

Автоматизация тестов в БД

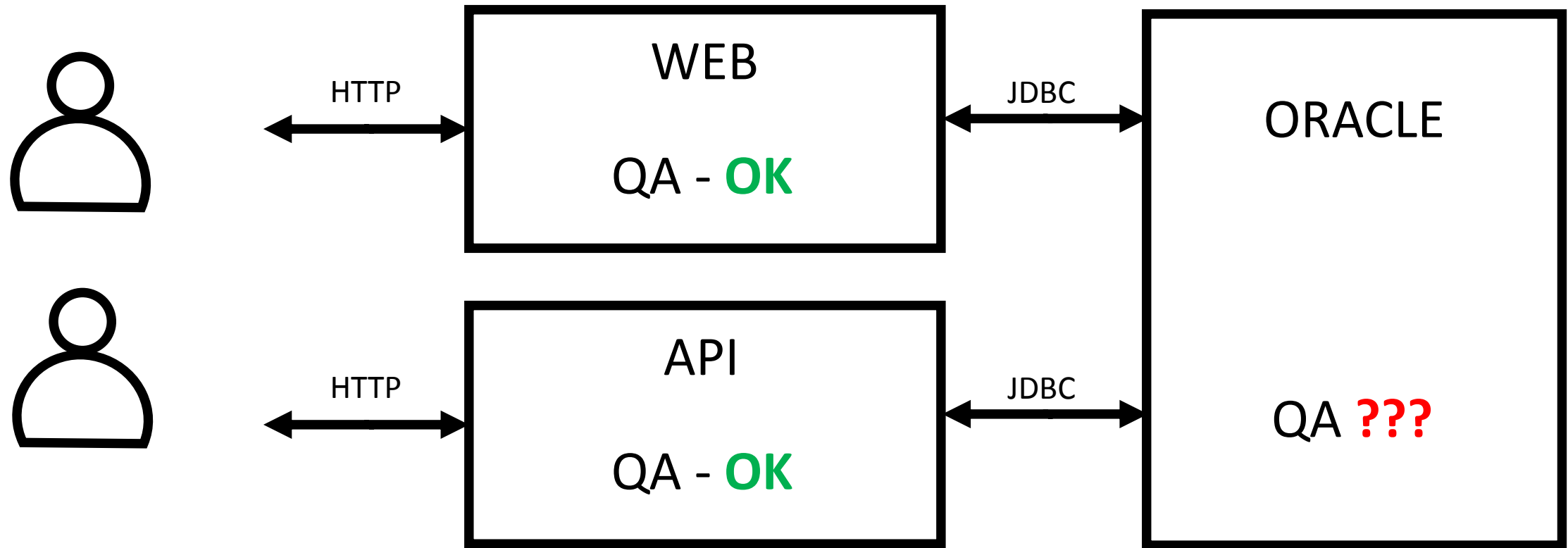
На примере ORACLE PL/SQL

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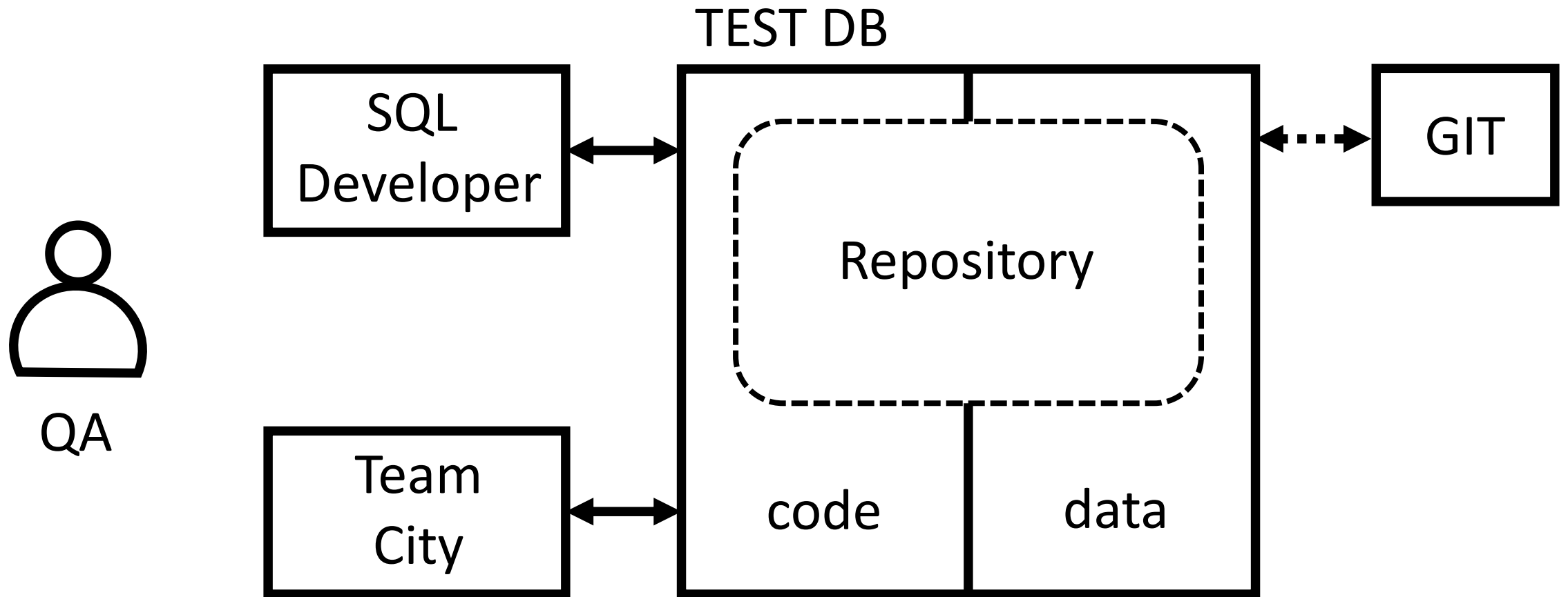
Принципиальная схема продукта



Из чего мы выбирали

	Ручной запуск Тестовый фреймворк	GUI	CLI	Сложность	Поддержка
ruby-plsql	✓	✗	✓	Ruby	Open Source
UT with SQL Developer	✓	✓	✓	PLSQL	Oracle
utPLSQL	✓	✗	✓	PLSQL	Open Source

