

WEB БАЗИРАН ДОСТЪП ДО БАЗИ ОТ ДАННИ НА ORACLE

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Департамент “Информатика”

INFM210 Тема 1

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ORACLE Application Express (1)

- ❑ **Среда за бърза разработка** на Web приложения за връзка с Oracle DB.
- ❑ **Декларативен стил** - не са необходими специални познания по езици за програмиране.
- ❑ Разработеното приложение се съхранява като **метаданни** в Oracle DB.
- ❑ От версия 18 не е част от Oracle DB XE

ORACLE Application Express (2)

The screenshot shows the Oracle Application Express (APEX) dashboard in a web browser. The browser's address bar displays the URL: `https://apex.oracle.com/pls/apex/f?p=4500:1000:113265114942003::...`. The dashboard features a top navigation bar with the Oracle logo and links to Application Builder, SQL Workshop, Team Development, and Packaged Apps. Below this, there are four large icons representing these tools. The main content area is divided into three sections: Top Applications, Top Users, and News and Messages. The Top Users section shows a user named Georgi Tuparov with a profile picture and a count of 1. The News and Messages section contains a system message about joining the APEX community in 2016. On the right side, there is a sidebar with an 'About' section, a 'Dashboard' section with four circular gauges showing counts for Applications (22), Tables (65), Features (0), and Packaged Apps (0), and a 'Site-Specific Tasks' section with a link to APEX Meetups.

Курсове

Course: INFM210 Разработ...

Oracle Application Express

Application Builder

SQL Workshop

Team Development

Packaged Apps

Application Builder

SQL Workshop

Team Development

Packaged Apps

Top Applications

Top Users

News and Messages

Georgi Tuparov

1

In 2016, come join the awesome APEX community at a user conference! Find one [here](#).

