

INTRODUCING ORACLE APPLICATION EXPRESS

Cristina-Loredana Alexe¹

Abstract

Everyone knows that having a database is not enough. You need a way of interacting with it, a way for doing the most common of tasks, like inserting, updating, deleting and retrieving data, but also a way to view reports on that data. You could use your DMS and query it with SQL, but that is a job for database experts. There is the need for a fast, simple way to interact with data like forms and reports. Oracle Application Express does just that: it empowers the database with a well-built front end.

Keywords: database, Oracle, web application, forms, reports

Introduction

Many companies still use distributed sheets, or personal databases to manage business operations, but spreadsheets make it almost impossible to establish a single source of truth, and personal databases do not offer the productivity, scalability or security that companies need for regulatory compliance.

Oracle Application Express is an easy to use tool, that is free with every addition of Oracle Database. It radically simplifies the building of departmental or corporate web applications for inventory, time management, reporting and other aspects of your business.

Initially known as “Project Marvel”, then it became “HTML DB”, but it is currently known as “Application Express(APEX)”

What is APEX?

- Development & deployment tool for web based application
- Faster creation of reliable & secure web applications using Meta Data
- Includes all the functionality of SQL or PL/SQL
- Flexible look-and-feel options provided by themes and templates
- OS independent, configured in database
- Little programming knowledge required

¹ Student at the Romanian-American University, Faculty of Computer Science for Business Management, Bucharest; email: cristina_alexey@gmail.com

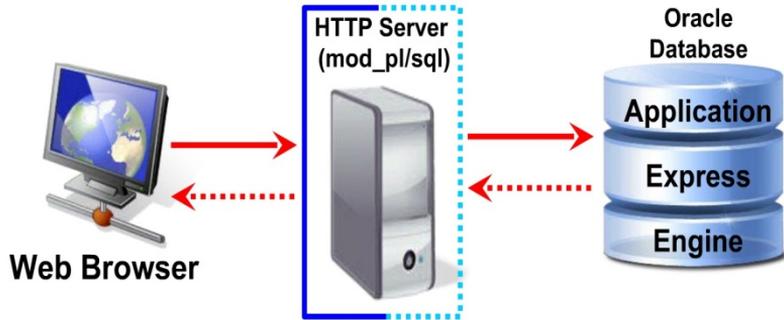


Figure 1

Oracle Application Express is:

- Fast* - for building internet or intranet applications using only a web browser,
- Scalable* - to support growing data user access,
- Secure* – includes built-in access management and data protection

Using Oracle Application Express is easy to create a simple database application from a spreadsheet, simply follow the wizard to migrate your information from the spreadsheet into the web application.

Creating an APEX Application

- Login with developer privileges
- Use the SQL tools to make your tables, constraints, triggers, procedures etc.
- Start a new application (use the wizard)
- Customize the application (check each changes as you make it)
- View and Record hardware inventory
- Searchable report
- Insert/Update data using forms

