

# .NET DEVELOPMENT WITH ORACLE DATABASE 11G CLIENT

## OVERVIEW

### ORACLE ON .NET

- Easy to use and learn
- No charge
- Works with the latest versions of .NET Framework and Visual Studio
- Supports the latest Oracle database features
- Access all database editions, including Express Edition

*Oracle offers four components that simplify .NET development with the Oracle Database: Oracle Providers for ASP.NET, Oracle Developer Tools for Visual Studio, Oracle Data Provider for .NET, and .NET stored procedures. These components are free and are easy to use for either the novice database programmer or the advanced programmer. They provide extensive support for basic tasks, such as drag and drop .NET data access code generation, and advanced operations, such as integrated PL/SQL debugging with .NET applications. This data sheet describes the 11.1.0.6.20 version of these components, which can be downloaded from the Oracle Technology Center (OTN) web site.*

### Oracle Providers for ASP.NET

Beginning with .NET Framework 2.0, ASP.NET includes service providers that store application state in databases. By storing state in a database, applications ensure web data is highly available and equally accessible among all web servers.

Oracle Providers for ASP.NET, which make their debut in version 11.1.6.0.20, support these service providers for use with the Oracle database. For developers already familiar with ASP.NET providers, the Oracle Providers for ASP.NET are easy to learn since they share a common schema and application programming interface with other existing ASP.NET providers. Standard ASP.NET controls and services interact with the providers transparently without any Oracle-specific coding required.

Oracle offers the following ASP.NET providers:

- Membership Provider
- Role Provider
- Site Map Provider
- Session State Provider
- Profile Provider
- Web Events Provider
- Web Parts Personalization Provider
- Cache Dependency Provider

For more information, visit the Oracle Providers for ASP.NET home page:

<http://www.oracle.com/technology/tech/dotnet/aspnet>

## Oracle Developer Tools for Visual Studio

The Oracle Developer Tools for Visual Studio (ODT) is a tightly integrated "Add-in" for Microsoft Visual Studio. ODT is free and it is available for Visual Studio 2008, Visual Studio 2005, and Visual Studio .NET 2003.

ODT makes developing .NET code for Oracle easy and fast, allowing developers to stay in Visual Studio for the entire development lifecycle. ODT makes it easy to browse and edit Oracle schema objects using integrated visual designers and can automatically generate .NET code via a simple drag and drop. Developers can easily modify table data, execute Oracle SQL statements, edit and debug PL/SQL code, and develop and deploy .NET stored procedures. The integrated context sensitive online help, including the Oracle SQL and PL/SQL Users Guides, puts the Oracle documentation at your fingertips.

New features in ODT 11.1.0.6.20 include: enhanced ASP.NET web development support that enable developers to produce .NET code automatically by dragging and dropping onto ASP.NET web pages; automatic code generation for Microsoft Office projects; an Oracle SQL script editor with SQL\*Plus script execution; a new Oracle Database Project with support for source control systems; Server Explorer integration; and support for native Visual Studio wizards and designers, such as Data Source Configuration Wizard, DataSet Designer, and Microsoft Query Designer. Support for Oracle user-defined types (UDTs) is also new, including new UDT designers and automatic generation of .NET custom classes. Finally, the new Import Table Wizard makes it easy to move tables and their data from external data sources such as Microsoft SQL Server, Microsoft Access, and Excel spreadsheets.

For more information, visit the Oracle Developer Tools for Visual Studio home page: <http://www.oracle.com/technology/tech/dotnet/tools>

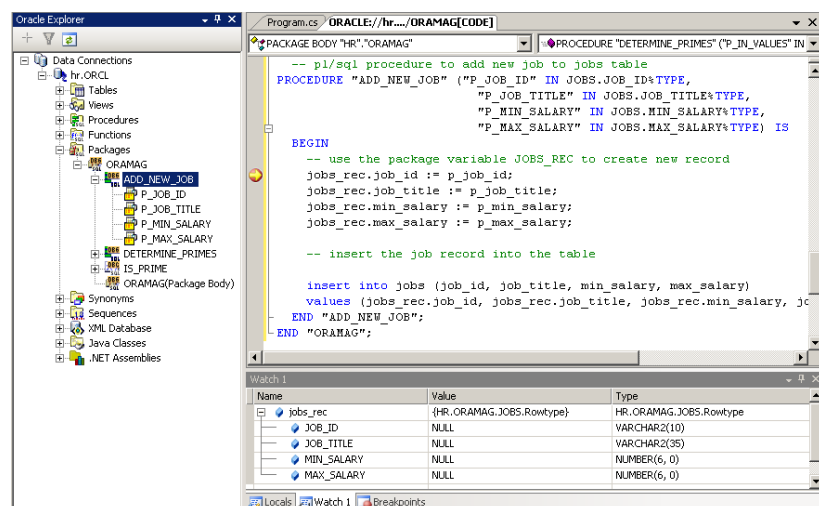


Figure1. Browsing the Oracle schema (left) and editing and debugging PL/SQL (right) are just two examples of Oracle's tight Visual Studio integration.

**MORE INFORMATION**ORACLE TECHNOLOGY  
NETWORK (OTN)

Visit the OTN .NET Developer Center to watch product demonstrations and read more about Oracle database's .NET support:

- <http://otn.oracle.com/dotnet>

**Oracle Data Provider for .NET**

Oracle Data Provider for .NET (ODP.NET) features optimized .NET data access to the Oracle database while providing full accessibility to .NET Framework.

ODP.NET developers can take advantage of Oracle's unique database functionality, including Real Application Clusters, performance optimizations, XML DB, and advanced security features. ODP.NET gives .NET programmers better performance, flexibility, and feature choice. ODP.NET developers can use .NET, but not have to sacrifice the powerful Oracle data management capabilities.

ODP.NET natively supports .NET Framework 1.0 and higher, including .NET Framework 3.5 and 64-bit .NET Framework (AMD64, Intel EM64T, and Intel Itanium). New features include support for user-defined types, xcopy deployment, and connection pool performance counters.

For more information, visit the ODP.NET home page:

<http://www.oracle.com/technology/tech/windows/odpnet>

**.NET Stored Procedures**

The Oracle Database Extensions for .NET is a feature of Oracle Database 11g on Windows that makes it easy to develop, deploy, and run stored procedures and functions written in a .NET managed language, such as C# or VB.NET. .NET stored procedures or functions are developed using Microsoft Visual Studio and deployed using the tightly integrated .NET Deployment Wizard, which is a feature of the Oracle Developer Tools for Visual Studio. After deployment, a .NET stored procedure can be called from within .NET application code; from SQL or PL/SQL; from another .NET, PL/SQL, or Java stored procedure; from a trigger; or from anywhere else a stored procedure or function call is allowed.

For more information, visit the Oracle Database Extensions for .NET home page:

<http://www.oracle.com/technology/tech/dotnet/ode>

**Get Started Today**

You can quickly start developing .NET applications with Oracle databases. Just download Oracle Providers for ASP.NET, ODT, ODP.NET, and .NET stored procedures as part of the Oracle Data Access Components (ODAC) version 11.1.0.6.20 or higher from the Oracle Technology Network .NET download page:

<http://www.oracle.com/technology/software/tech/windows/odpnet>

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