System Message

22

65

Applications

Tables

0

0

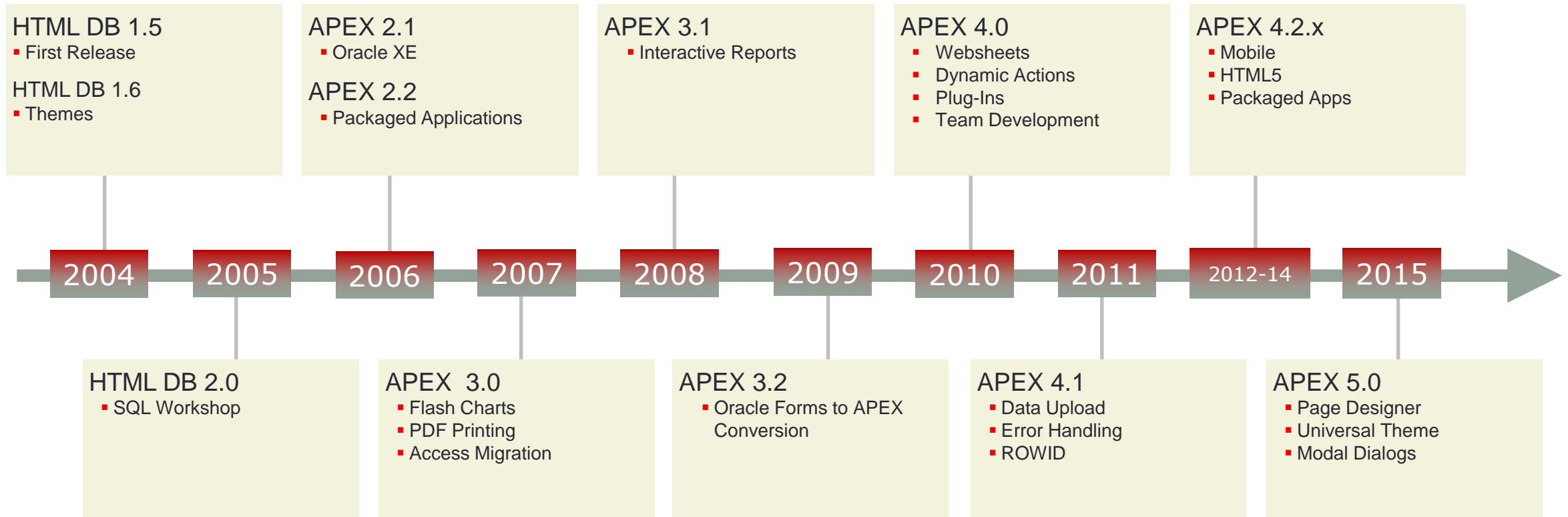
Features

Packaged Apps

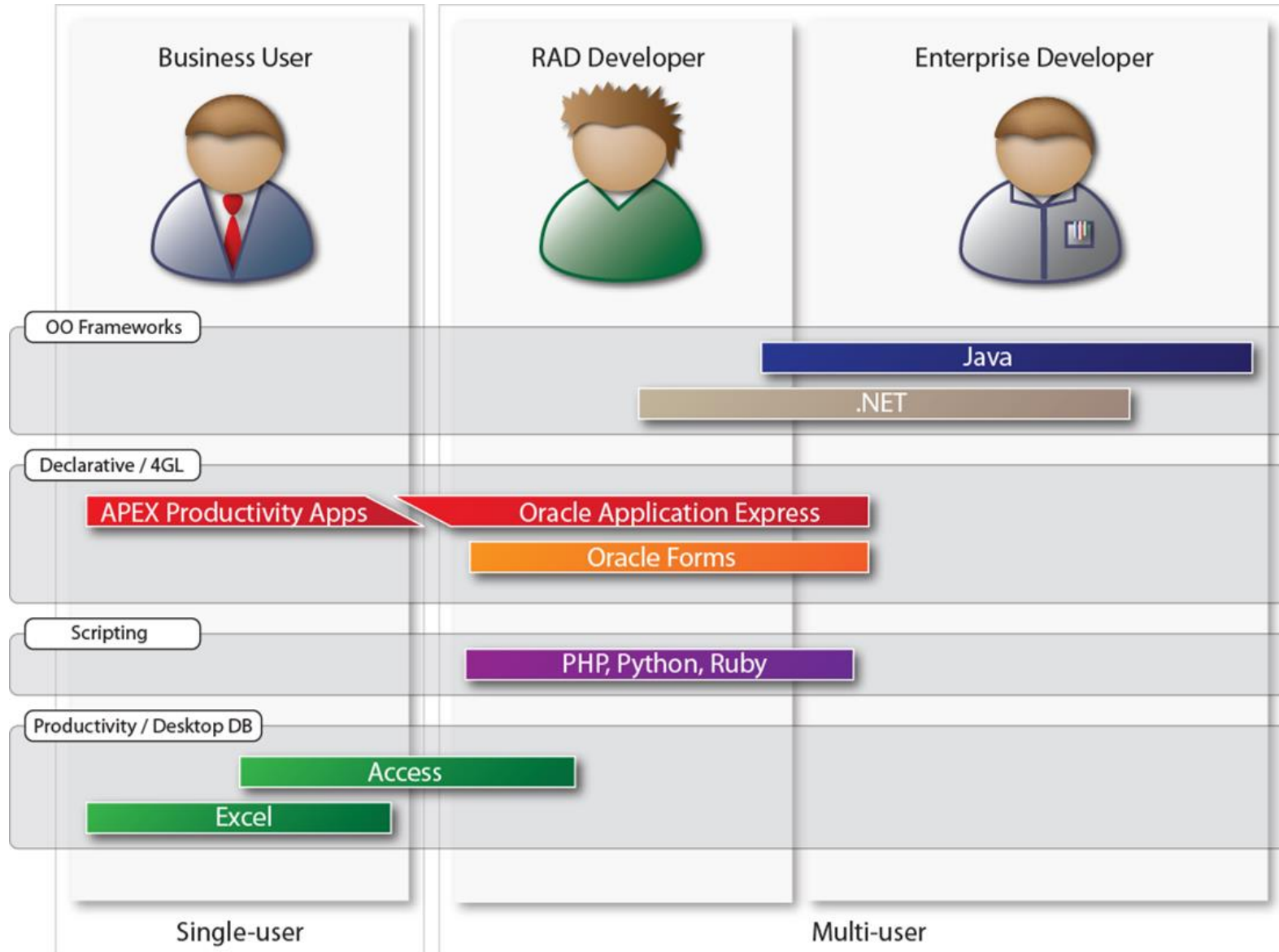
Site-Specific Tasks

APEX Meetups

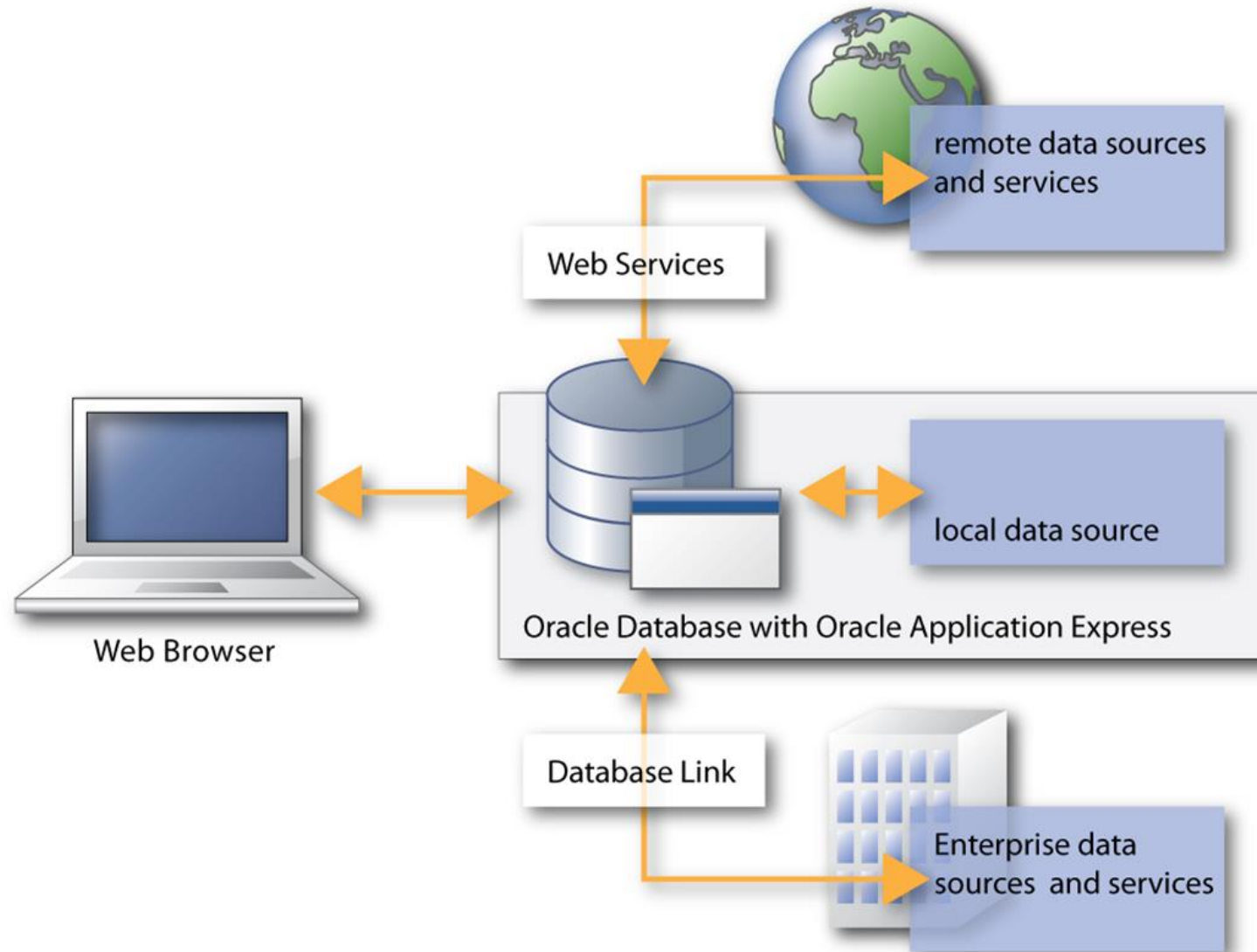
ORACLE Application Express (3)



