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LANSA

Newsletter
March 2008

LANSA V11 SP4

What's New in LANSA Version 11 Service Pack 4?

1. Performance

This release includes major performance improvements to LANSA. The enhanced performance covers database access, maths, function calls, virtual code derivation and WAMs.

- **Database Access and Operation**
  Database access and operation is now faster. Note that, with these improvements, it may now be better to use SELECT where you might have used SELECT_SQL.

- **Calling RDML Functions**
  Calling of RDML functions is considerably faster in this version.

- **WAM Execution**
  Inline lists have been introduced to improve WAM (Web Application Module) performance. Inline lists differ from standard lists in that the XSLT transformation is done at design time. All weblet properties that can be applied at design time are resolved and special extension elements and functions are used to allow WAMs to use runtime values where needed.
  (Note for Framework users: if you use the WAMTRANS=C option, you should not use inline lists. Please refer to the Framework Guide for more information).
  Standard shipped weblets have either been redesigned or they have been superseded by the creation of a Version 2 of the weblets Session data persistence is now handled in a better way.

In This Issue

Mathematical Expressions

The performance of mathematical expressions has been improved.

Assignments and Expressions

The performance of assignments and expressions has been improved.

Virtual Code Derivation

In this version virtual code derivation is faster.

2. Visual LANSA IDE (Integrated Development Environment)

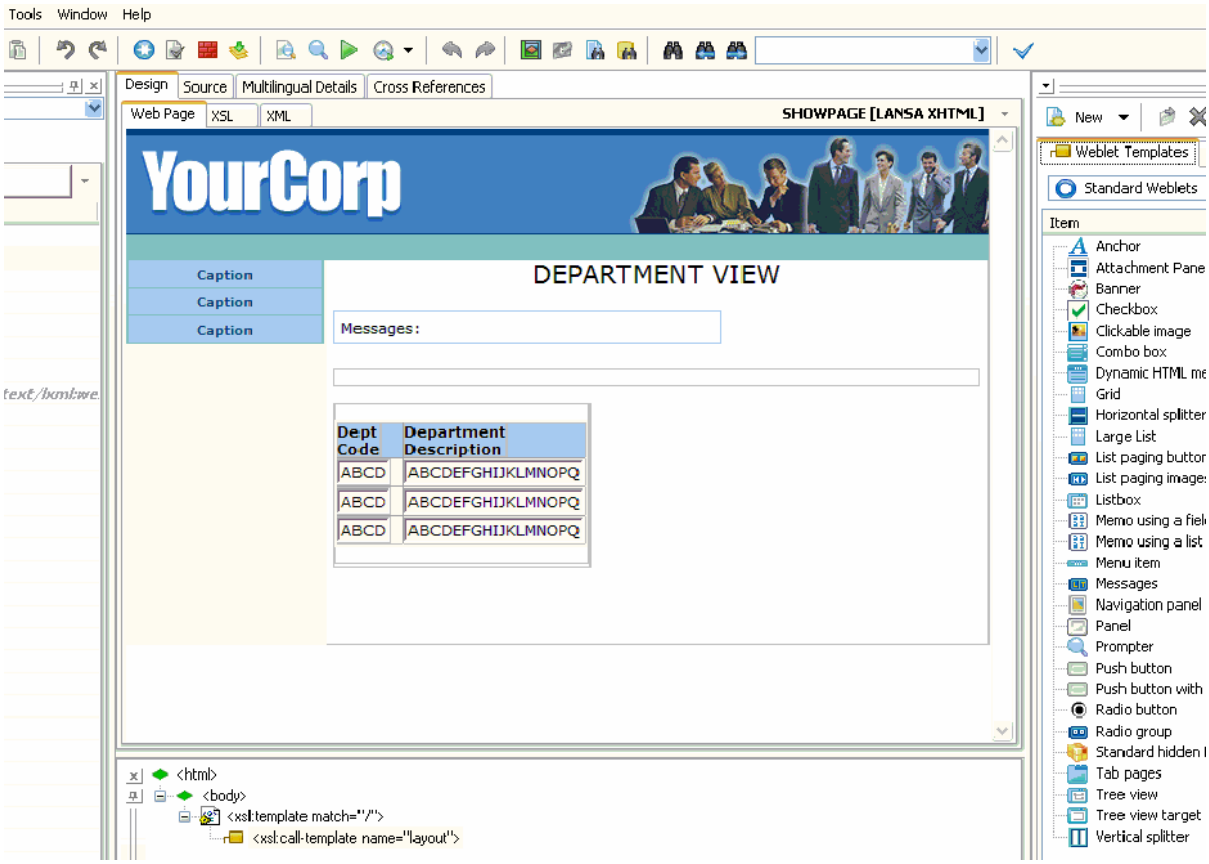
Enhancements have been made to the Visual LANSA IDE to make developing applications easier and faster.

Integration of WAM XSL Editor into the IDE

The XSL Editor has been fully integrated in the Visual LANSA Editor

Integrated Work Environment

In the integrated editor, you can work with WAMs as with any other LANSA object. You have instant access to the LANSA Repository with all the productivity benefits of working in a flexible visual development environment.



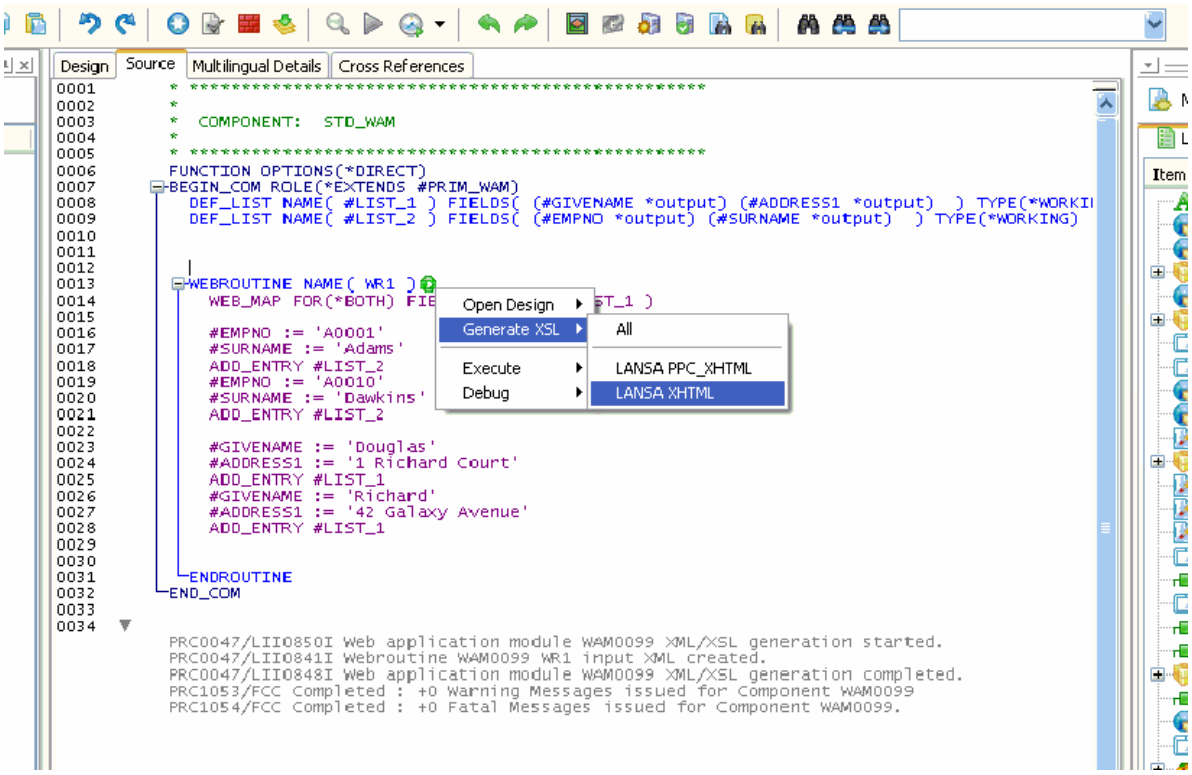
For example, you no longer need to switch between RDMLX Source view and the Web Design view when you design your web page because you can drag fields from the LANSA Repository and drop them as fields or lists on either your Web Design tab or the Webroutine Output tab. The webroutine's web_map is automatically updated.

Technology Service Providers are also now fully integrated into the LANSA Editor and they can be checked in and out of the server repository.

Design and Compilation

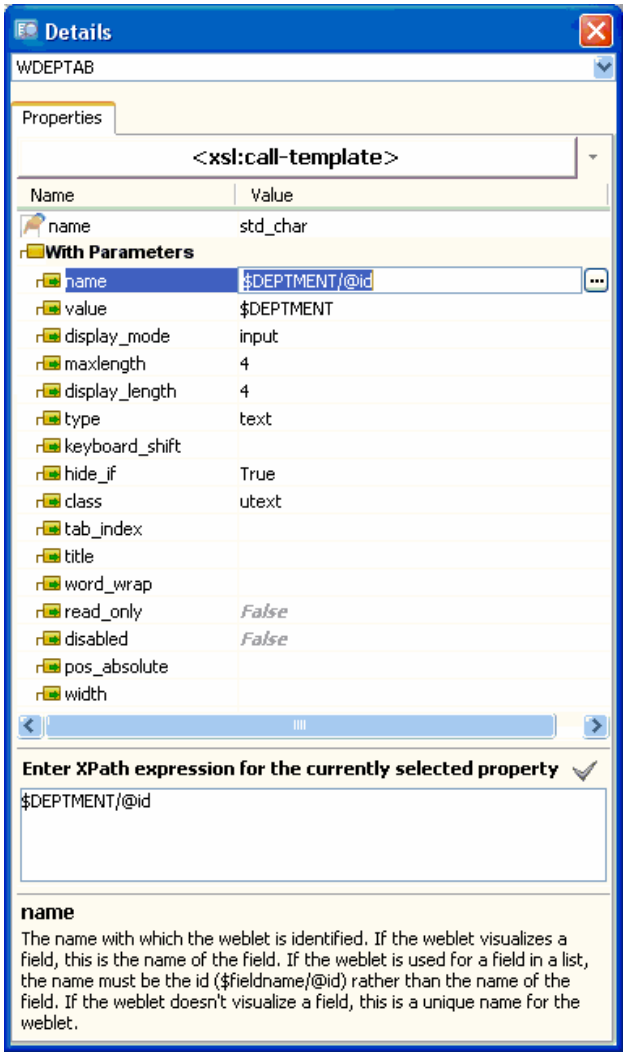
You now have more freedom and control over many WAM development tasks. For instance, it is no longer necessary to build or compile your WAM before you start designing the look and feel of the web page. Now, once you are happy with your design, you can start coding the supporting RDMLX.