Схема решения

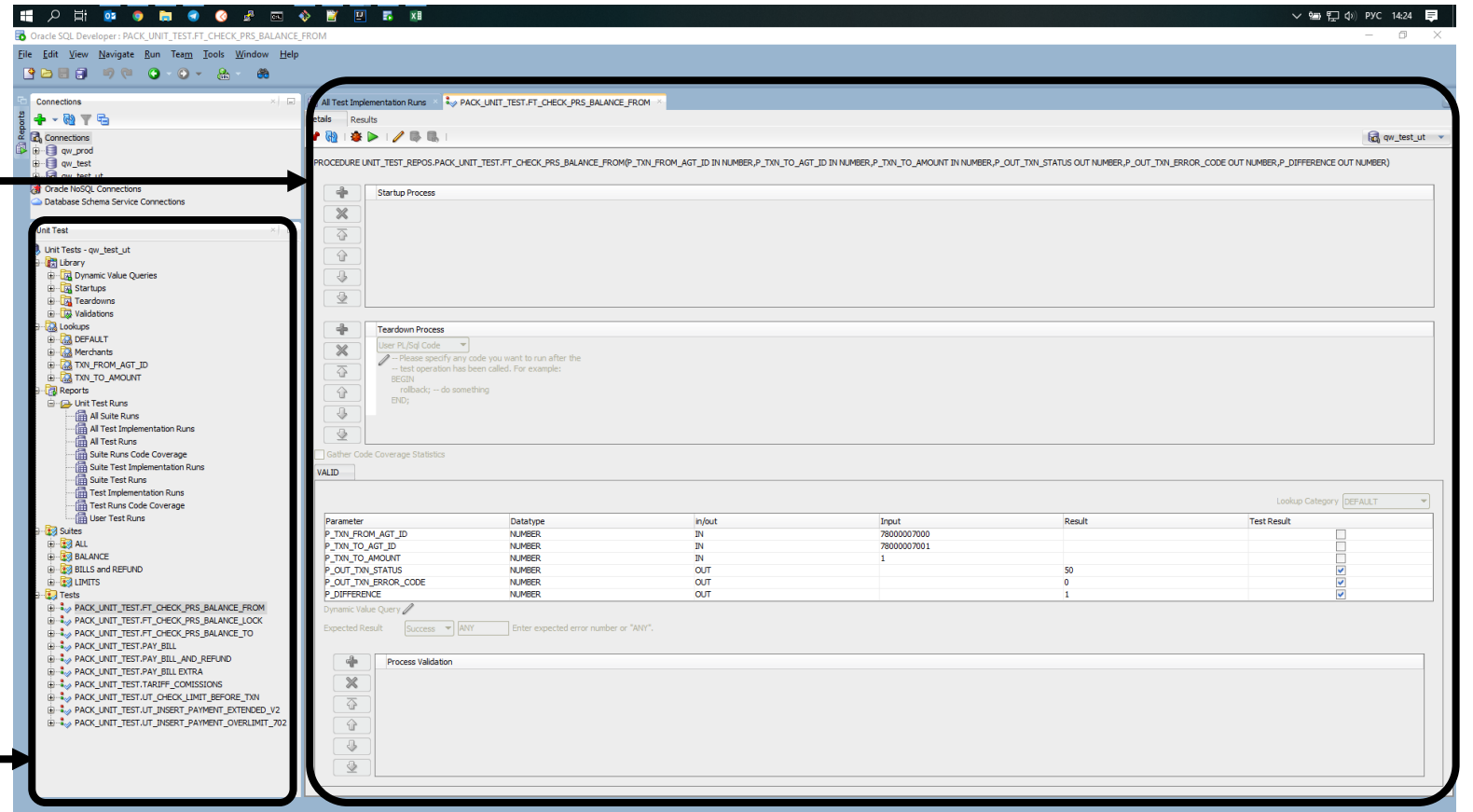


GUI

Рабочая область

Repository

- Library
- Lookups
- Reports
- Suites
- Tests



Report

Результаты

The screenshot displays the Oracle SQL Developer interface with the following components:

- Left Panel (Unit Test Suite Structure):**
 - Unit Tests - qw_test_ut
 - Library
 - Dynamic Value Queries
 - Startups
 - Tear-downs
 - Validations
 - Lookups
 - DEFAULT
 - Merchants
 - TXN_FROM_AGT_ID
 - TXN_TO_AMOUNT
 - Reports
 - UNIT Test Runs
 - APPROVED
 - All Test Implementation Runs
 - All Test Runs
 - Suite Runs Code Coverage
 - Suite Test Implementation Runs
 - Suite Test Runs
 - Test Implementation Runs
 - Test Runs Code Coverage
 - User Test Runs
 - Suites
 - ALL
 - Suites
 - BALANCE
 - BILLS and REFLUND
 - LIMITS
 - Tests
 - BALANCE
 - Suites
 - Tests
 - BILLS and REFLUND
 - LIMITS
 - Tests
 - PACK_UNIT_TEST_FT_CHECK_PRS_BALANCE_LOCK
 - PACK_UNIT_TEST_FT_CHECK_PRS_BALANCE_FROM
 - PACK_UNIT_TEST_PAY_BILL
 - PACK_UNIT_TEST_PAY_BILL_AND_REFLUND
 - PACK_UNIT_TEST_PAY_BILL_EXTRA
 - PACK_UNIT_TEST_TARIFF_COMMISSIONS
 - PACK_UNIT_TEST_UT_CHECK_LIMIT_REFUND_TXN
- Main Window (Test Results Table):**