ORACLE Application Express (4)



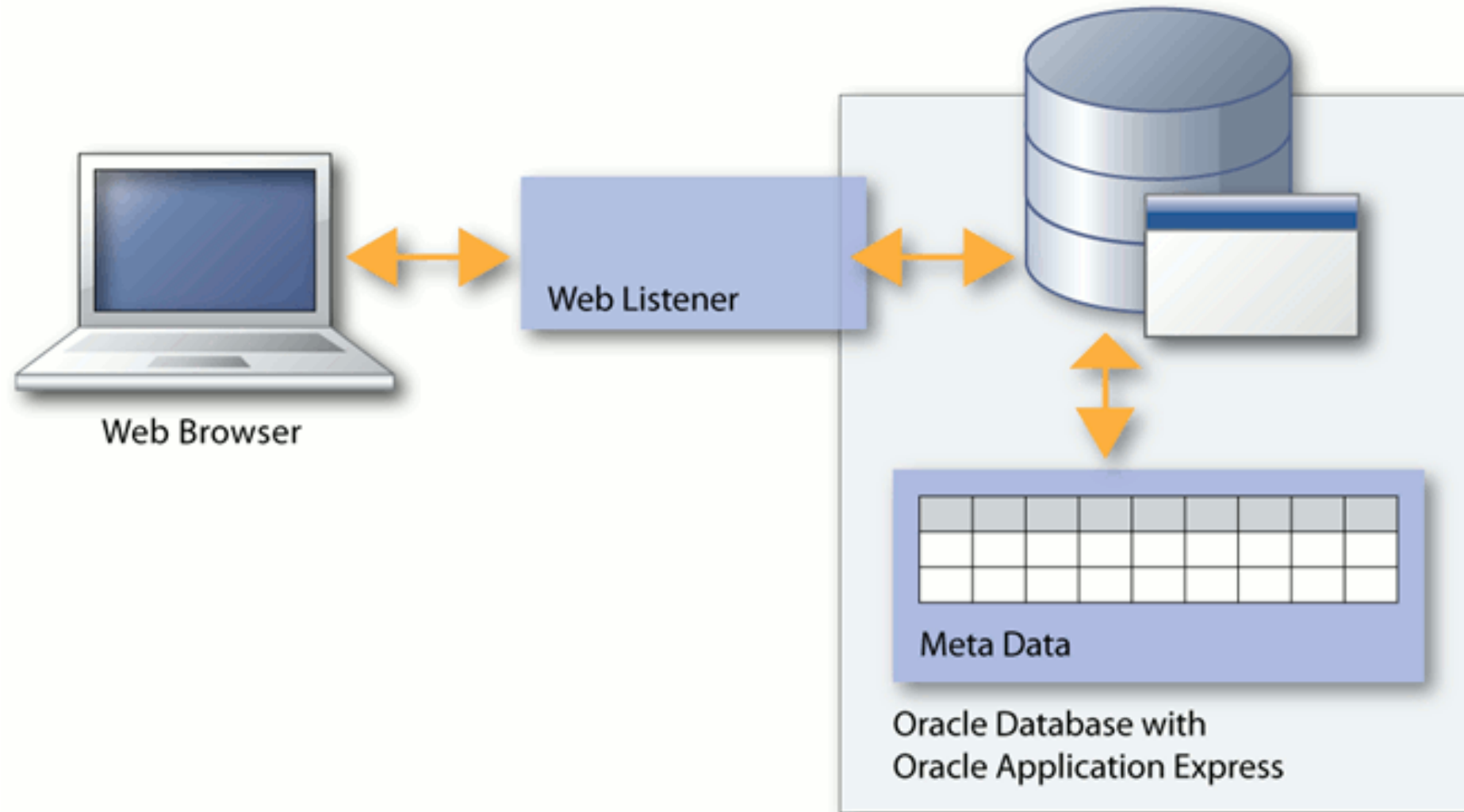
ORACLE Application Express (5)