Also, you have precise control when XSL is generated. You can now re-generate the XSL for a single webroutine and leave the XSL for other webroutines unchanged:

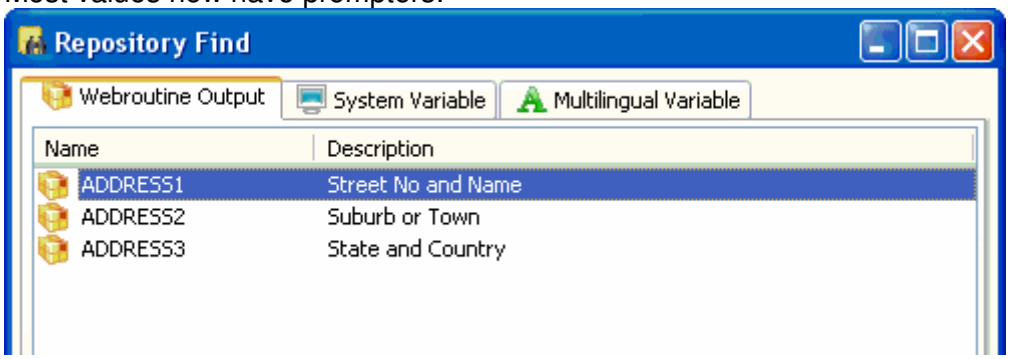


Details Tab

Various usability enhancements have been made to the Details tab.
Most importantly, you no longer need to specify quotes around values when you enter data in the Details tab. For advanced users, an XPath Entry Editor has been made available:

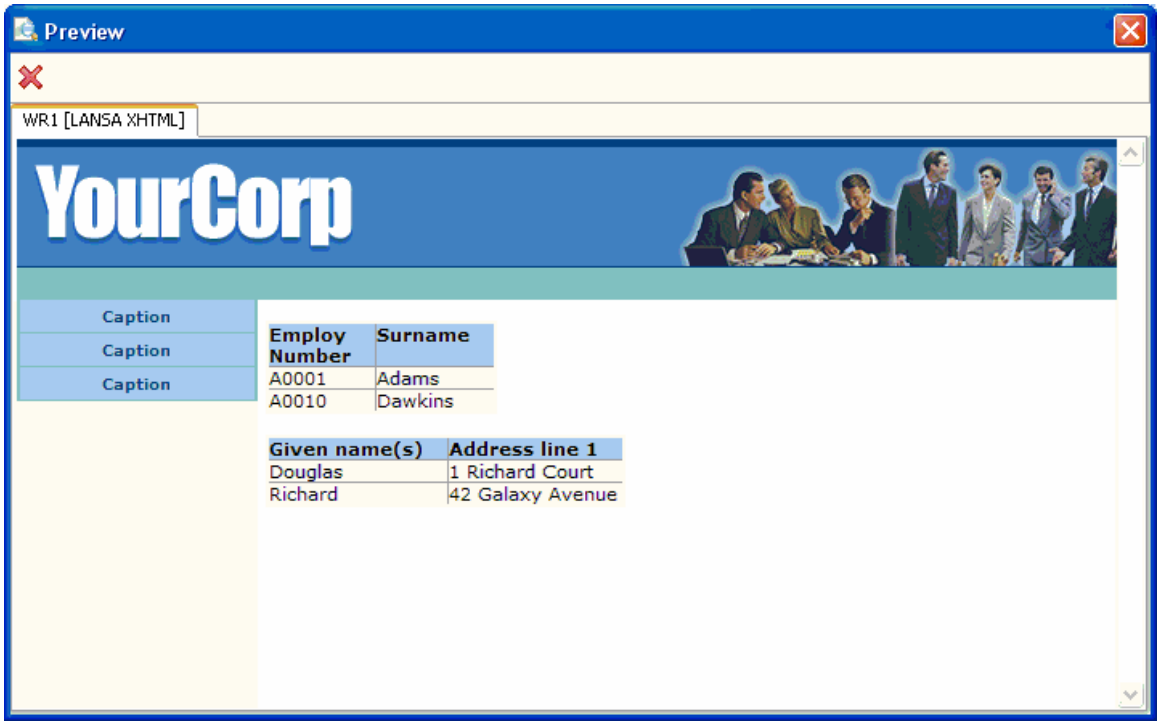


Most values now have prompters:

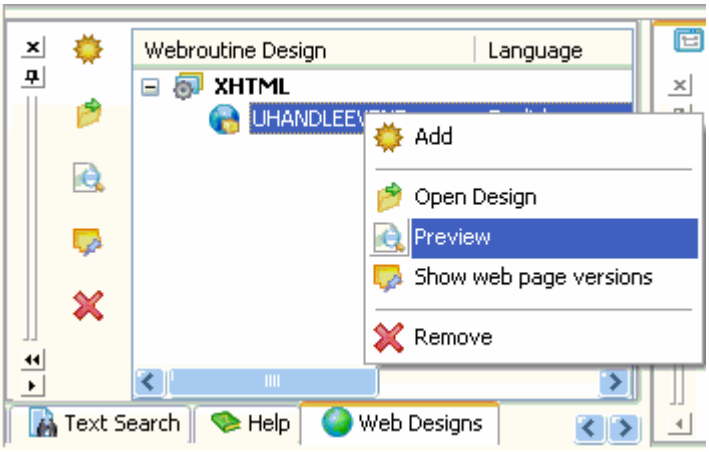


Preview Tab

Preview is now a LANSA tab in its own right and is no longer located together with the Design tabs for a Webroutine or Weblet:

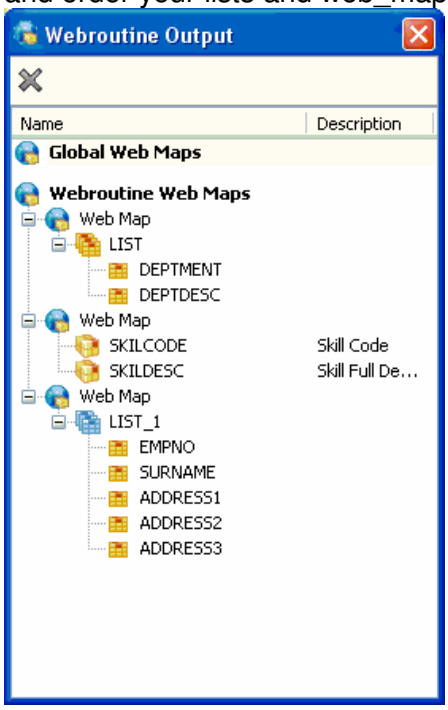


To show the preview, click on the Preview button  in the tool bar, or choose a webroutine in the Web Designs tab, right-click and choose Preview from the popup menu:



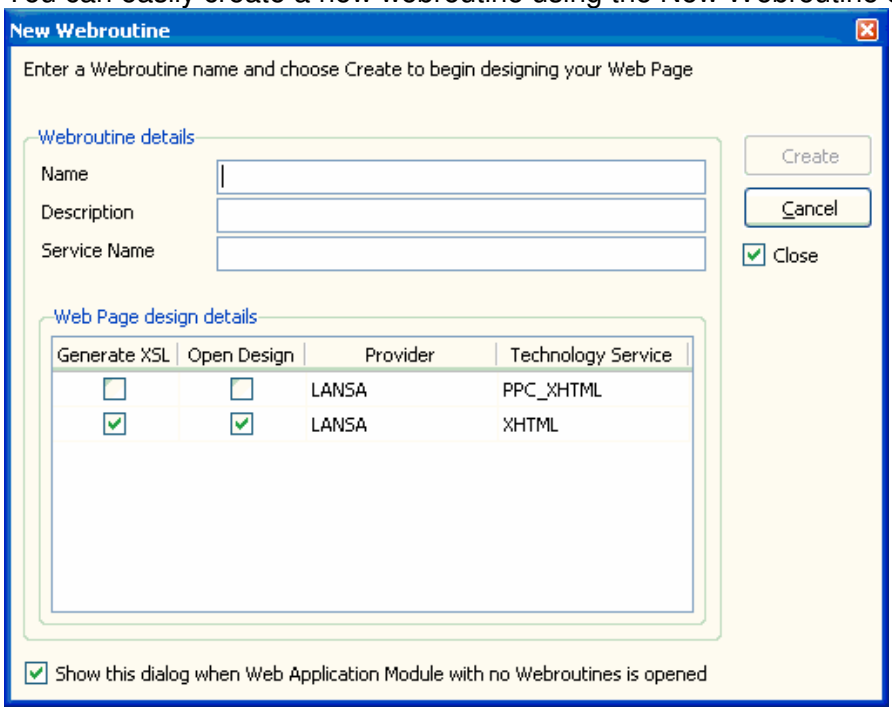
Webroutine and Compilation

The new Webroutine Output tab is an intermediate work space where you can work in detail with web_maps without affecting your web page.
You can drag fields from the LANSA Repository to Webroutine output, then modify and order your lists and web_maps, then drag your fields and lists to the design.