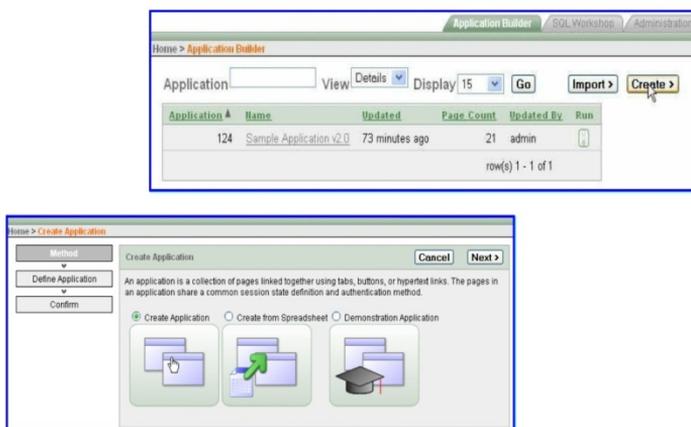


Figure 2

Functionality

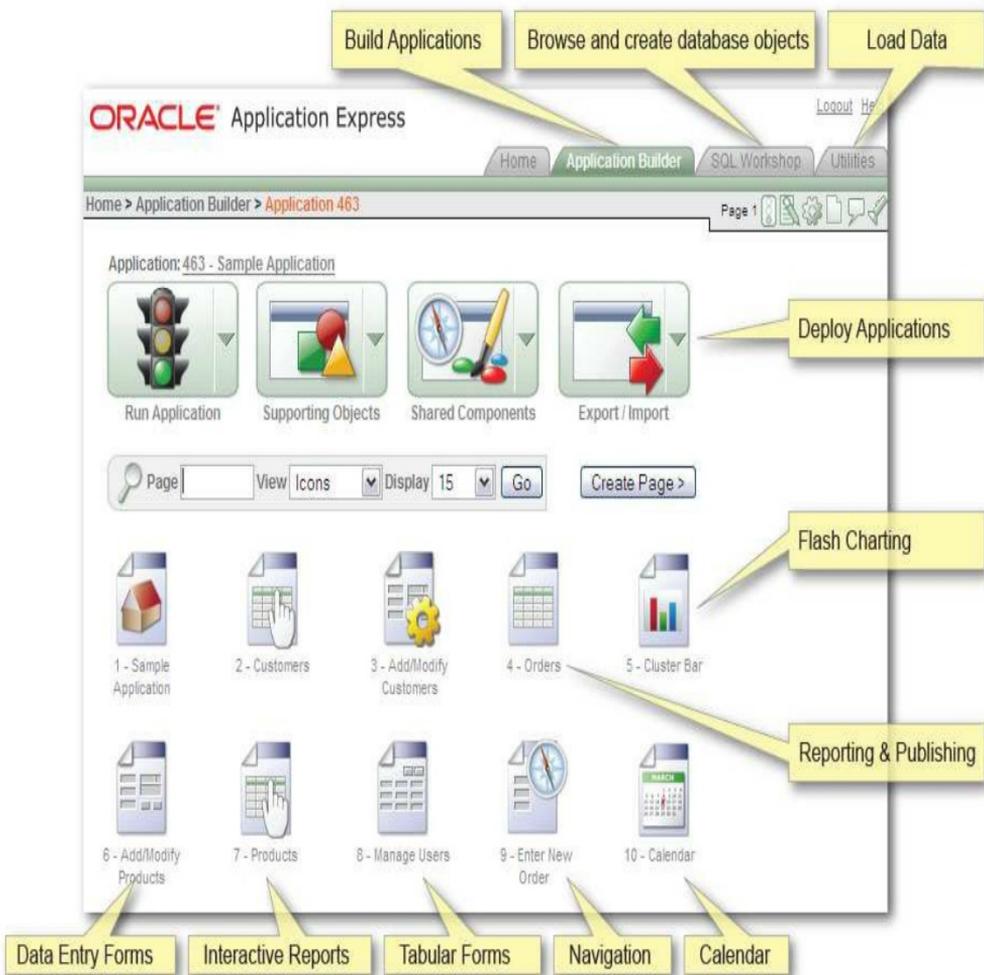


Figure 3

How to Create a Tabular Form

A tabular form enables users to update multiple rows in a table at once from a single page. You can use the Tabular Form Wizard to create a tabular form that contains a built-in multiple row update process. This built-in process performs optimistic locking behind the scenes to maintain the data integrity. To create a tabular form using the Tabular Form Wizard, on the application home page, click Create Page, and select Form. The tabular form appears as shown in Figure 4.

Tabular Form Cancel Delete Apply Changes

<input type="checkbox"/>	First Name	Last Name	Hire Date	Salary	Department Id
<input type="checkbox"/>	Steven	King	17-JUN-87	24000	90
<input type="checkbox"/>	Neena	Kochhar	21-SEP-89	17000	90
<input type="checkbox"/>	Lex	De Haan	13-JAN-93	17000	90
<input type="checkbox"/>	Alexander	Hunold	03-JAN-90	9000	60
<input type="checkbox"/>	Bruce	Ernst	21-MAY-91	6000	60
<input type="checkbox"/>	David	Austin	25-JUN-97	4800	60
<input type="checkbox"/>	Valli	Pataballa	05-FEB-98	4800	60
<input type="checkbox"/>	Diana	Lorentz	07-FEB-99	4200	60
<input type="checkbox"/>	Nancy	Greenberg	17-AUG-94	12000	100
<input type="checkbox"/>	Daniel	Faviet	16-AUG-94	9000	100

row(s) 1 - 10 of 107 Next

Add Row

Figure 4 Tabular Form

How to Create a Parameterized Report

In an Oracle Application Express application, a report is the formatted result of an SQL query. A parameterized report is a dynamic report based on input from the application user or another component in the application. The application user enters search criteria which is used to generate the report. For example, the user may want to see all issues assigned to a particular person. The user inputs the person's name into the Search Bar and requests the report. The report is generated based on the name provided by the user. There are two basic types of reports, an *interactive report* and a *classic report*. The interactive report is the default report type when creating an application, converting forms, and creating pages. Interactive reports enable the user to perform a variety of report customizations. Unless disabled by the developer, an interactive report includes the ability to perform searching, filtering, sorting, column selection, highlighting, and other data manipulations.

