

APLNext Database Interface Tools

Overview:

The APLNext Database Interface Tools simplify the use of Microsoft SQL Server, Oracle or IBM DB2 data bases in an application system.

The Tools employ the Microsoft ADO.Net (active data objects) class for .Net which has superior performance and features compared to previous technologies, such as ADODB, ODBC, MDAC, Jet, etc.

With the (no-cost) availability of Microsoft SQL Server Express database, scalable-to-enterprise-level data base software is more affordable and the logical choice for professionally-designed application systems.

The object model for the APLNext Database Interface Tools includes methods and properties to easily create a secure, high-performance application system interface with one or all of these enterprise-class databases. The object model is consistent and analogous for all three supported databases, so only minimal application system modification is necessary to utilize any of the supported databases.

Programming Environments Supported:

The complete APLNext Database Interface Tools object model can be accessed and used from:

- Any .Net programming language, e.g. VB.Net, C++(managed) or C#.

When used from a .Net programming language, the APLNextDatabase Interface Tools fully-managed, .Net assembly e.g. 'AplNextSql.dll', is referenced by the Visual Studio project created by the application system programmer.

- Any Win32 programming language supporting an ActiveX interface, e.g. APL+Win, VB6 or C++ (unmanaged).

When used from a Win32 programming language, the APLNext Database Interface Tools .Net assembly is exposed as ActiveX. The Microsoft installer, e.g. 'APLNextSqlSetup-v*.msi', provided with the APLNext Database Interface Tools, is a distributable element of the product which easily performs the registration of the Tools as ActiveX.

Object Model Highlights:

Detailed documentation of the APLNext Database Interface Tools object model is included with the application programmer license. A short summary is provided below.

- Class Constructor to create an instance of the APLNext Database Interface Tools class, e.g. 'AplNext.SqlClient'
- connectionString property and Open method to specify database access parameters, location, security, etc. and make the connection between the application system and the selected database.
- Structured Query Language(SQL) support, employing the universally-accepted format for specifying processing steps involving databases.
 - ExecuteDeleteQuery method
 - ExecuteInsertQuery method
 - ExecuteSelectQuery method
 - CreateParameters method
 - ExecuteStoredProcedure method with overloads (calling variations):
 - (string)
 - (string, string, object)
 - GetRecord and GetAllRecords methods to obtain the results of the SQL query, e.g. a record set or a record
 - dateFormat property
 - decimalSeparator property
 - groupSeparator property
 - RegionalSettings method
- Support for database transactions, so that multi-query processing can maintain data integrity. The application system programmer encloses several SQL queries in an application program block and either commits the enclosed queries if all were successful or rolls back the successful queries, if any, if any query in the block fails.
 - BeginTransaction method
 - CommitTransaction method
 - InTransaction property
 - RollbackTransaction method
- Version property to identify the Tools class version
- Finalize and Close methods to release resources

Product Licensing Options:

- Desktop licensing: Deployment to One Programmer / End User

Deploy the APLNext Database Interface Tools product in any application system that will be used only on that programmer's computer. The programmer is deemed to be the end user. This licensing option is designed for engineers, scientists, actuaries and other domain experts who need an easy way to access an enterprise-level database to perform their daily work.

- Professional: Deployment to One Business Entity

Deploy the APLNext Database Interface Tools product in any application system that will be used 'in-house', i.e. that will be used, via local installation or web-based access, by any member, e.g. employee, full-time consultant, etc., of a single economic entity, e.g. corporation, LLC, etc., located on one geographical continent, e.g. North America, Europe, etc.

- Enterprise: Unlimited Deployment

Deploy the APLNext Database Interface Tools product in any application system that will be used by any member of the programmer's 'user base', i.e. that will be used by any person or entity who has received access to the application system from the programmer.

This option applies to those who require a multi-national license or develop application systems or components that are available to the general public.

Licenses are applicable to individual programmers and are annual in term. Application system versions that were developed and released to end users during the license term and which incorporate the Professional or Enterprise versions of the APLNext Database Interface Tools, may continue to be used without limit after the expiration of the license term. However, the programmer of the application system may not modify or re-distribute an application system version incorporating the APLNext Database Interface Tools after the expiration of the license term.

To license this product please contact Sonia Beekman at sales@apl2000.com.