New Webroutine Dialog

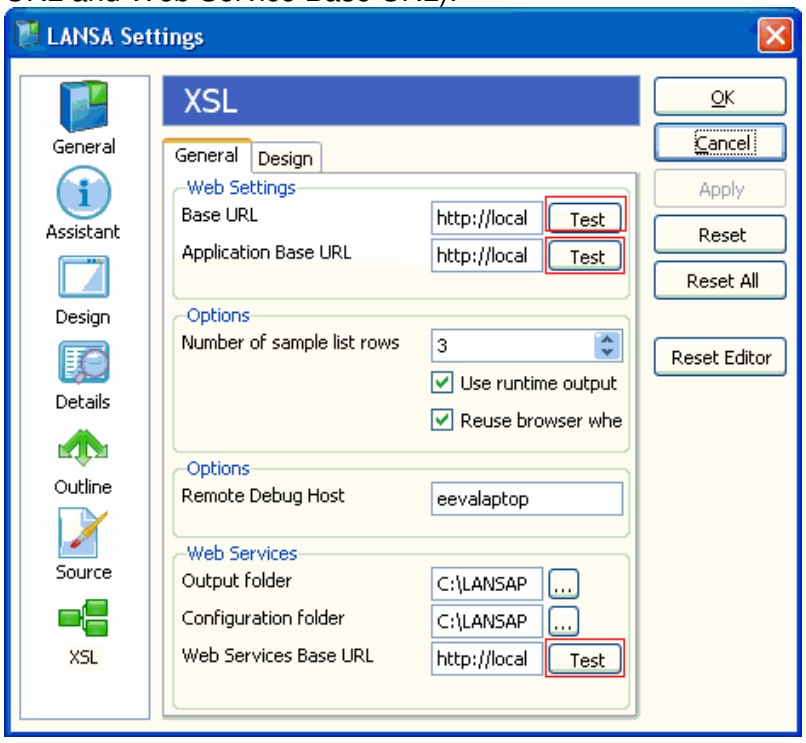
You can easily create a new webroutine using the New Webroutine dialog:



You can automatically generate the XSL for any existing Technology Service Providers when creating a new webroutine using this dialog.

Testing URLs

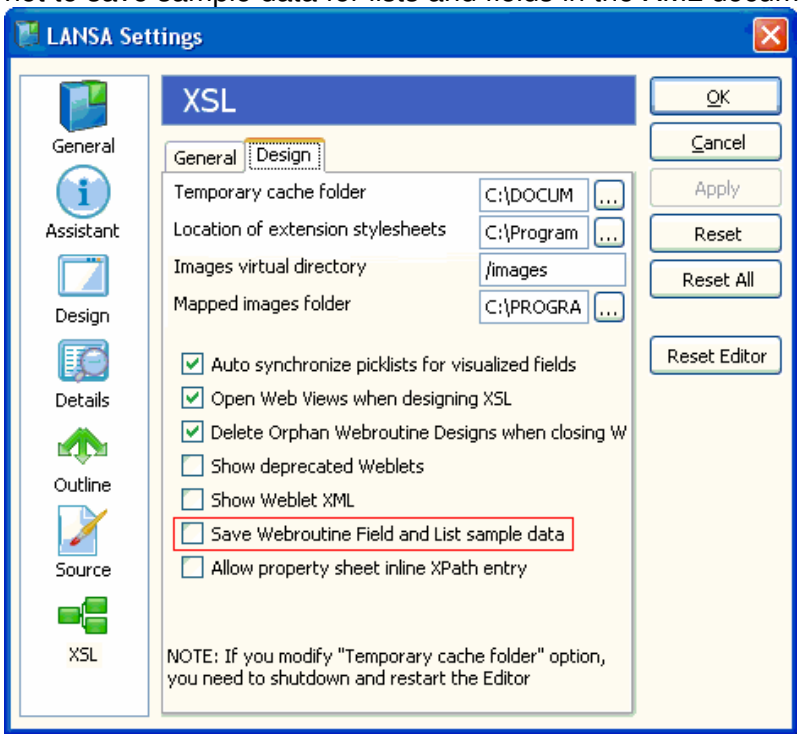
XSL options are now available in the LANSA Settings dialog.
Using this dialog, you can for example test the URLs (Base URL, Application Base URL and Web Service Base URL):



Display this dialog using the Settings option of the Options menu.

Faster Load Times

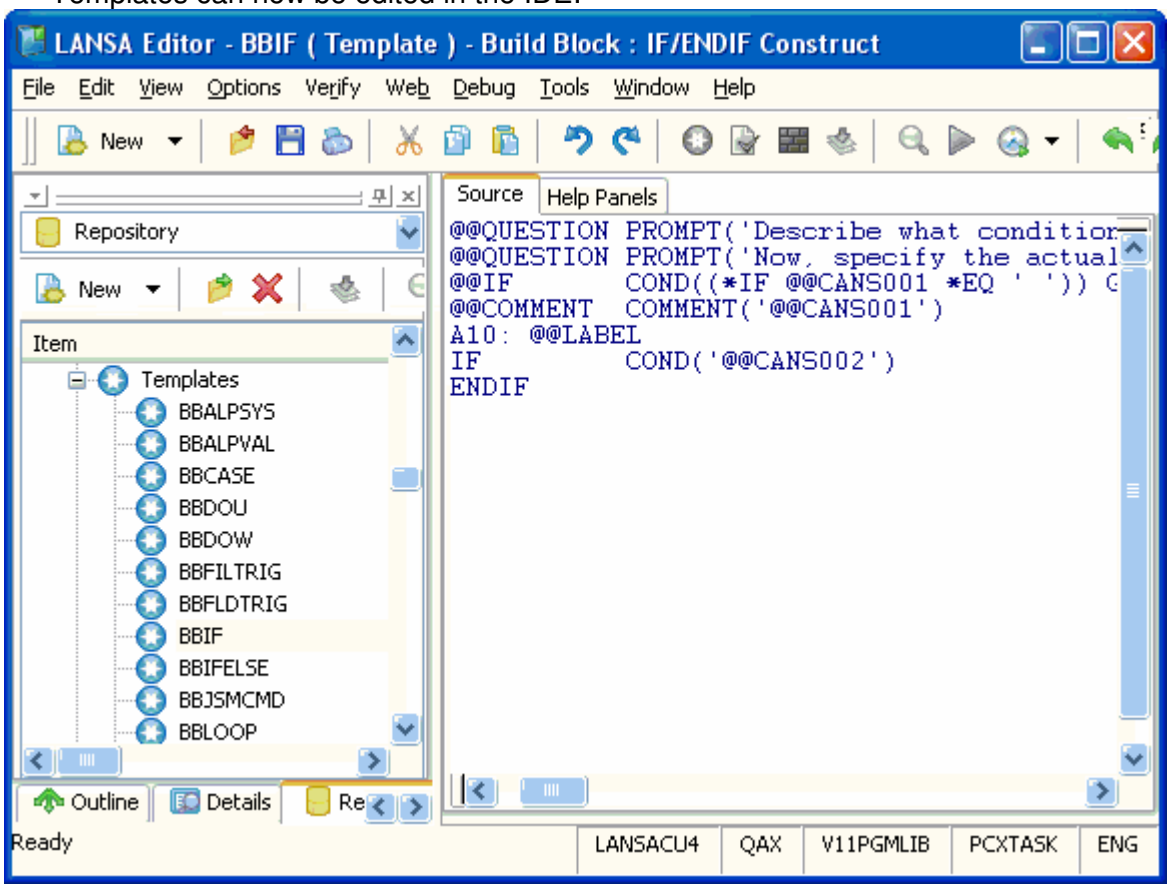
For faster loading of Web Designs, you have the option in the XSL Settings dialog not to save sample data for lists and fields in the XML document:



Support for Internet Explorer V7.0
The LANSA Editor supports Internet Explorer V7.0.

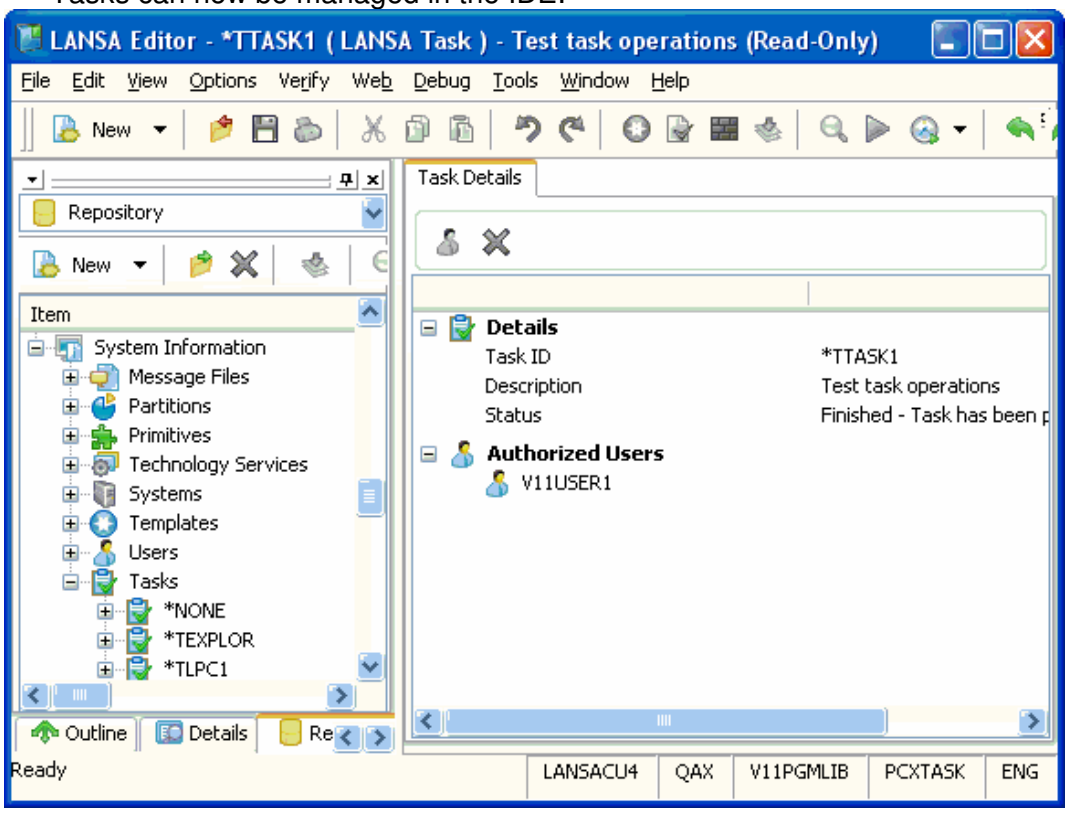
- **Templates, Tasks, Security and System Information**
  Templates, tasks, security settings and system information can now be maintained in the IDE.