- Out-of-the-box declarative Web 2.0 reporting

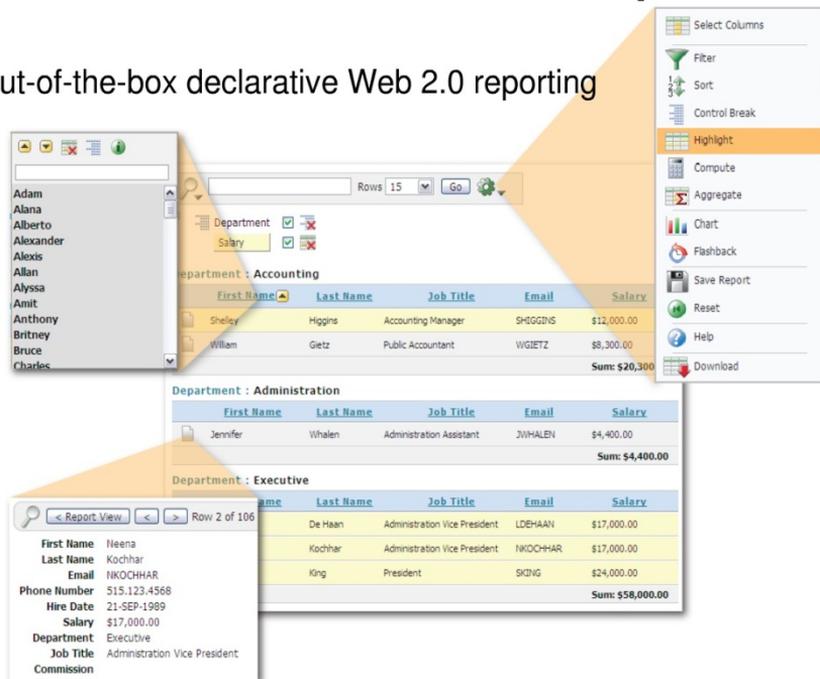


Figure 5 Interactive Report

Interactive Reports

- Search bar
 - Quick Text-Search on all or select columns
 - Actions Menu Button
- Actions Menu
 - Formatting
 - Number of Rows
 - Charting
 - Saving & Sharing
 - Exporting
- Column Sorting and Filtering
 - Column-Header menu for easy Sorting, Filtering and Break-Formatting
 - More granular control via Actions Menu
- Control Break, Highlighting, Compute Columns and Aggregate
- Saving and sharing of customized reports
 - Saving Interactive Report customizations for future use
 - Sharing with other users by saving reports as public
 - Selection via Saved-Reports select list in Actions Menu
- Logging of Search Criteria
- Notification
 - Scheduled notification
 - Email send to user including static HTML version of report data
- Report, Detail and Icon View
- Single-Row view

- Charts

A classic report does not by default include any of the interactive report customization features. See *Figure 3* for an example of a classic report that was built with the Create Page Wizard and queries the same columns in the IT_PEOPLE table as the interactive report in *Figure 2* queries.

PERSON NAME ▲	PERSON EMAIL	USERNAME	PERSON ROLE
Al Bines	al.bines@mrvl-bademail.com	abines	Lead
Carla Downing	carla.downing@mrvl-bademail.com	cdowning	Lead
Evan Fanner	evan.fanner@mrvl-bademail.com	efanner	Lead
George Hurst	george.hurst@mrvl-bademail.com	ghurst	Lead
Irene Jones	irene.jones@mrvl-bademail.com	ijones	Lead
Jane Kerry	jane.kerry@mrvl-bademail.com	jkerry	Member
Joe Cerno	joe.cerno@mrvl-bademail.com	jcerno	CEO
Karen London	karen.london@mrvl-bademail.com	klondon	Member
Kim Roberts	kim.roberts@mrvl-bademail.com	kroberts	Manager
Mark Nile	mark.nile@mrvl-bademail.com	mnile	Member
Olive Pope	olive.pope@mrvl-bademail.com	opope	Member
Russ Sanders	russ.sanders@mrvl-bademail.com	rsanders	Member
Scott Tiger	scott.tiger@mrvl-bademail.com	stiger	Member
Tom Suess	tom.suess@mrvl-bademail.com	tsuess	Manager
Tucker Uberton	tucker.uberton@mrvl-bademail.com	ruberton	Member

row(s) 1 - 15 of 17 [Next >](#)

Figure 6 Classic Report

Oracle Application Express supports the ability to print a report by exporting a report region to PDF. Defined declaratively, report printing enables users to view and print reports that include page headings and that properly conform to specified page sizes. When users print a report, the report data is transformed to a PDF format using an externally defined report server.

In addition to enabling printing for report regions, you can also define output using report queries and report layouts that are linked to an application.

Conclusion

So, as we have shown, Oracle Application Express is:
Easy to develop

- RapidWeb application development
- Fully productive very quickly
- Declarative / Wizards

Easy to deploy

- No client software
- Browser based
- Feature of the Oracle Database

Easy to manage

- Centrally managed metadata repository
- Multi-tenant hosting
- Robust framework

Bibliography

1. <http://otn.oracle.com/apex>
2. http://download.oracle.com/docs/cd/E14373_01/appdev.32/e13363/frm_tabular.htm#CHDFBHDB
3. <http://www.oracle.com/technetwork/developer-tools/apex/documentation/index.html>