License Costs and Details:

APLNext Database Interface Tools	Desktop	Professional	Enterprise
Feature			
Included developer license	1	1	1
Developer license subscription	\$250/year	\$5,000/year	\$8,000/year
Deployment Option	Limited to your desktop	Unlimited to your immediate business entity	Unlimited to your customer base
Additional developer license	\$250/year		
Support Incidents/Year	2	2	2
Additional Support Incidents	\$150@	\$150@	\$150@

Product functionality may require additional software and licenses provided by the application system programmer or the end user, e.g. Microsoft operating system, Microsoft SQL server, etc.

Fulfillment of all benefits of the product license may depend on proper registration and activation of the product by the licensee.

A **support incident** is an ad hoc consulting session presented to a specific customer associated with a single issue reported by that customer.

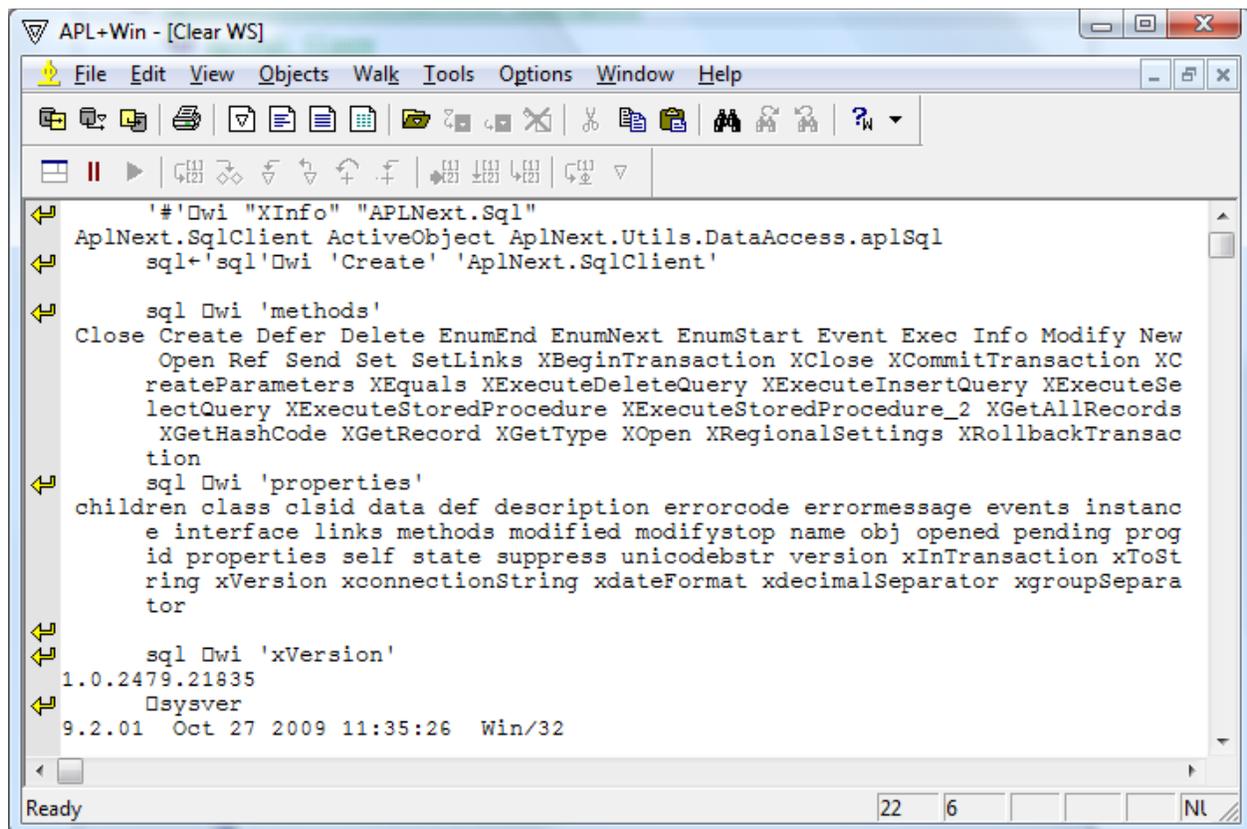
Reporting of an error in an APLNext product is not a support incident and there is no limit on reporting of such errors. The APLNext LLC product development team wants to hear about, obtain documentation on and rapidly resolve any such errors.

General questions about the product may be submitted to the APL2000 forum and are also not a support incident.