  Templates
  Templates can now be edited in the IDE:



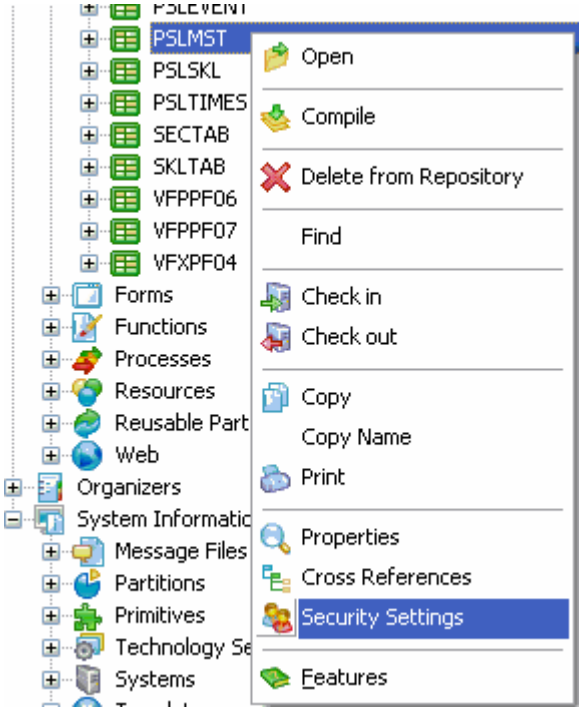
Tasks

Tasks can now be managed in the IDE:

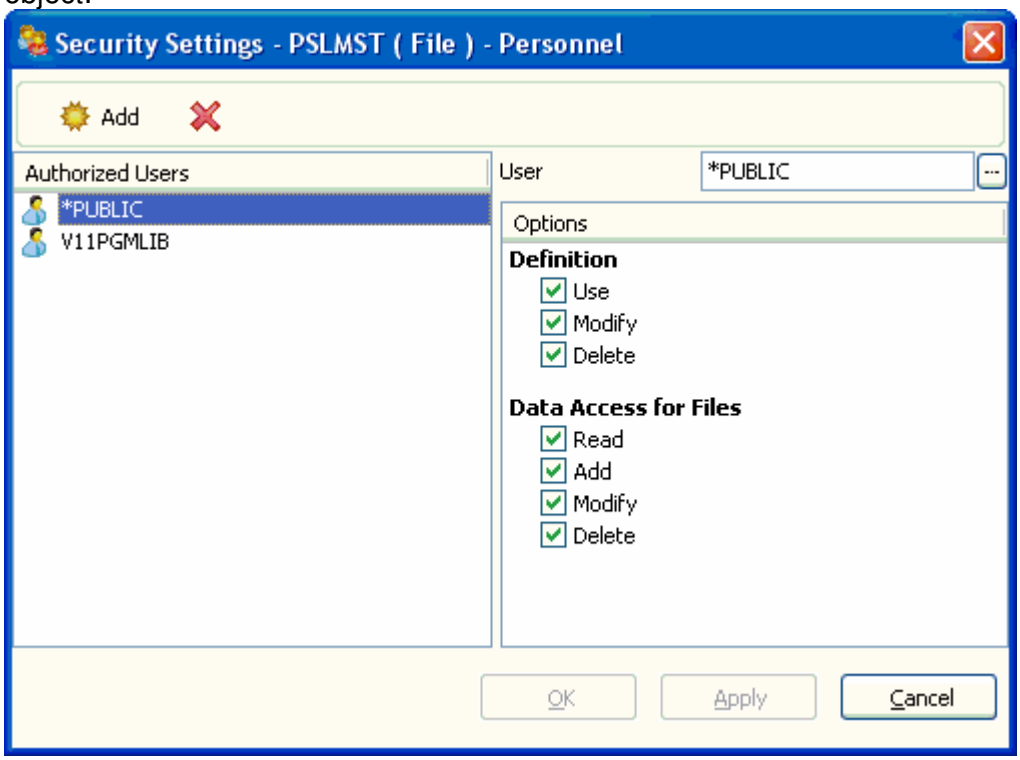


Security Settings (previously Object maintenance)

To manage the security settings of an object right-click and choose Security Settings in the context menu:

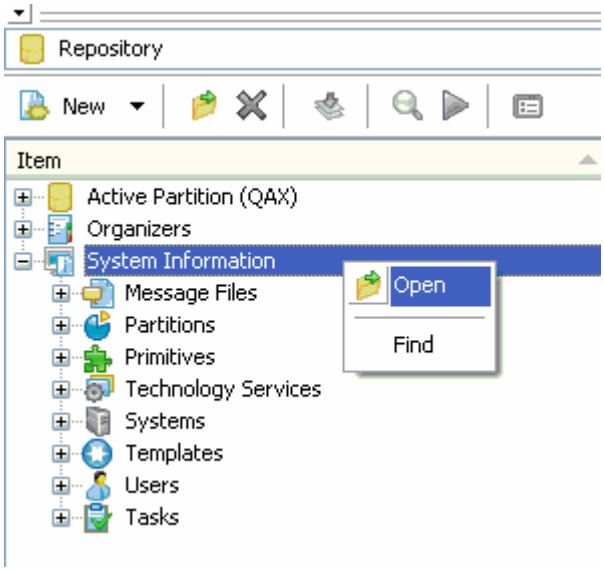


In the Security Settings dialog you can review and edit the security details of the object:

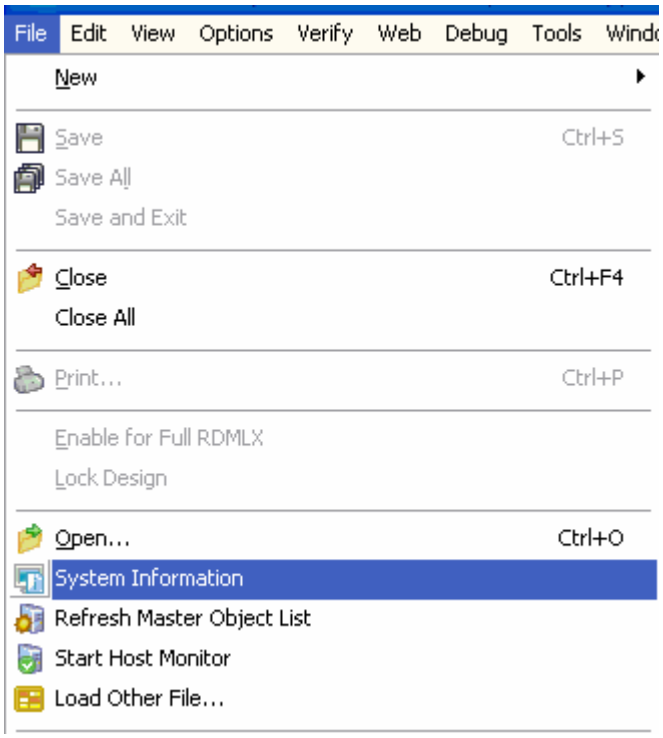


System Information

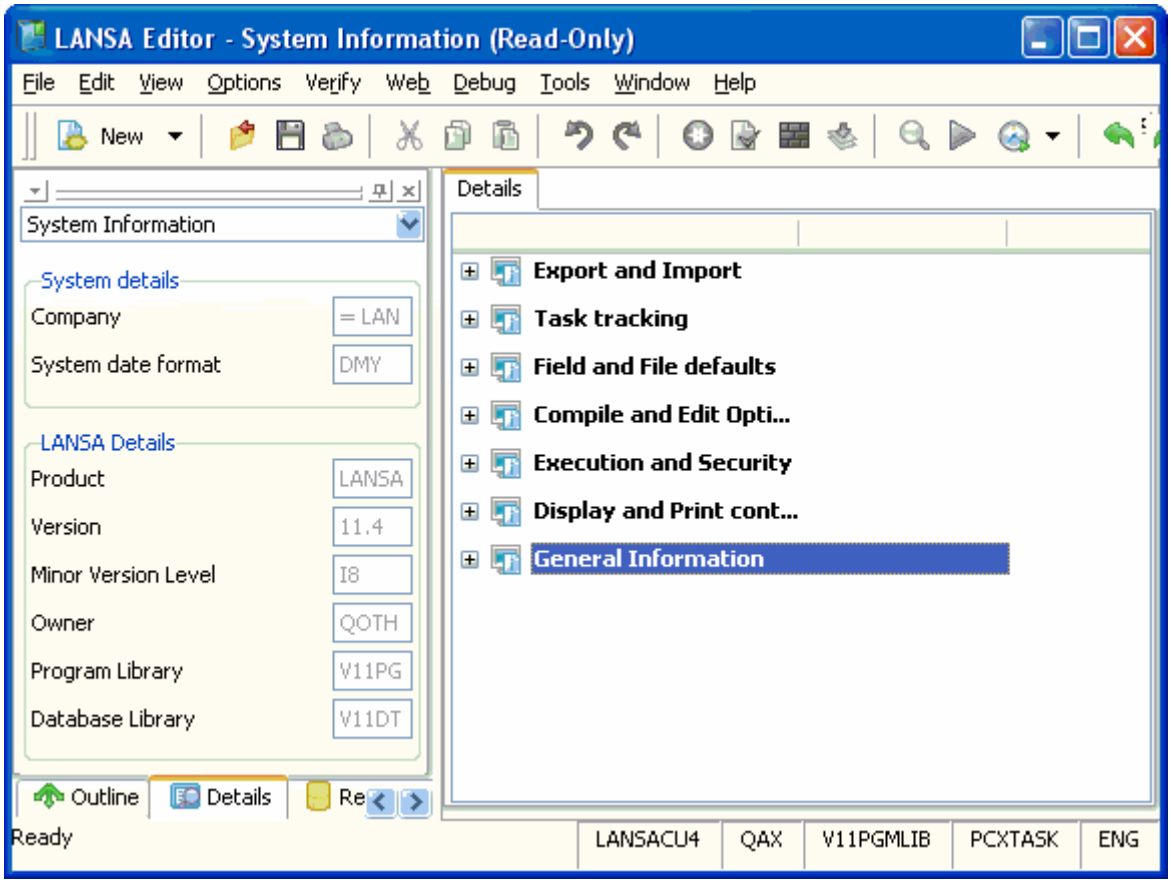
To work with system information in the IDE either select the System Information node in the Repository tab and right-click and choose Open from the Context menu:



Or select the System Information option in the File menu of the editor:



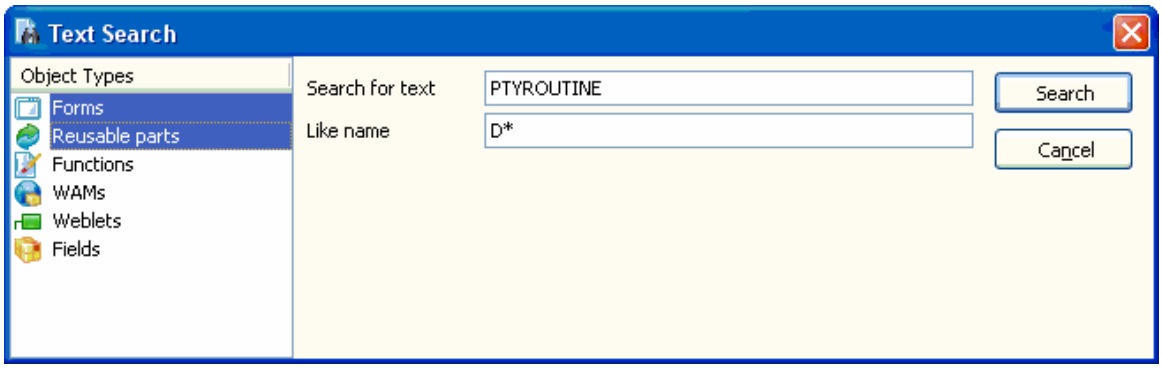
Depending on the type of system you are working with, you can either manage or simply view the system information:



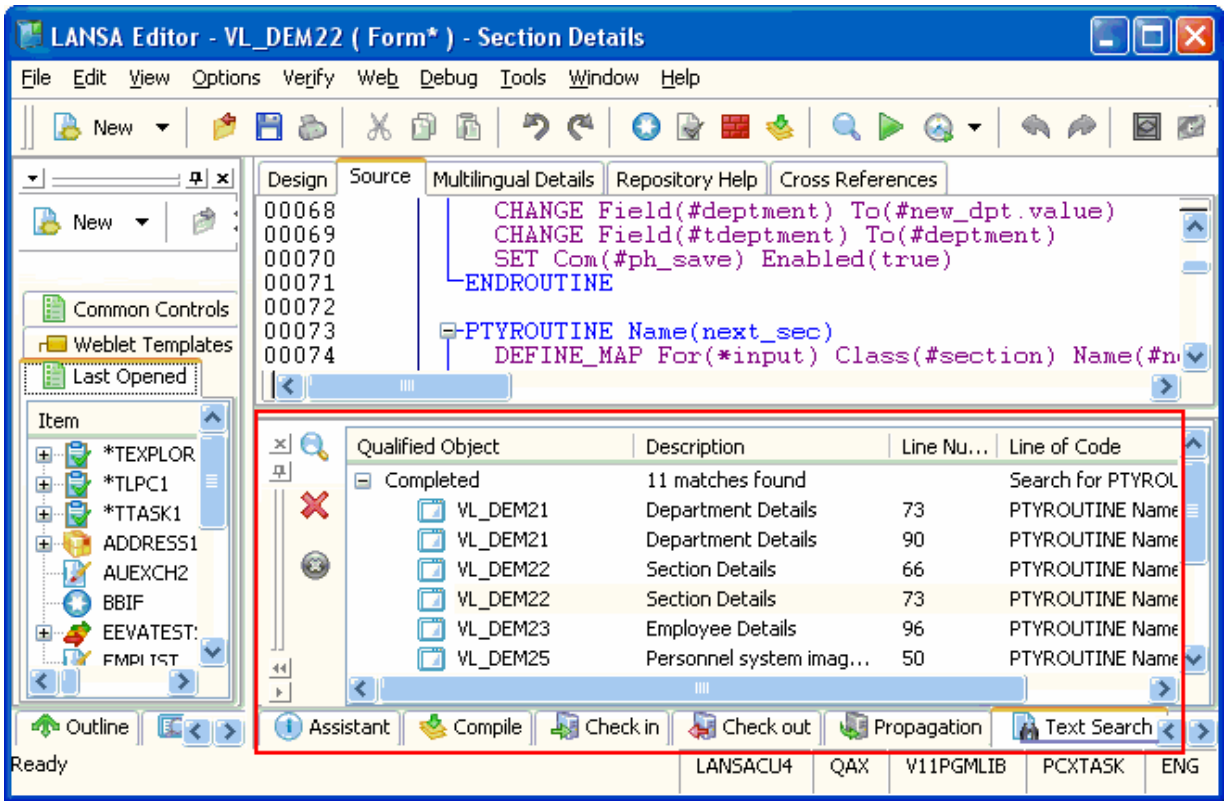
Background Source Code Text Search

The Text Search facility allows you to search all the LANSA Source code in the Repository. To start the search, click on the Text Search button on the toolbar:

In the Text Search dialog, specify the type of objects you want to include in the search, plus optionally a partial name for the objects and the text you want to search in the source code:



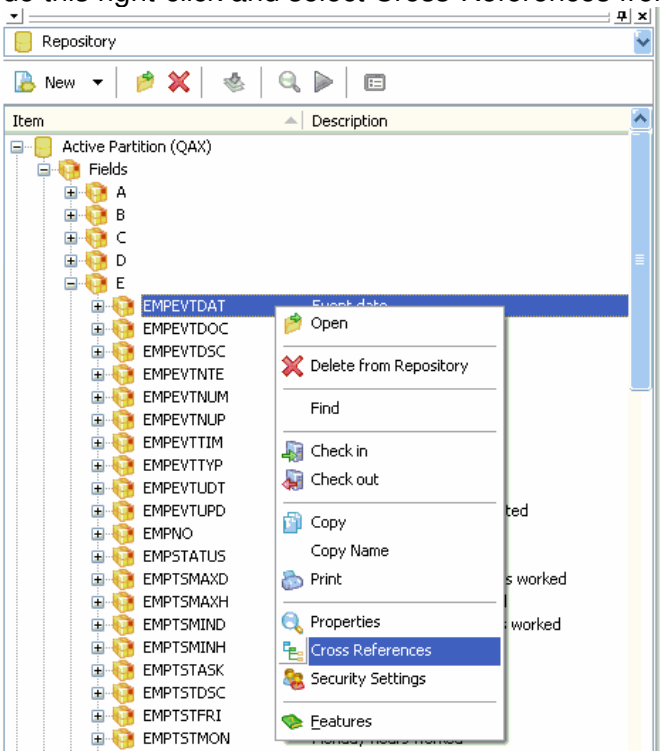
The results are displayed in the Text Search tab. (This tab, if using the default settings, is at the bottom of the right pane.) Click on an item in the list to have its source code displayed in the Source tab:



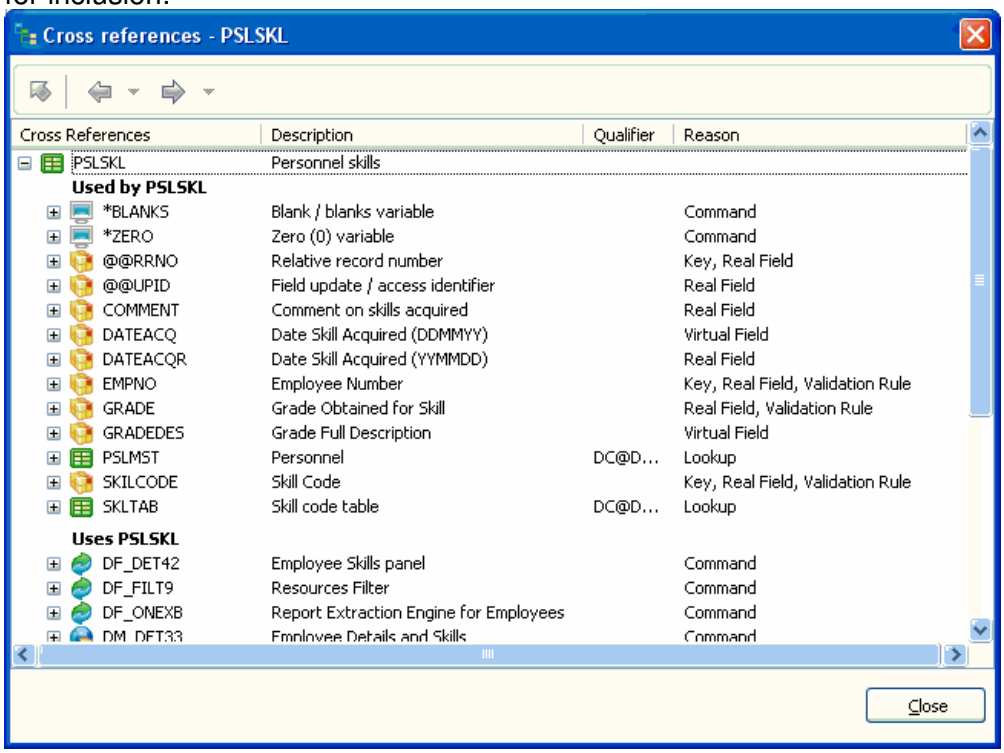
Impacts and Dependencies

Object Cross-References

You can display cross-reference information for an object in the Repository tab. To do this right-click and select Cross-References from the pop-up menu:

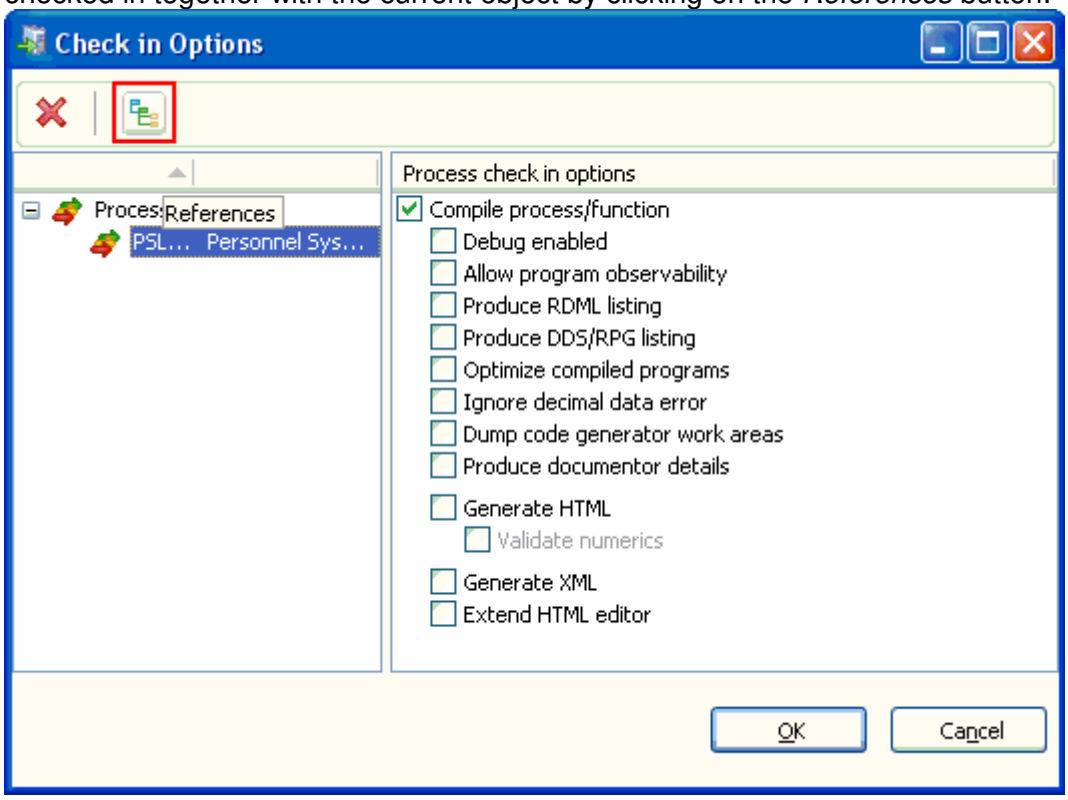


The information shown includes two-way dependencies (that is, what are the objects that this object uses and what are the objects that use this object, and the reasons for inclusion:

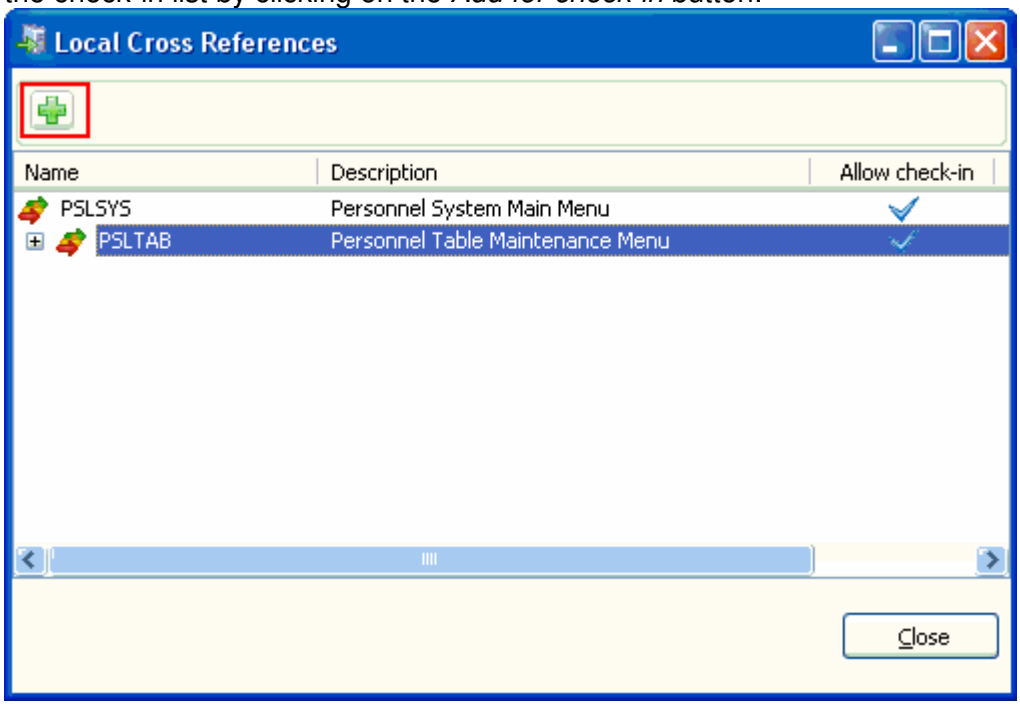


Check-in Dependencies

When checking in objects, you can now select dependent Repository objects to be checked in together with the current object by clicking on the *References* button:



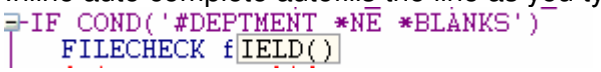
The Local Cross References dialog shows you related objects. You can add them to the check-in list by clicking on the *Add for check-in* button:



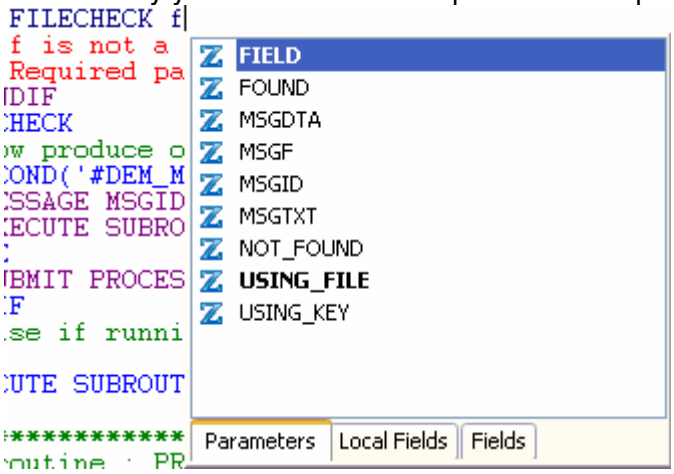
Auto-complete Improvements

You can now choose whether you want auto complete to work inline or in a prompter.

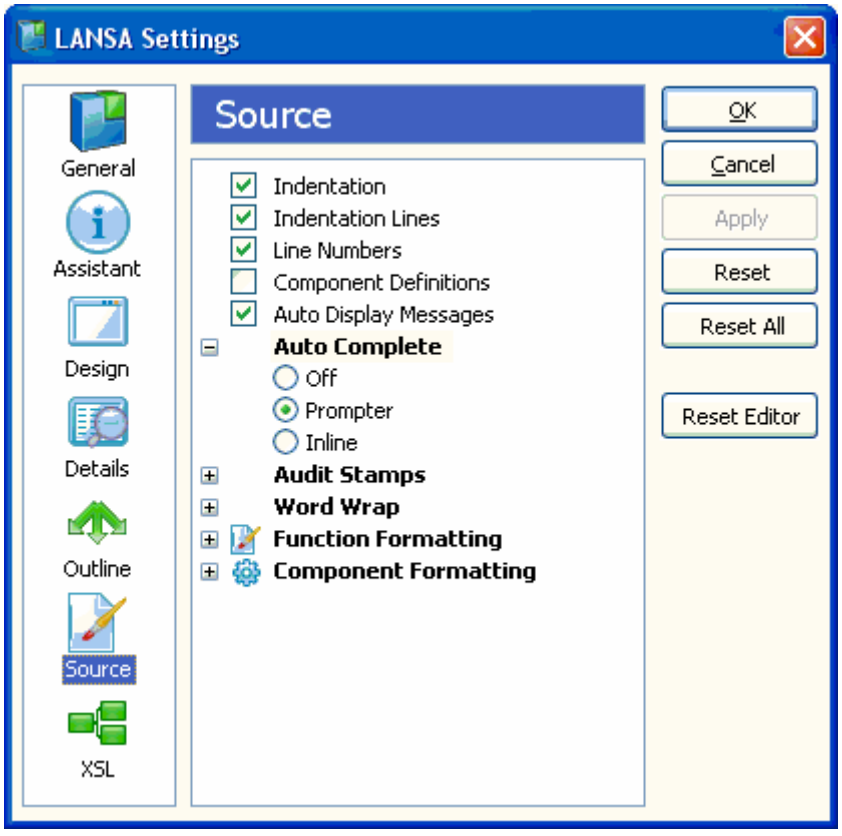
Inline auto complete autofills the line as you type:



Alternatively you can set auto complete to be displayed in a prompter:

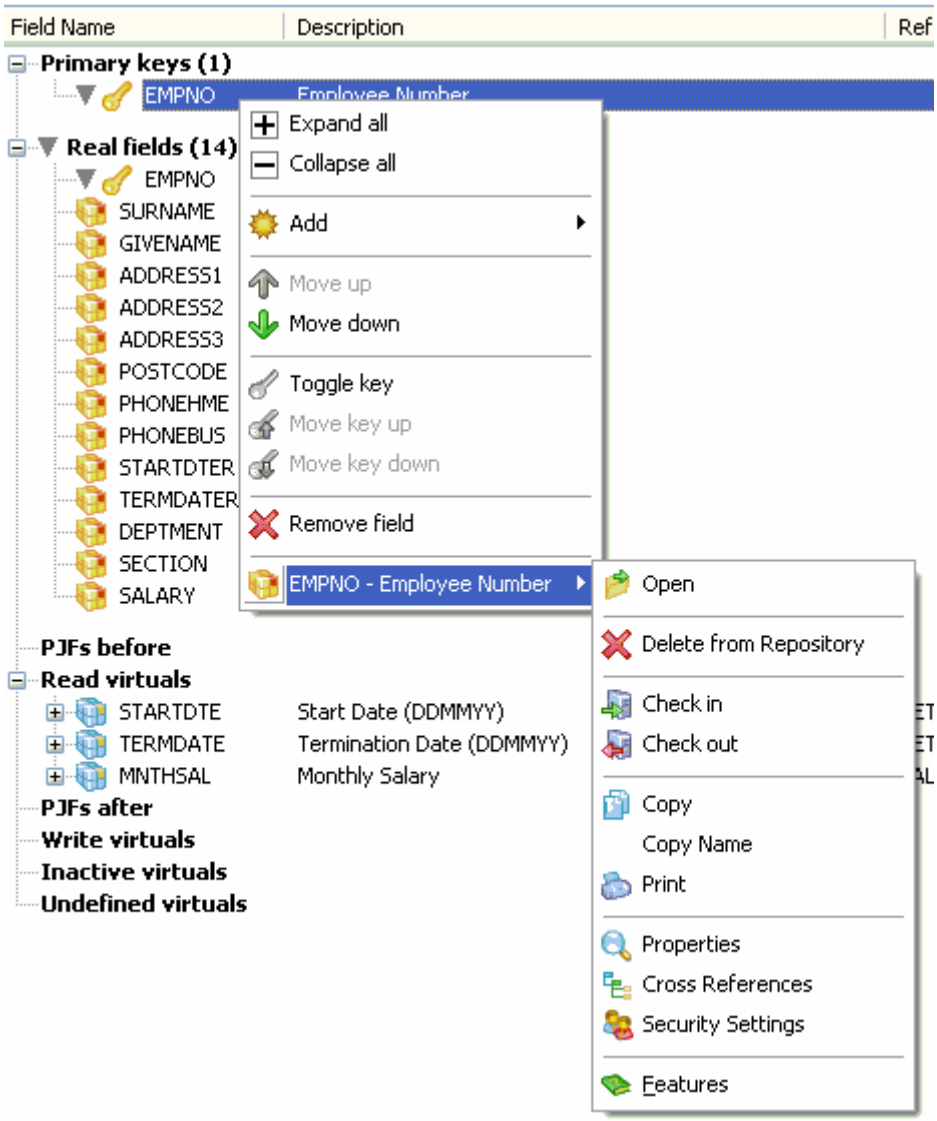


You specify the auto-complete option in the LANSA Settings dialog:



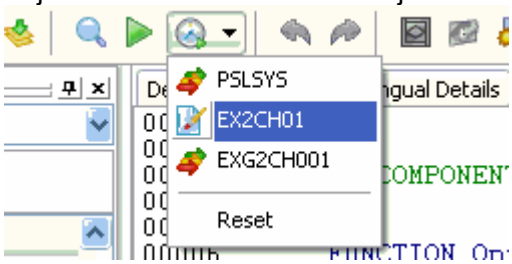
Improved Navigation via Context Menus

Context menus are now available in all parts of the IDE to make navigation quicker and easier.



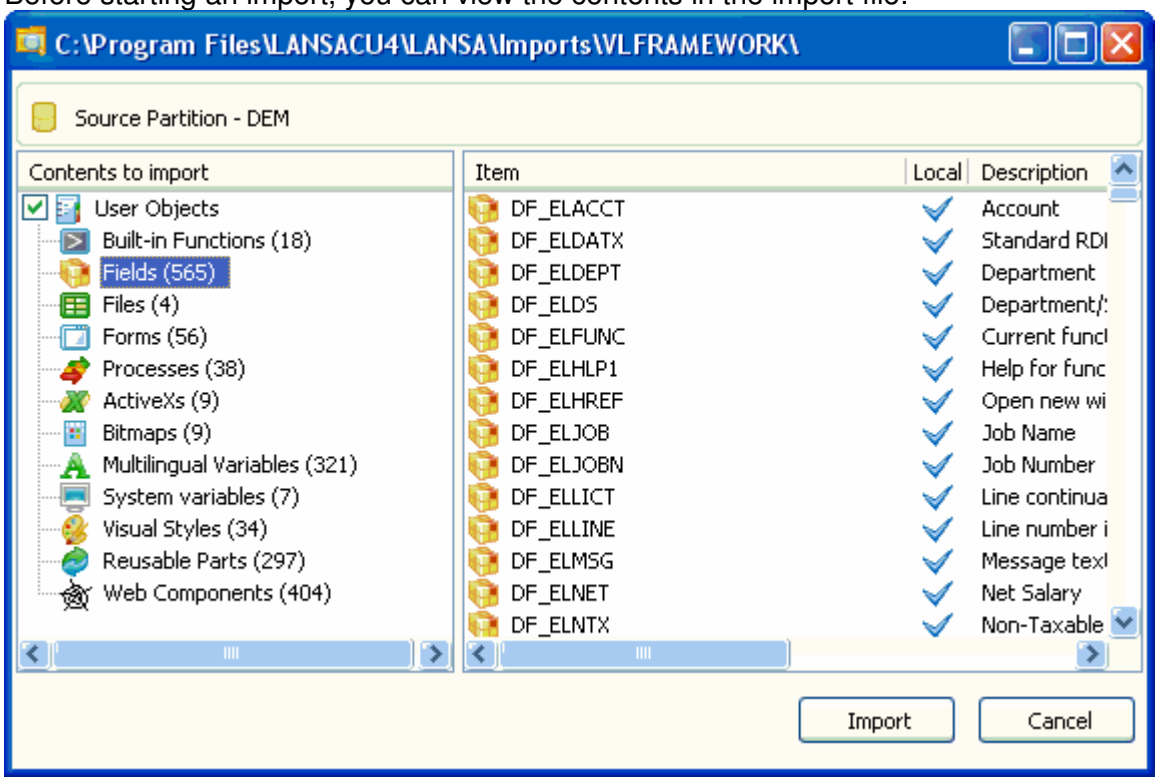
Execution History

The Execution History drop-down on the tool bar shows a list of recently executed objects. Double-click on an object to run it again:



Import Viewer to List Object Contained in an Import

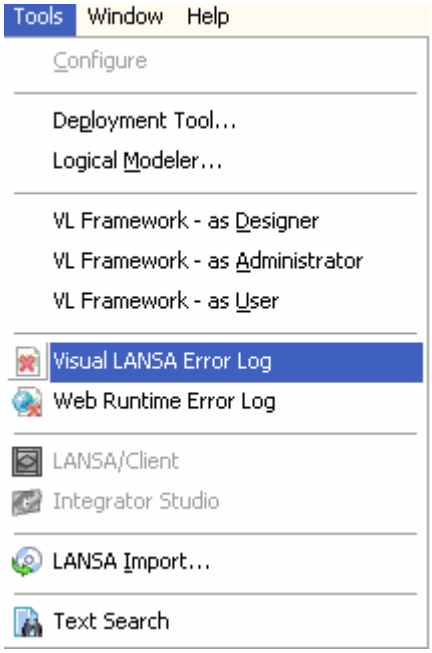
Before starting an import, you can view the contents in the import file:



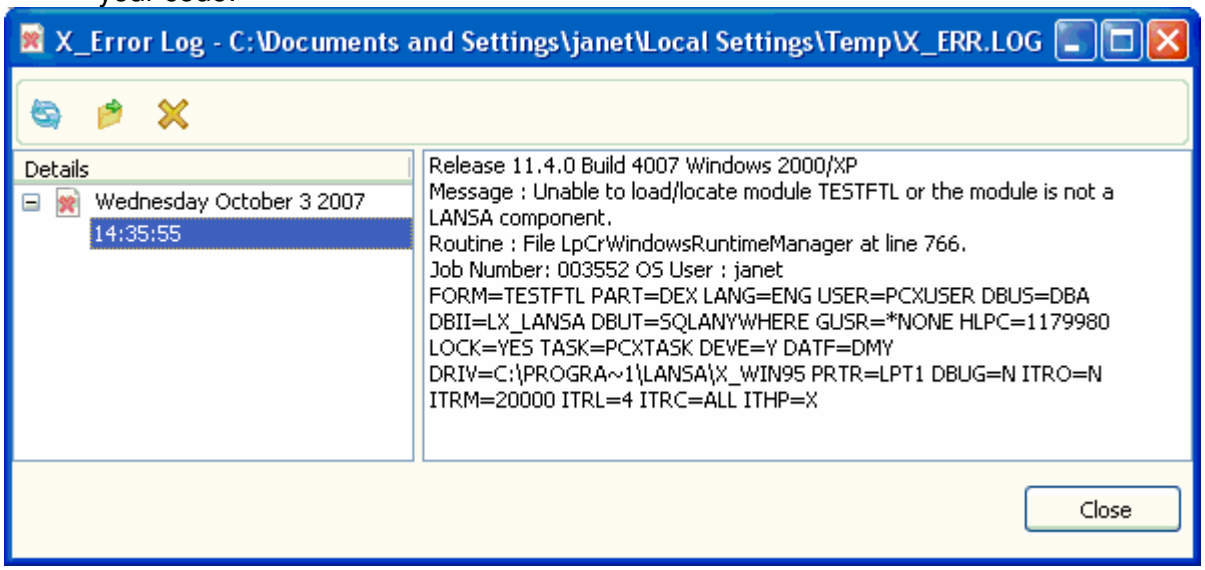
To view the contents of an import file, select LANSA Import… from the Tools menu, select a LXXDIR.DEL file and click the Open button.