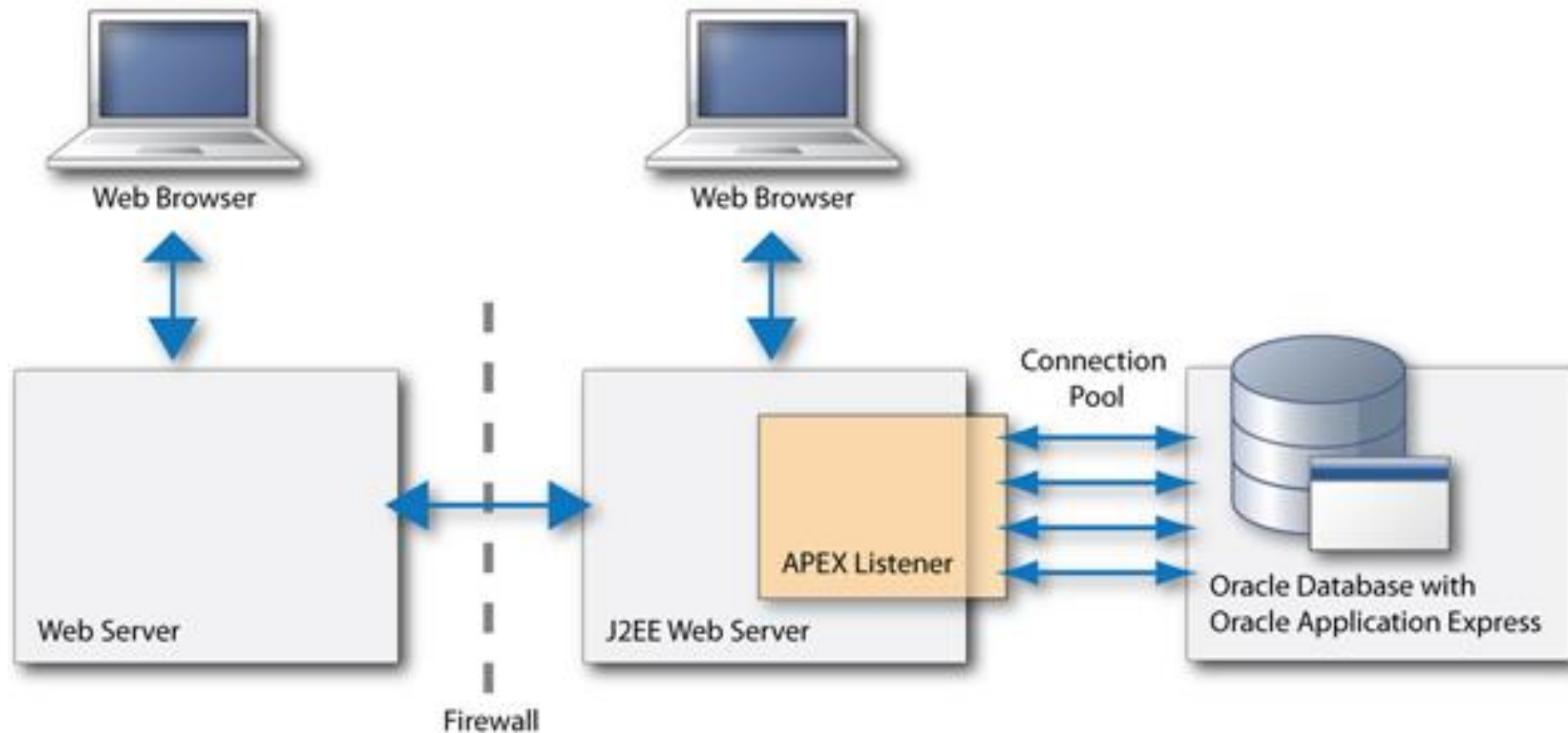
ORACLE Application Express (6)

- Реализиран е като повече от 425 таблици с метаданни и над 230 PL/SQL обекта с 425,000+ реда код.
- Машината на Application Express изпълнява:
 - Session state management
 - Authentication services
 - Authorization services
 - Page flow control
 - Validations processing
 - Rendering and page processing

ORACLE Application Express (7)

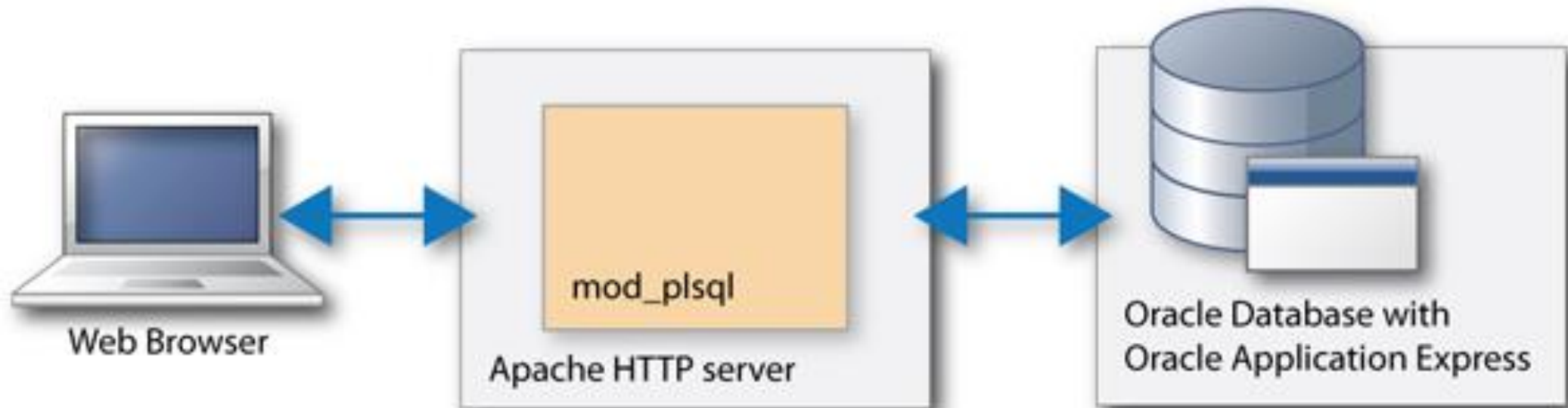


ORACLE Application Express (8)



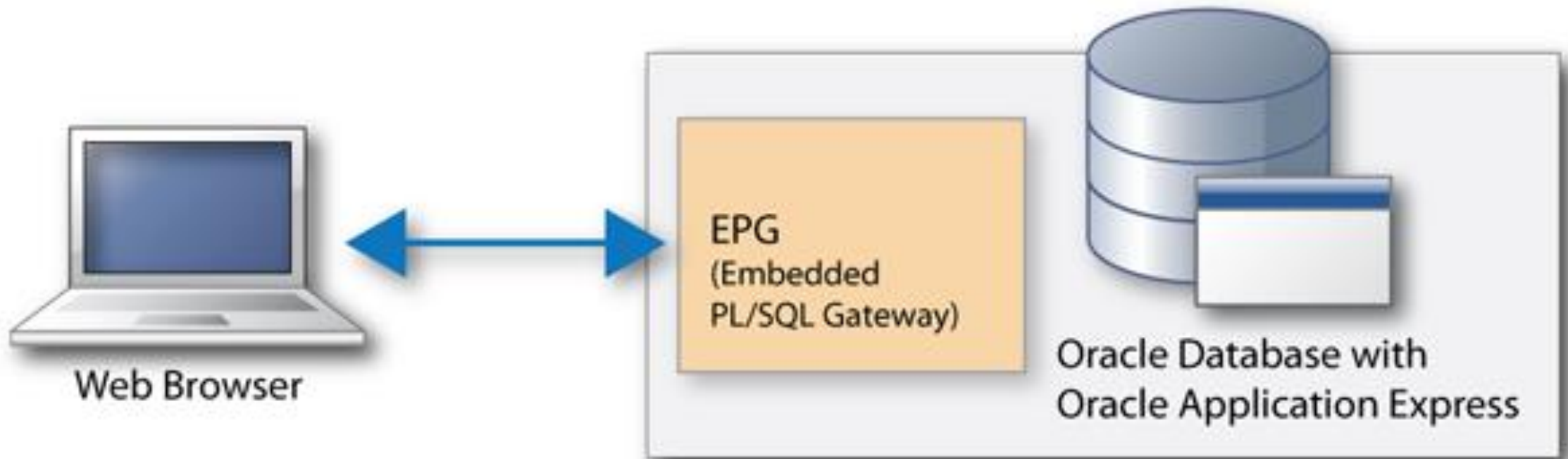
Архитектура на Application Express с използване на Oracle Application Express Listener (APEX Listener).
Използва се с Oracle WebLogic Server и OC4J.

ORACLE Application Express (9)



Архитектура на Application Express с използване на Apache HTTP Server и `mod_plsql`

ORACLE Application Express (10)



Архитектура на Application Express с използване на Embedded PL/SQL Gateway (EPG)

ORACLE Application Express (11)

- **Interactive Reporting Region** – позволява на потребителя да променя и настройва потребителски отчет на готово приложение.

ORACLE Application Express (12)

Alternative Default: Monthly Review

Order Month

Orders > \$1,500

Orders <= \$900

Order Month : April 2010

Order #	Order Date	Customer Name	Sales Rep	Order Items	Order Total
10			DEMO	3	\$870.00
					Average: \$870.00
Order Month : May 2010					
Order #	Last 5 Years				
	Last 2 Years				
	Last Year				
5	Last Month		DEMO	5	\$950.00
6	Last Week		DEMO	4	\$1,515.00
	Last 2 Days				
7	Last Day		DEMO	7	\$905.00
	Last 12 Hours				
8	Last 2 Hours	Butch	DEMO	4	\$1,060.00
	Last Hour				
9	Next Hour		DEMO	3	\$730.00
	Next 2 Hours				
					Average: \$1,032.00

Actions

- Select Columns
- Filter
- Rows Per Page
- Format
- Flashback
- Save Report
- Reset
- Help
- Download
- Subscription