System Requirements:

- Microsoft Windows 8 or greater Operating System
- Windows Server 2012 or greater
- Microsoft .Net Framework 4.8 or greater
- .Net- or Win32-based (with ActiveX interface) application system programming language, e.g. VB.Net, C#, APL+Win, VB6, etc.
- Credentials to access a properly-licensed, user-provided Oracle, IBM DB2 or Microsoft SQL Server database

Accessing the APLNext Database Interface Tools from APL+Win:



The screenshot shows the APL+Win application window with the following content:

```
APL+Win - [Clear WS]
File Edit View Objects Walk Tools Options Window Help
[Icons]
[Icons]
'#[Dwi "XInfo" "APLNext.Sql"
AplNext.SqlClient ActiveObject AplNext.Utils.DataAccess.aplSql
sql+'sql'Dwi 'Create' 'AplNext.SqlClient'

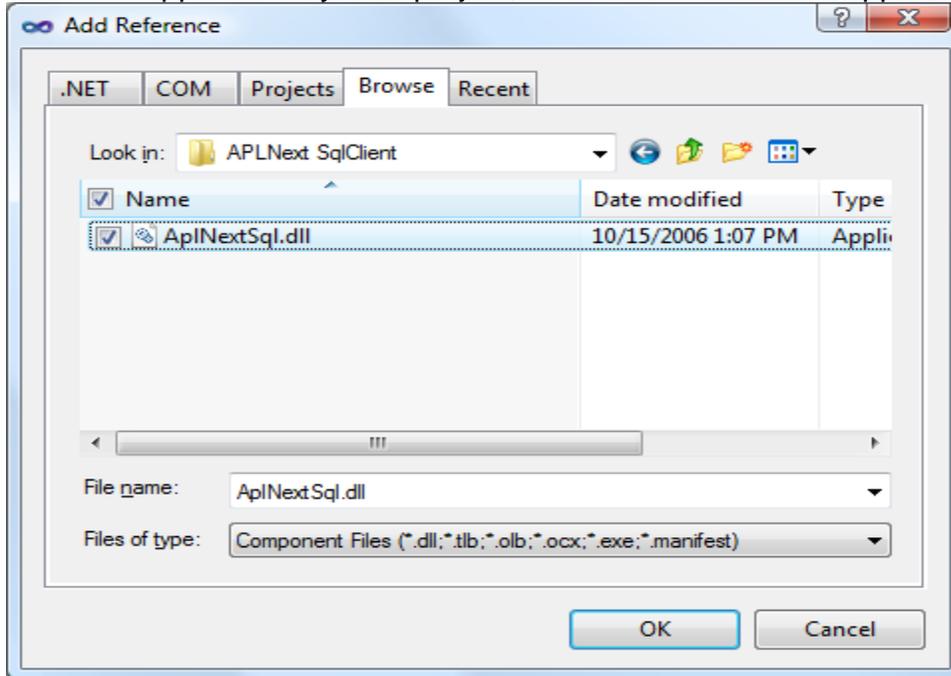
sql Dwi 'methods'
Close Create Defer Delete EnumEnd EnumNext EnumStart Event Exec Info Modify New
Open Ref Send Set SetLinks XBeginTransaction XClose XCommitTransaction XC
reateParameters XEquals XExecuteDeleteQuery XExecuteInsertQuery XExecuteSe
lectQuery XExecuteStoredProcedure XExecuteStoredProcedure_2 XGetAllRecords
XGetHashCode XGetRecord XGetType XOpen XRegionalSettings XRollbackTransac
tion
sql Dwi 'properties'
children class clsid data def description errorcode errormessage events instanc
e interface links methods modified modifystop name obj opened pending prog
id properties self state suppress unicodebstr version xInTransaction xToStr
ing xVersion xconnectionString xdateFormat xdecimalSeparator xgroupSepara
tor

sql Dwi 'xVersion'
1.0.2479.21835
sysver
9.2.01 Oct 27 2009 11:35:26 Win/32
Ready 22 6 NL
```

This is not a complete programming example, but merely illustrates that all the features and the full performance of the APLNext Database Interface Tools and ADO.Net may be accessed from APL+Win in the Win32 environment via the ActiveX interface.

Accessing the APLNext Database Interface Tools from C#:

In the C# application system project, add a reference to the applicable APLNext dll:



Create an instance of the APLNext class and start using the methods and properties of that class instance:

