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A Comparative Study of Oracle Application Express with .NET

Digvijay Virpura¹

PhD Scholar,
Rai University, Saroda,
Ahmedabad, Gujarat - India

Dr. Priya Swaminarayan²

Professor & Head,
ISTAR, MCA Department,
V.V.Nagar, India

Abstract: Now a day's Software Development industry entail a rapid application development with minimal efforts and inputs. Many development environment is available in the market for a application or website development. But every tool or software has its own gain and con. The purpose of this study was to conduct comparison testing between APEX and .NET and it focus on coding time, implementation of Object oriented concepts , Database connectivity etc.

Keywords: Oracle APEX and .NET Comparison, Visual Studio 2010, APEX and VB.NET Comparison

I. INTRODUCTION

Oracle Application Express is a hasty application development tool for developing applications as well as websites. Oracle Application Express architecturally lightweight compared to other platforms. One can develop professional, vigorous, sheltered applications, with quick time. As its totally implemented with Oracle it provides all the amenities from basic to advance. In Software Development environment current market requirement is changed. Now the companies required more software development in minimal amount of time and input but there are many barriers to attain a real rapid application development environment. Many aspects were there which the developer has to ensure and one of the major is to select the Development environment for the software or website. Every development environment has its own advantages and disadvantages is well. The performance of an development environment is very much essential because all the applications developed under that environment will behave as if its environment. So initially we will see the architecture of APEX and ASP.NET then the system requirement for both technologies, implementation knowledge requirement, functions available, database connectivity options etc will be discussed.

II. ARCHITECTURE COMPARISONS

Oracle Application Express is a light weighted application environment as compared to other technologies.

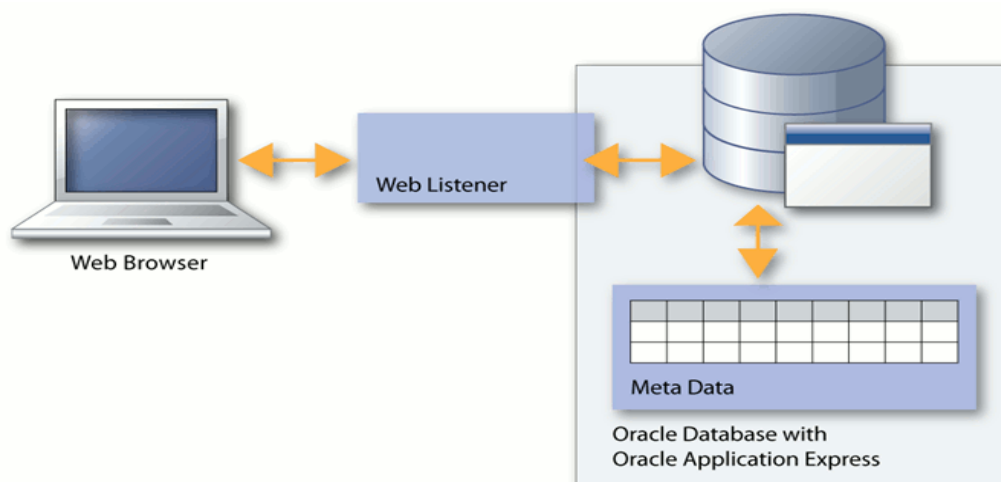


Fig 1. Oracle Application Express Architecture

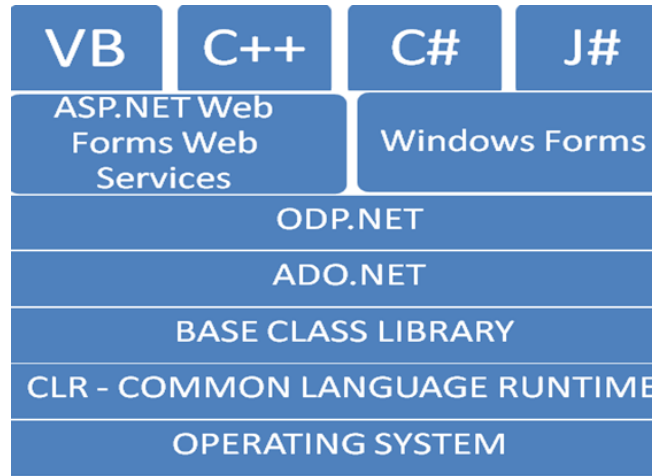


Fig2: Typical .NET architecture with Oracle

As shown in above figure Oracle APEX architecture and working environment in easy for any developer to understand and also building an application is also easy as compare to .NET Framework. As we can see there are many options available with .net Framework which lead to a large volume of coding while developing a online application or desktop application.

Oracle APEX	.NET
» SQL, PL/SQL, HTML, Java Script	» SQL, PL/SQL, HTML, Java script
» Browser	» Visual Studio License
» OS Independent – Oracle Dependent	» OS Dependent
» Oracle Access Manager (Optional)	» C#, VB, C++....
» Team Development (FREE)	» Framework 2.0- 4.5
	» Custom Framework
	» IIS

Table: Difference between Oracle APEX and .NET Framework

III. INSTALLATION REQUIREMENT COMPARISON

First focus is always on the system requirement for the installation of any product because many things depends on that. As far as the system requirement is concern both development environment has different requirement^[1]. Following table will show the system requirement for both development environment to run system smoothly.

Requirement	Oracle APEX	Visual Studio 2010
Processor	1.6 GHz	2.66 GHz
Ram	< 1 GB ^[3]	2 GB
Hard disk	2 GB	3 GB

First let discuss on the system requirement of both technologies. As shown in above table random access memory (RAM) requirement is higher that mentioned in above table because 2 GB ram can just run the system properly but to execute the application is different this.

