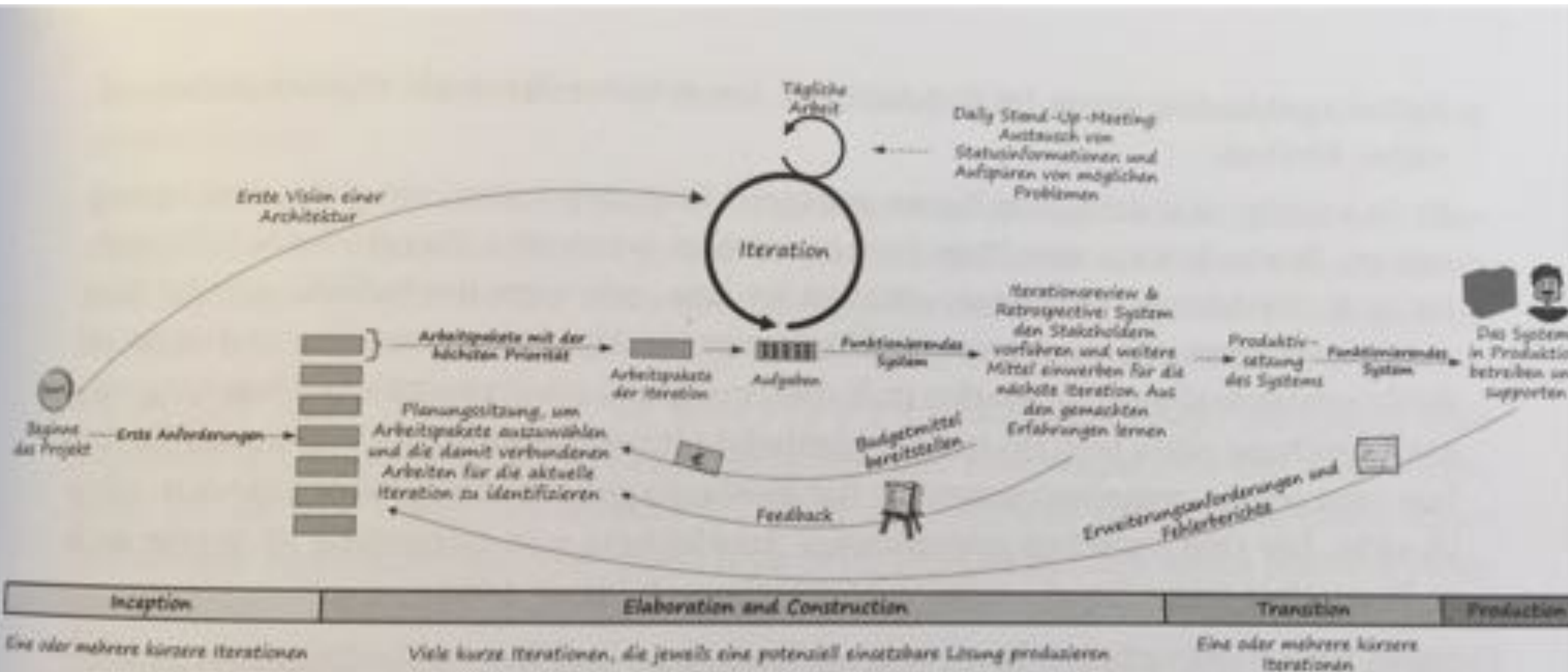


# Agile Testing Quadrants



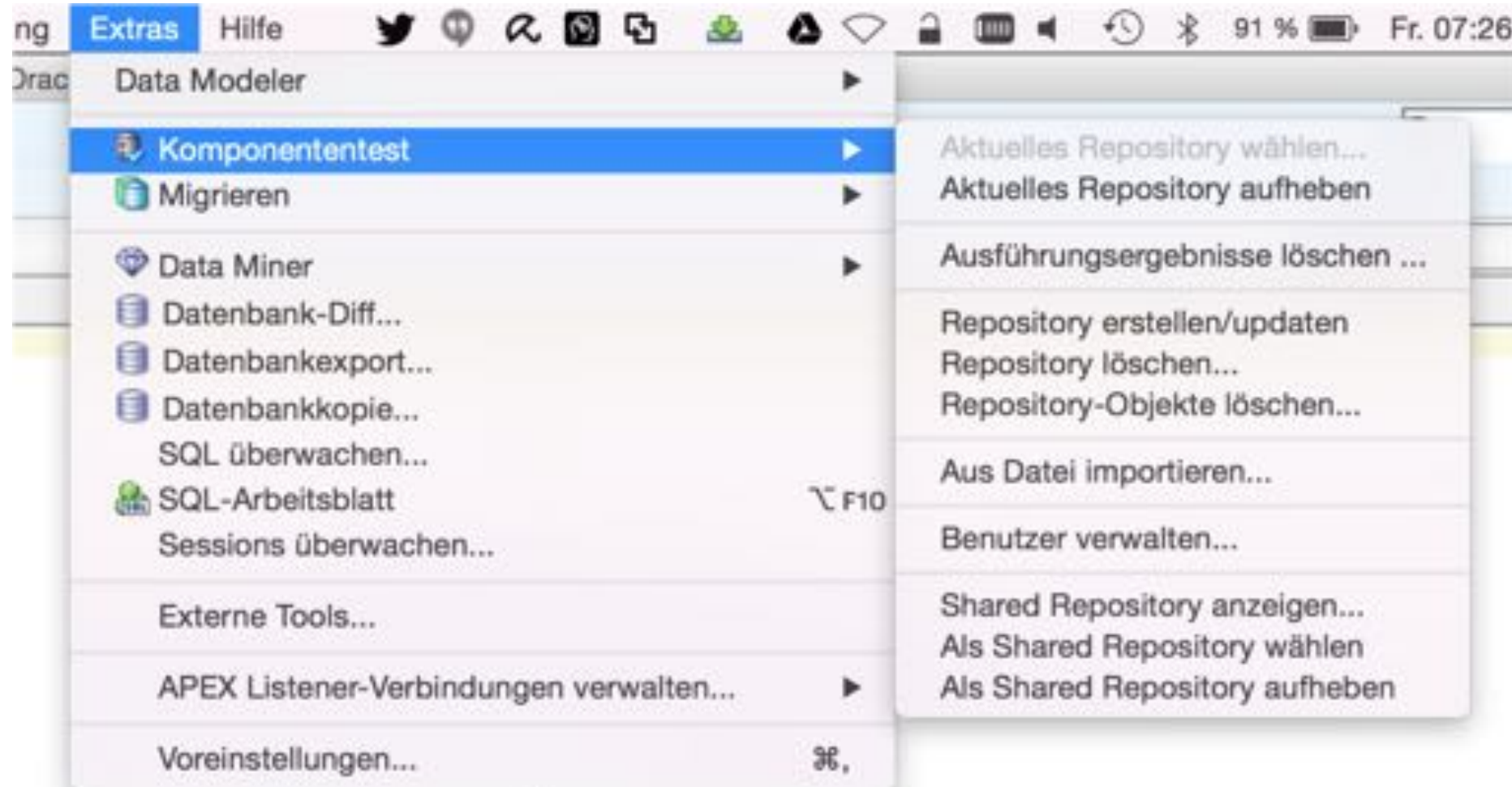
# Änderungen im Prozess

Auf was muss ich mich einstellen



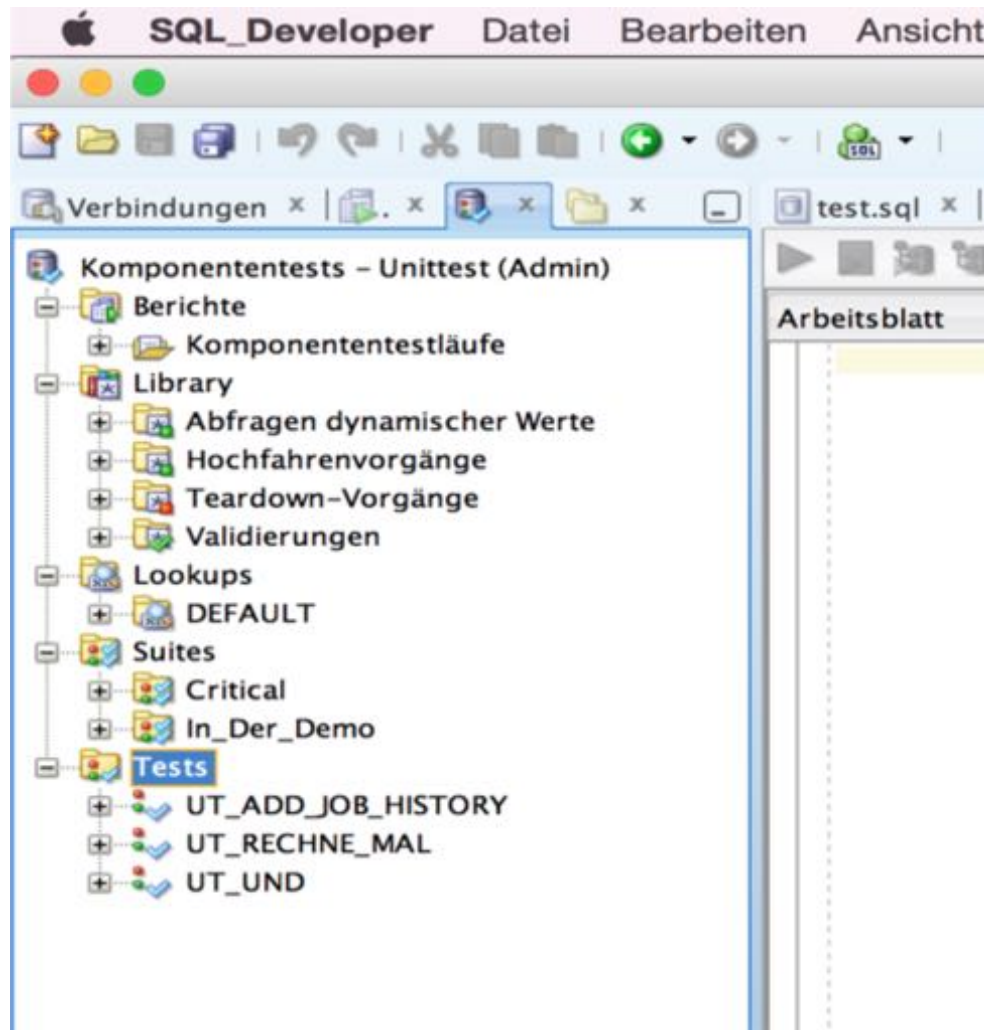
# PL/SQL-Unit Test

Der Oracle SQLDeveloper



# PL/SQL-Unit Test

Der Oracle SQLDeveloper



# PL/SQL-Unit Test

Erzeugen von Testdaten

**DEVELOPER: PL/SQL Practices**

## On Conditional Compilation

By Steven Feuerstein ✨

Apply best practices to PL/SQL conditional compilation.

*What is PL/SQL conditional compilation, how does it work, and how can I learn more about it?*

As Published In

**ORACLE**  
MAGAZINE

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# PL/SQL-Unit Test

## Erzeugen von Testdaten

```
ALTER SESSION SET PLSQL_CCFLAGS = 'Tracing:true';  
CREATE OR REPLACE PROCEDURE P IS  
BEGIN  
  $IF $$tracing $THEN  
    DBMS_OUTPUT.PUT_LINE ('TRACING');  
  $END  
END P;
```

```
ALTER SESSION SET succeeded.  
PROCEDURE P Compiled.
```

```
SELECT name, plsql_ccflags  
FROM USER_PLSQL_OBJECT_SETTINGS  
WHERE name = 'P';
```

NAME	PLSQL_CCFLAGS
P	Tracing:true

# PL/SQL-Unit Test

Erzeugen von Testdaten (Edition based)

```
CONN / AS SYSDBA

SELECT property_value
FROM   database_properties
WHERE  property_name = 'DEFAULT_EDITION';

PROPERTY_VALUE
-----
ORA$BASE

SQL>
```