Test Run	Status	Duration	Message
UNIT_TEST_REPOS: Run On - 2016-09-27 11:29:22.806	SUCCESS	4 811	
Implementation - VALID	SUCCESS	4 811	
Operation Call	SUCCESS	4 789	
IN Parameter #1 - P_TXN_FROM_AGT_ID			Value: [78000007000]
IN Parameter #2 - P_TXN_TO_AGT_ID			Value: [78000007001]
IN Parameter #3 - P_TXN_TO_AMOUNT			Value: [1]
OUT Parameter #4 - P_OUT_TXN_STATUS	SUCCESS		Expected: [50], Received: [50]
OUT Parameter #5 - P_OUT_TXN_ERROR_C	SUCCESS		Expected: [0], Received: [0]
OUT Parameter #6 - P_DIFFERENCE	SUCCESS		Expected: [1], Received: [1]
Tear-downs	SUCCESS	22	
UNIT_TEST_REPOS: Run On - 2016-09-22 15:48:17.451	SUCCESS	2 258	
Implementation - VALID	SUCCESS	2 258	
Operation Call	SUCCESS	2 233	
IN Parameter #1 - P_TXN_FROM_AGT_ID			Value: [78000007000]
IN Parameter #2 - P_TXN_TO_AGT_ID			Value: [78000007001]
IN Parameter #3 - P_TXN_TO_AMOUNT			Value: [1]
OUT Parameter #4 - P_OUT_TXN_STATUS	SUCCESS		Expected: [50], Received: [50]
OUT Parameter #5 - P_OUT_TXN_ERROR_C	SUCCESS		Expected: [0], Received: [0]
OUT Parameter #6 - P_DIFFERENCE	SUCCESS		Expected: [1], Received: [1]
Tear-downs	SUCCESS	25	
UNIT_TEST_REPOS: Run On - 2016-09-19 13:24:22.066	SUCCESS	1 720	
Implementation - VALID	SUCCESS	1 720	
Operation Call	SUCCESS	1 702	
IN Parameter #1 - P_TXN_FROM_AGT_ID			Value: [78000007000]
IN Parameter #2 - P_TXN_TO_AGT_ID			Value: [78000007001]
IN Parameter #3 - P_TXN_TO_AMOUNT			Value: [1]
OUT Parameter #4 - P_OUT_TXN_STATUS	SUCCESS		Expected: [50], Received: [50]
OUT Parameter #5 - P_OUT_TXN_ERROR_C	SUCCESS		Expected: [0], Received: [0]
OUT Parameter #6 - P_DIFFERENCE	SUCCESS		Expected: [1], Received: [1]
Tear-downs	SUCCESS	18	
UNIT_TEST_REPOS: Run On - 2016-09-13 17:08:20.645	ERROR	1 483	PACK_UNIT_TEST_FT_CHECK_PRS_BALANCE_FROM failed: VALID failed: Expected: [50], Received: [150]
Implementation - VALID	ERROR	1 483	VALID failed: Expected: [50], Received: [150]
Operation Call	ERROR	1 476	VALID failed: Expected: [50], Received: [150]
IN Parameter #1 - P_TXN_FROM_AGT_ID			Value: [78000007000]
IN Parameter #2 - P_TXN_TO_AGT_ID			Value: [78000007001]
IN Parameter #3 - P_TXN_TO_AMOUNT			Value: [1]
OUT Parameter #4 - P_OUT_TXN_STATUS	ERROR		Expected: [50], Received: [150]
OUT Parameter #5 - P_OUT_TXN_ERROR_C	ERROR		Expected: [0], Received: [220]
OUT Parameter #6 - P_DIFFERENCE	ERROR		Expected: [1], Received: [0]
Tear-downs	SUCCESS	7	
UNIT_TEST_REPOS: Run On - 2016-09-07 19:58:16.311	ERROR	1 188	PACK_UNIT_TEST_FT_CHECK_PRS_BALANCE_FROM failed: VALID failed: Expected: [50], Received: [150]
Implementation - VALID	ERROR	1 188	VALID failed: Expected: [50], Received: [150]
Operation Call	ERROR	1 171	VALID failed: Expected: [50], Received: [150]
IN Parameter #1 - P_TXN_FROM_AGT_ID			Value: [78000007000]
IN Parameter #2 - P_TXN_TO_AGT_ID			Value: [78000007001]
IN Parameter #3 - P_TXN_TO_AMOUNT			Value: [1]
OUT Parameter #4 - P_OUT_TXN_STATUS	ERROR		Expected: [50], Received: [150]
OUT Parameter #5 - P_OUT_TXN_ERROR_C	ERROR		Expected: [0], Received: [220]
OUT Parameter #6 - P_DIFFERENCE	ERROR		Expected: [1], Received: [0]
Tear-downs	SUCCESS	17	

Итого

- Используем 2 года
- Позволяют контролировать изменения атомарно
- Тесты в CI, результаты смотрят разработчики
- GUI из плюса превратился в минус