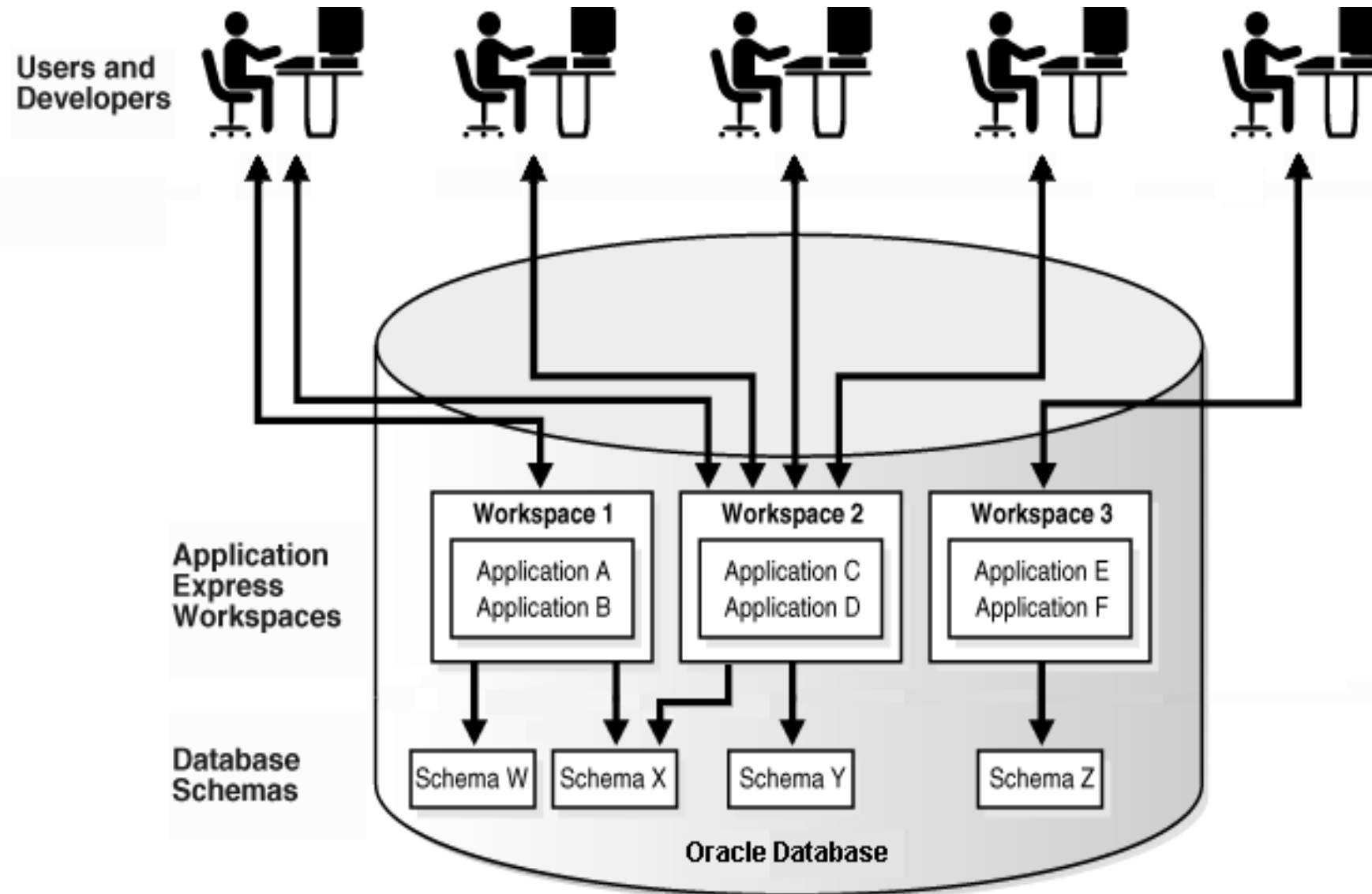
ORACLE Application Express (13)

- ❑ **BLOB Support** – позволява на потребителя да използва BLOB обекти – файлове, които могат да бъдат зареждани, сваляни и визуализирани чрез форми и отчети.
- ❑ **Enhanced Report Printing** – дава допълнителни възможности за генериране на отчети в PDF, Word, Excel, HTML и XML формат.

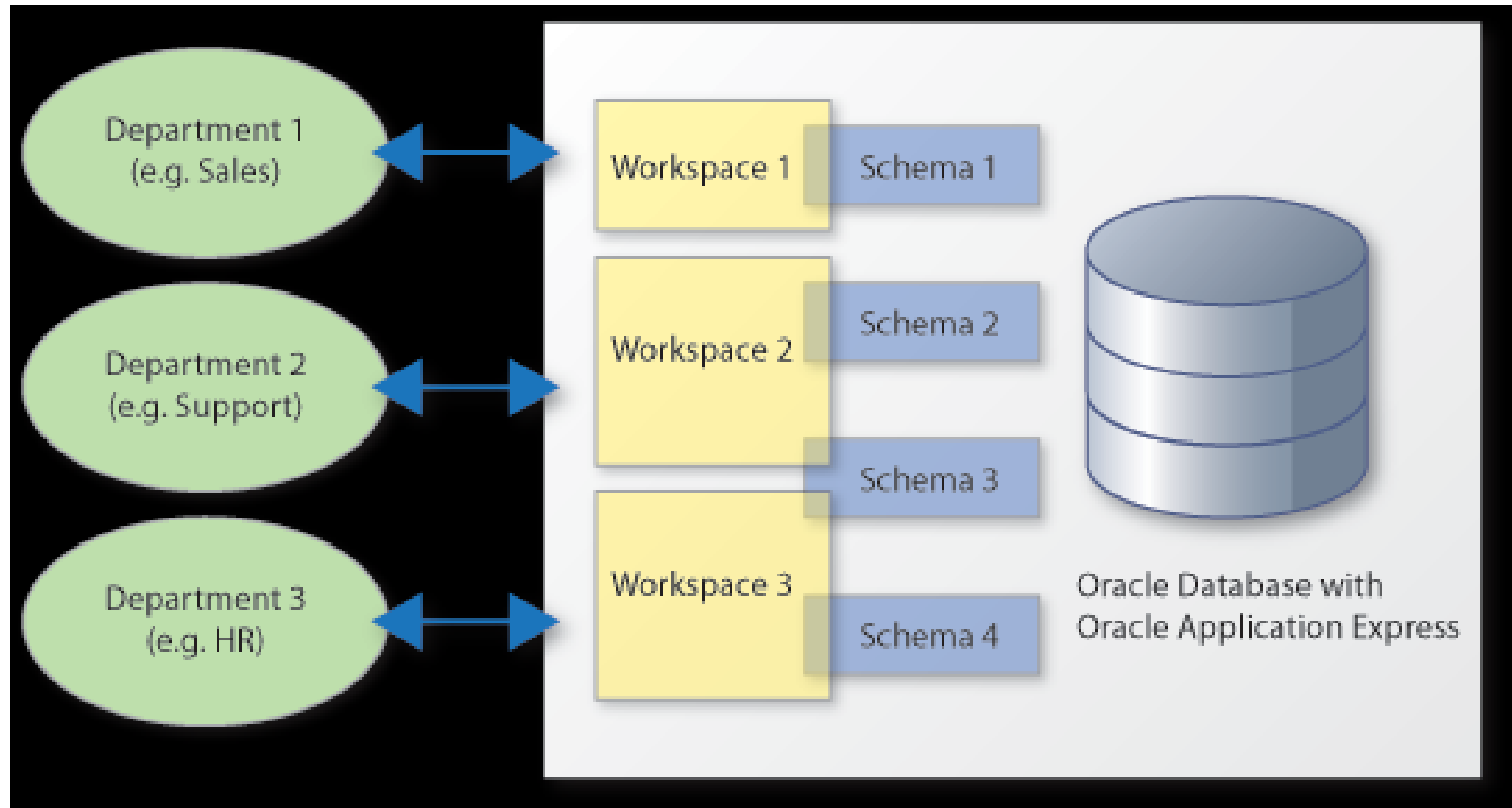
ORACLE Application Express (14)