As far as Oracle APEX is concern its totally browser based application which does not require any higher configuration software to run while developing any application or website^[2]. Developer just need to have any latest version of browser to develop and run an application of Oracle APEX.

IV. DEVELOPMENT AND DEPLOYMENT REQUIREMENT COMPARISON

Second let us see the development environment of both technologies. In visual studio 2010 you can develop and use many programming concepts which make user or developer to think which technology of coding method to user before developing any system.

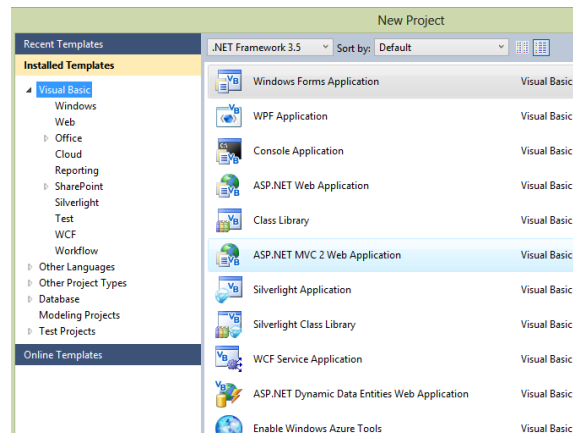


Fig3: Visual Studio Options page

As shown in above image visual studio provides many options form which developer choose as per their requirements. This make somewhat tougher for developer because for a desktop application different coding and different environment has given and for online application development it has different environment. So it sometime very tough for the developer to work on both environment as they have different development environment.

Another issue with deployment is Visual studio create many files as a support of any system. There will be many pages under one application and while put a system online all those files will be on the server or a single exe file will be there which can be consider as a worm.

As compare to this Oracle APEX provide only a single development environment for developer to develop any application. Developer do not need to remember different coding techniques for Online application development or desktop application development coz both has same architecture. In Oracle APEX application is developed on browser based environment and same will be the deployment stage so if end user want to use it as desktop application then no need to put in share mode or if end user want that application to be online then just need internet connection and a domain name for deployment.

V. DATABASE CONNECTIVITY IN .NET AND ORACLE APEX

As we know that in visual studio 2010 as per the developer requirement database used by them. Although there are different code will be applied depend on which database connection you are using. As a result developer needs to remember large volume of code while developing any application whether its online application or desktop application. Secondly as a developer its very tough for a single user to remember large volume of code and methods applied to different environment like vb.net or asp.net. A developer needs to have experience to develop an usable application on asp.net or vb.net. It's not easy for a beginner to identify or utilize all the functions and facilities available with it.

As compared to this in Oracle APEX there is no need to remember a single line of code for connection to the database coz it's already installed on a selected platform. For example if someone has installed APEX on 10g Oracle Database then 10g will be used for database connectivity but developer do not need to make a single line of code for this its already given with application. So it's very easy for the developer to develop an application without worrying about the database connectivity.

While in oracle apex any developer who just have a basic knowledge of sql and pl/sql can develop a usable applications. Oracle APEX help in lower the over cost of development, deployment, Maintenance and upgrades.

VI. SKILL REQUIREMENT COMPARISON

As a software developer in any development environment one of the biggest challenge is to produce and develop a software or application in a rapid environment. To be a part of a Development team of .NET a developer must require knowledge of many different development environments.

ORACLE APEX	.NET
» SQL & PLSQL (60%)	» SQL & PLSQL
» APEX Framework	» Visual Studio, ADO.Net, ODP.Net
» HTML	» HTML
» JAVA Script	» JAVA Script » OO » C#, VB, J#, .. » MVC/MVP Architecture » Nhibernate / Entity

As shown in above table a developer of .NET require many skills to develop an application in any product of .NET while in Oracle APEX just knowledge of SQL and PL/SQL is required to build and deploy and application.

VII. NETWORK PERFORMANCE OF ORACLE APEX AND .NET

In any application development response time from server is very important. It depends on many aspects while using network. In .NET large volume of code is to be processed before going into any page processing or database query processing as well as loading images or any heavy loaded component. Whenever large volume of users transfer information on the same page it gets tough for the database to respond as the application and database are different.

While in Oracle APEX it's totally build on Oracle architecture and its bounded with database and because of many other techniques like store procedure, functions, packages, triggers page can be loaded very fast. Oracle is one of the best database provider so as many number of user logged in there will be no issue of performance. so with this it provide better environment to the developer to build secure, fast and rapid application.

VIII. CONCLUSION

Oracle Application Express is one of the technology which really provide read rapid application development environment to the developer. One has to first check it before going to another development environment. Overall the difference shown in this paper is theoretical part there were many coding difference present which can be seen by doing practical work on both technology.

As mentioned in this paper many other aspect were there which can prove the Oracle APEX as a better development option for a Rapid Application Development Environment. As a conclusion it's been seen that developer's efforts can be reduced with time, investment, deployment time etc cab ne saved. As a software developer one does not need to remember large and different coding methods to develop an application.

A minimal programming experience is enough for a developer for create an application, manage that application as well as deploying the application at the end user environment.

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AUTHOR(S) PROFILE

Virpura Digvijaysinh D, received the MCA degree in Computer Science from Shree Swaminarayan Institute of Technology, Gujarat University and B.Com degree in from Gujarat University in 2009 and 2005, respectively. From 2009 to 2011 I have worked as a Assistant Professor in Sardar Krushinagar Dantiwada Agricultural University. Then worked at K.P.Patel School of Management and Computer Studies (MCA) for 10 months. Currently working as a Assistant Professor at N.V.Patel College of Pure and Applied Sciences, V.V.Nagar, Gujarat, INDIA.