The CREATE ANY EDITION and DROP ANY EDITION privileges are required to create Editions. Editions are created using the CREATE EDITION command with an optional AS

```
CREATE EDITION edition-name;
CREATE EDITION edition-name AS CHILD OF parent-edition;
```

# PL/SQL-Unit Test

## Erzeugen von Testdaten

```

/*****
PROCEDURE    LogStory    ( v_story_id in varchar2 , v_pattern_object in varchar2 ,
                          v_action in varchar2 , V_SEQUENCE IN OUT PLS_INTEGER ,
                          v_arguments in varchar2 default null) IS

  PRAGMA      AUTONOMOUS_TRANSACTION;
  v_counter   pls_integer := 0;
  v_arg       varchar2(4000) := null;
  v_ret       number;
  rec_detail  user_story_detail%rowtype;
  v_err       varchar2(256);
BEGIN
  IF NOT CHECK_PATTERN ( v_pattern_object) then
    RETURN;
  END IF;

  if current_story.v_story_limit > 0 and current_story.v_story_limit < counter_story then
    RETURN; -- story must be closed ?
  end if;

  /*Individual Recording */
  if is_record_running then
    if record_parameters then

```





# PL/SQL-Unit Test

## Export/Import von Suites

Sample File

```
> UtUtil -imp -repo unit_test_repos -file c:\ut_xml\award_bonus_suite.xml
```

# PL/SQL-Unit Test

## Code Completion

The screenshot displays the Oracle SQL Developer interface. On the left, a tree view shows the 'Komponententests - Unittest (Admin)' structure, including 'Berichte', 'Komponententestläufe', 'Library', 'Lookups', 'DEFAULT', 'Suites', and 'Tests'. The main window shows a table of test results and a detailed view of the code coverage for the 'RECHNE\_MAL' function.

Unit_Owner	Unit_Name	Test_Name	Total_Lines	Lines_Cov
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	ADD_JOB_HISTORY	UT_ADD_JOB_HISTORY	26	
HR	RECHNE_MAL	UT_RECHNE_MAL	32	
HR	RECHNE_MAL	UT_RECHNE_MAL	32	
HR	RECHNE_MAL	UT_RECHNE_MAL	32	

Line	Text	Total_Occurrences	Total_Time
1	FUNCTION RECHNE_MAL	2	4877
2	{	0	0
3	P_WERT IN NUMBER	0	0
4	} RETURN NUMBER AS	0	0
5	v_number number;	0	0
6	BEGIN	2	0
7	if p_wert = P_wert	2	5226
8	and p_wert = 17	0	0
9	then	0	0
10	--italienische Wurf;zel	0	0
11	v_number := 13;	0	0
12	else	0	0
13	v_number := p_wert *2 ;	2	5226
14	end if;	2	0
15	return v_number;	2	1185
16	END RECHNE_MAL;	2	2856

# PL/SQL-Unit Test

## Continuous Integration

```
ututil -run -suite (-id <id>|-name <name> } -repo  
<connection name>  
-db <connection name>
```

```
select count(1) from (select SR.name SUITE, tr.name test, TIR.name, TIR.STATUS, SR.RUN_DATE, TIR.MESSAGE  
from UT_SUITE_RESULTS SR, UT_SUITE_ITEM_RESULTS SIR, UT_TEST_IMPL_RESULTS TIR, ut_test_results tr  
where SR.UTSR_ID = SIR.UTSR_ID  
and SIR.UTR_ID = TIR.UTR_ID  
and sir.utr_id= tr.utr_id  
and SR.UTSR_ID in (select UTSR_ID from (  
select UTSR_ID from UT_SUITE_RESULTS  
where name='&1'  
order by RUN_DATE desc) where rownum=1) ) where status = 'UT_ERROR';
```



# DANKE FÜR IHRE AUFMERKSAMKEIT

Haben Sie noch Fragen?



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