- ❑ **Custom Themes** – дава допълнителни възможности за създаване на собствени теми.
- ❑ **Optional Runtime-Only Installation** – може да се инсталира само run-time версия на продукционните системи

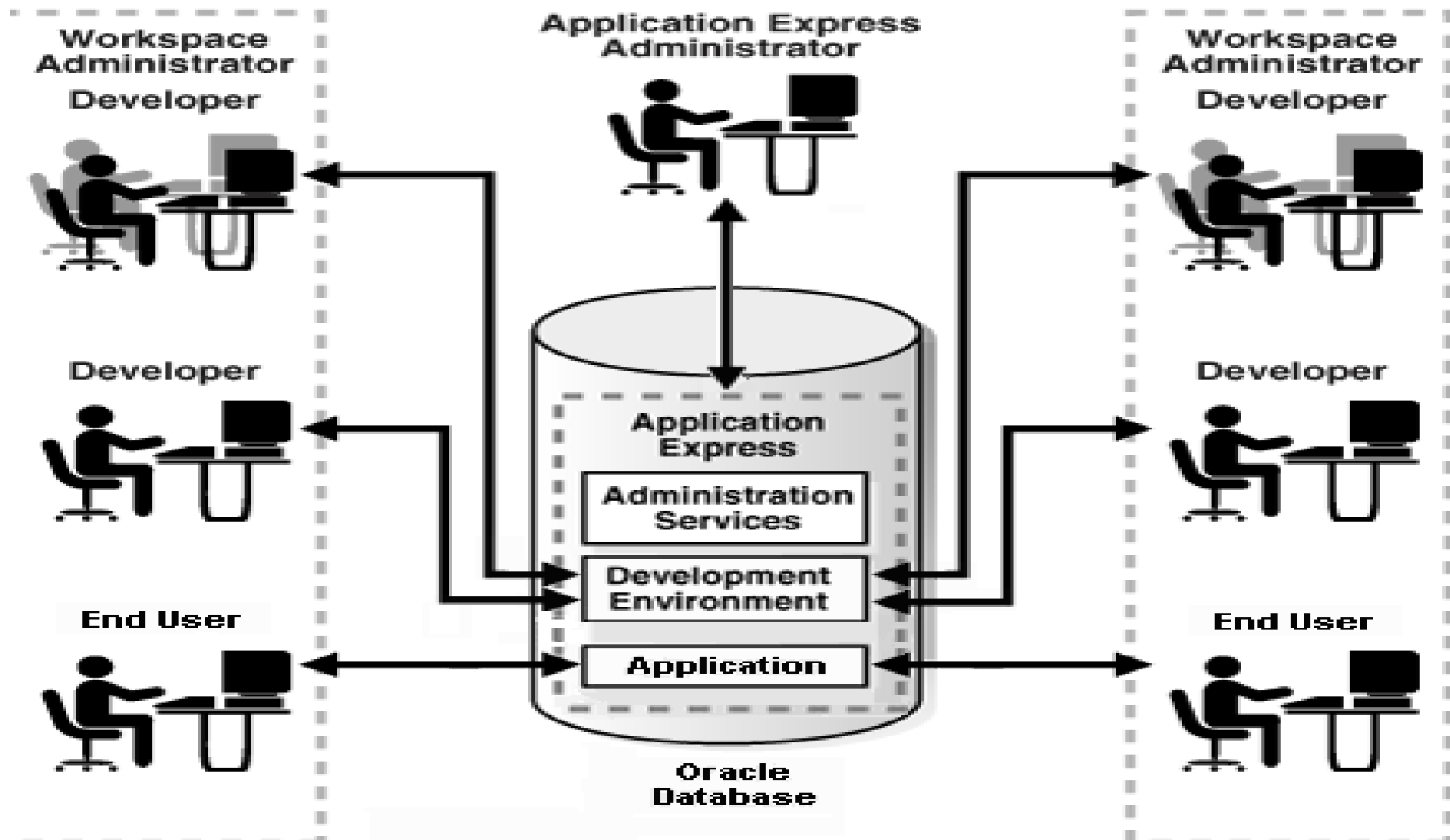
Oracle Application Express Environment (1)



Oracle Application Express Environment (2)



Oracle Application Express User Roles



Инсталиране на демонстрационната БД (1)

- От SQL Workshop->Utilities->Sample Datasets инсталирайте EMP/DEPT dataset (English)



Sample Datasets			
Action	Name	Languages	Description
<button>Install</button>	Countries	English	Listing of countries, population, and capital.
<button>Install</button>	Customer Orders	English	A collection of customers, stores, products, and orders. This dataset includes JSON data for the product description, and longitude / latitude for the stores.
<button>Install</button>	EMP / DEPT	English, Chinese, Czech, French, German, Japanese, Korean, Polish, Russian, Spanish	The generic EMP and DEPT tables.
<button>Install</button>	HR Data	English	The generic HR tables commonly used by Oracle Education.
<button>Install</button>	Project Data	English	A collection of projects, milestones, tasks, and more. This dataset includes master-detail-detail relationships and a useful view for charting.
<button>Install</button>	Tasks Spreadsheet	English	A single table with unnormalized data containing tasks, dates, status, assigned to, cost, and budget.

Инсталиране на демонстрационната БД (2)

- Разгледайте таблиците EMP и DEPT
- Добавете колоната Offsite (CHAR(1), Null)

Schema: **GEORGETT** (?)

Table: **EMP** (?)

* Add Column **Offsite** (?)

☐ Preserve Case

Type: **CHAR** (?)

Length: **1** (?)

Precision: (?)

Scale: (?)

Nullable: **NULL (do not require a value)** (?)



Column Name	Data Type	Nullable	Default	Primary Key
EMPNO	NUMBER(4,0)	No	-	1
ENAME	VARCHAR2(50)	Yes	-	-
JOB	VARCHAR2(50)	Yes	-	-
MGR	NUMBER(4,0)	Yes	-	-
HIREDATE	DATE	Yes	-	-
SAL	NUMBER(7,2)	Yes	-	-
COMM	NUMBER(7,2)	Yes	-	-
DEPTNO	NUMBER(2,0)	Yes	-	-
OFFSITE	CHAR(1)	Yes	-	-

Инсталиране на демонстрационната БД (3)

- В SQL Commands изпълнете следния код

```
begin
```

```
    update EMP
```

```
    set OffSite = 'N';
```

```
    update EMP
```

```
    set OffSite = 'Y'
```

```
    where EName in ('SCOTT', 'ALLEN', 'WARD', 'TURNER');
```

```
end;
```

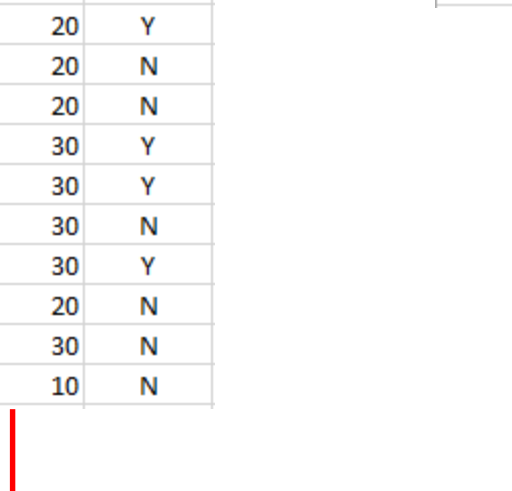
Състояние на демонстрационната БД

- EMP

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	OFFSITE
7839	KING	PRESIDENT		11/17/1981	5000		10	N
7698	BLAKE	MANAGER	7839	5/1/1981	2850		30	N
7782	CLARK	MANAGER	7839	6/9/1981	2450		10	N
7566	JONES	MANAGER	7839	4/2/1981	2975		20	N
7788	SCOTT	ANALYST	7566	12/9/1982	3000		20	Y
7902	FORD	ANALYST	7566	12/3/1981	3000		20	N
7369	SMITH	CLERK	7902	12/17/1980	800		20	N
7499	ALLEN	SALESMAN	7698	2/20/1981	1600	300	30	Y
7521	WARD	SALESMAN	7698	2/22/1981	1250	500	30	Y
7654	MARTIN	SALESMAN	7698	9/28/1981	1250	1400	30	N
7844	TURNER	SALESMAN	7698	9/8/1981	1500	0	30	Y
7876	ADAMS	CLERK	7788	1/12/1983	1100		20	N
7900	JAMES	CLERK	7698	12/3/1981	950		30	N
7934	MILLER	CLERK	7782	1/23/1982	1300		10	N

DEPT

DEPTNO	DNAME	LOC
10	ACCOUNTING	NEW YORK
20	RESEARCH	DALLAS
30	SALES	CHICAGO
40	OPERATIONS	BOSTON



Използвана литература

- Използваната демонстрационна БД е част от дистрибуцията на Oracle Application Express 20
- Модификациите в демонстрационната БД са взети от Edward Sciore, Understanding Oracle APEX 20 Application Development, 3rd ed., Apress, 2020

Благодаря за вниманието!



Въпроси?