Error Logs Accessible from the Editor

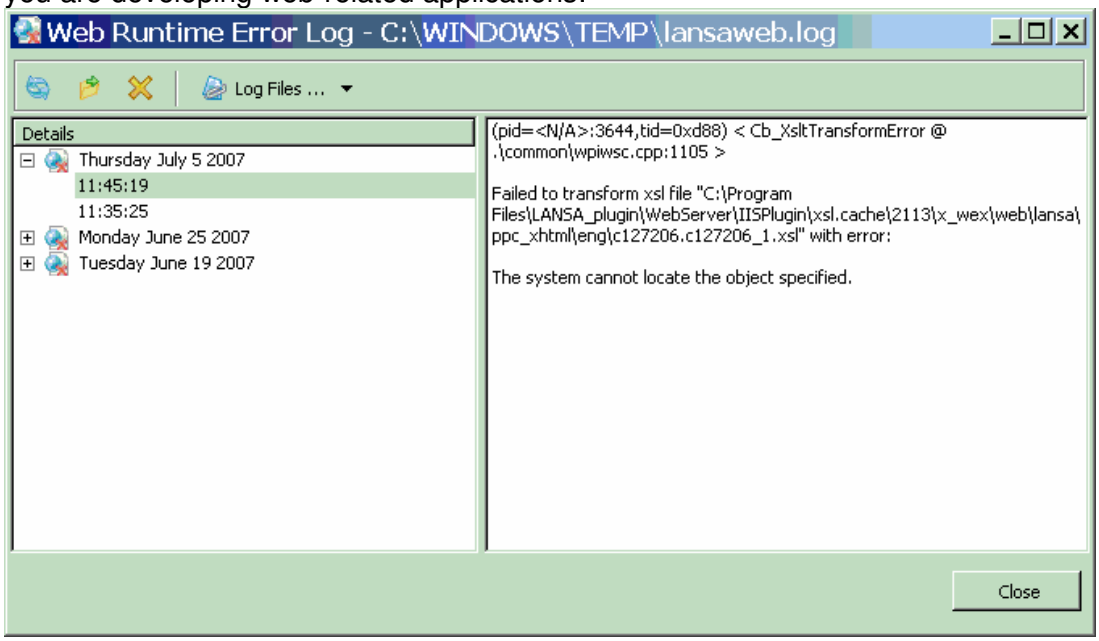
The Visual LANSA error log and the Web runtime error log are now accessible from the Tools menu:



The Visual LANSA error log displays the X_Error Log file showing the fatal errors in your code:



The Web Runtime Error Log Viewer helps you locate fatal errors in your code when you are developing web-related applications:

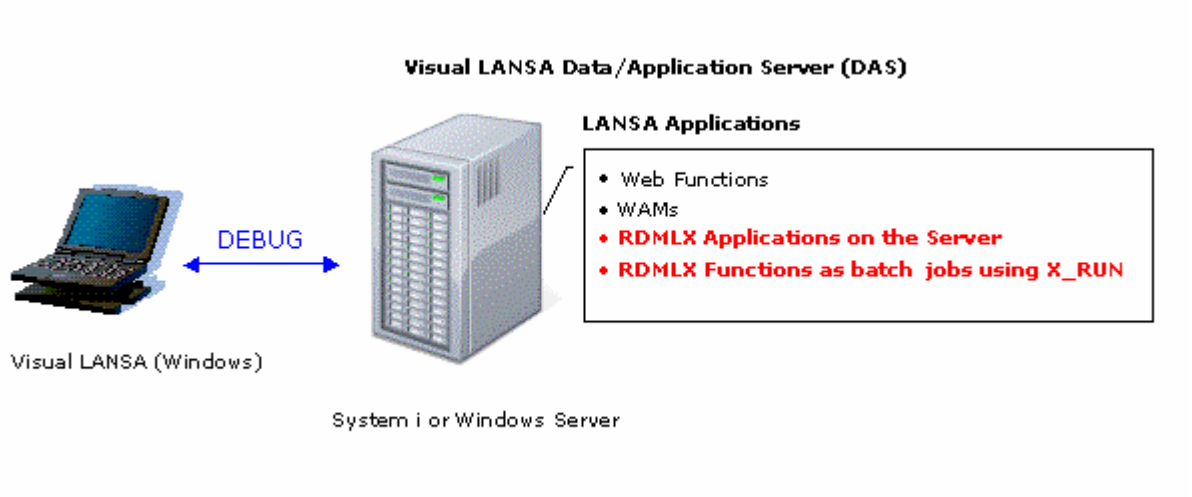


3. Remote Interactive Debugging

The Visual LANSA IDE can now be used to debug RDMLX SuperServer applications and DBCS language WAMs and RDMLX applications on System i servers.

You can now use Visual LANSA to interactively debug RDMLX applications on the server as well as any functions executed using X_RUN, such as batch RDMLX functions.
Also, Visual LANSA now supports the debugging of DBCS language WAMs and RDMLX applications on System i servers.

Remote Interactive debugging allows LANSA applications to be debugged at source code level. Developers can single step through commands, set breakpoints at individual commands, and examine and change field values whenever execution is paused.



In remote debugging mode, the LANSA application being developed is running on a data/application server which is different from the computer where the Visual LANSA IDE is running.

If the LANSA application under development is running on non-Windows platforms, this is the only interactive mode applicable.

4. Deployment

A number of enhancements have been made to the deployment of LANSA applications.

- **Silent Installation**
  Silent installation and upgrade of LANSA is now supported on System i. This empowers application developers to create a one-step delivery mechanism for their own LANSA-written applications that includes the installation or upgrade of LANSA itself.
  An end-user who installs the application does not need any knowledge or awareness that LANSA is part of the application installation because all installation parameters can be pre-configured.

  Silent installation or upgrade is available on System i servers for:
  LANSA for iSeries
  LANSA for the Web
  LANSA Integrator

- **Centralized Installation**
  LANSA for iSeries can now be installed from a centralized location such as image catalogue or network drive.

- **Performance Improvements**
  The speed of LANSA Import in the Visual LANSA environment and the speed of reloading data into a deployed file have been improved.

- **Deployment Tool Enhancements**
  The Deployment Tool User Guide and online Help have been redeveloped and now include planning, scenarios and concepts.
  Furthermore, the Deployment Tool interface has been made clearer and easier to use and the templates have been updated and simplified.

  In addition:
  EPC management has been improved during package installation to enable accurate client / server compatibility checking.
  An installed package can now create more than one shortcut on the target PCs desktop
  Packages can be disassociated from the underlying template
  Tasks which are not Closed can be included in a deployment package.
  Easier object selection: for example unknown objects can be dropped from package and the alphanumeric grouping of objects is now optional.

- **Deployment Check Lists for Visual LANSA Framework**
  Detailed step-by-step instructions are provided for the deployment of the Visual LANSA Framework and RAMP applications on Windows or Web.

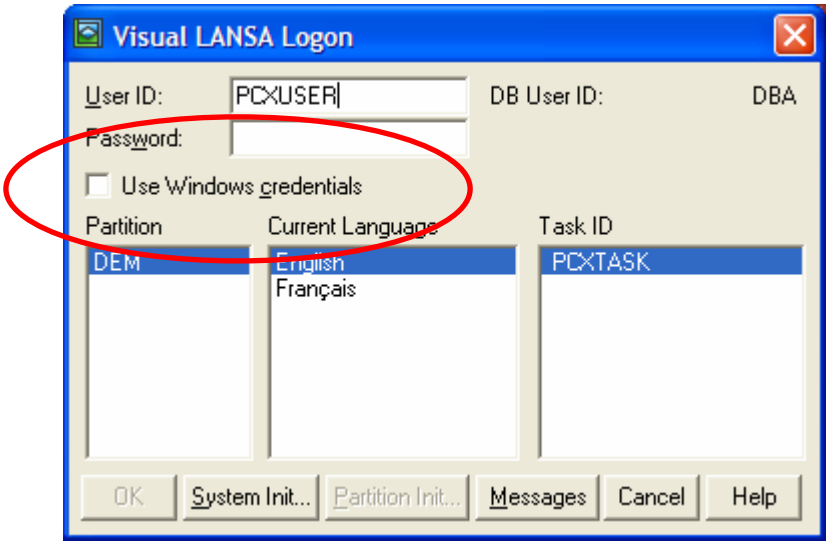
  In addition, new Deployment Tool templates are available to support the Visual LANSA Framework application deployment.

5. Security

Single sign on using Kerberos is now available. Long passwords are supported in LANSA for the Web profile switching.

Single Signon

Prior to the introduction of a Single Sign-On (SSO), LANSA users had to supply a user name and password when connecting to each Windows and System i system. Single Sign-On gives users access to multiple computer systems within an organization after signing on only once.
Whether to use the Single Sign-On option is specified by selecting the Use Windows credentials option on the Visual LANSA Logon dialog, or the System Initialization dialog.



The concept of Single Sign-On is to allow a user who is logged onto Windows to have their Windows credentials silently authenticated when they wish to use i5/OS machines. The two key technologies that underpin the SSO mechanism are the Kerberos Network Authentication Protocol and the IBM iSeries Enterprise Identity Mapping (EIM) mechanism. These technologies must be understood and in use before using Single Sign-On with LANSA.
The necessary configuration must be completed and fully tested before LANSA's SSO can be used.

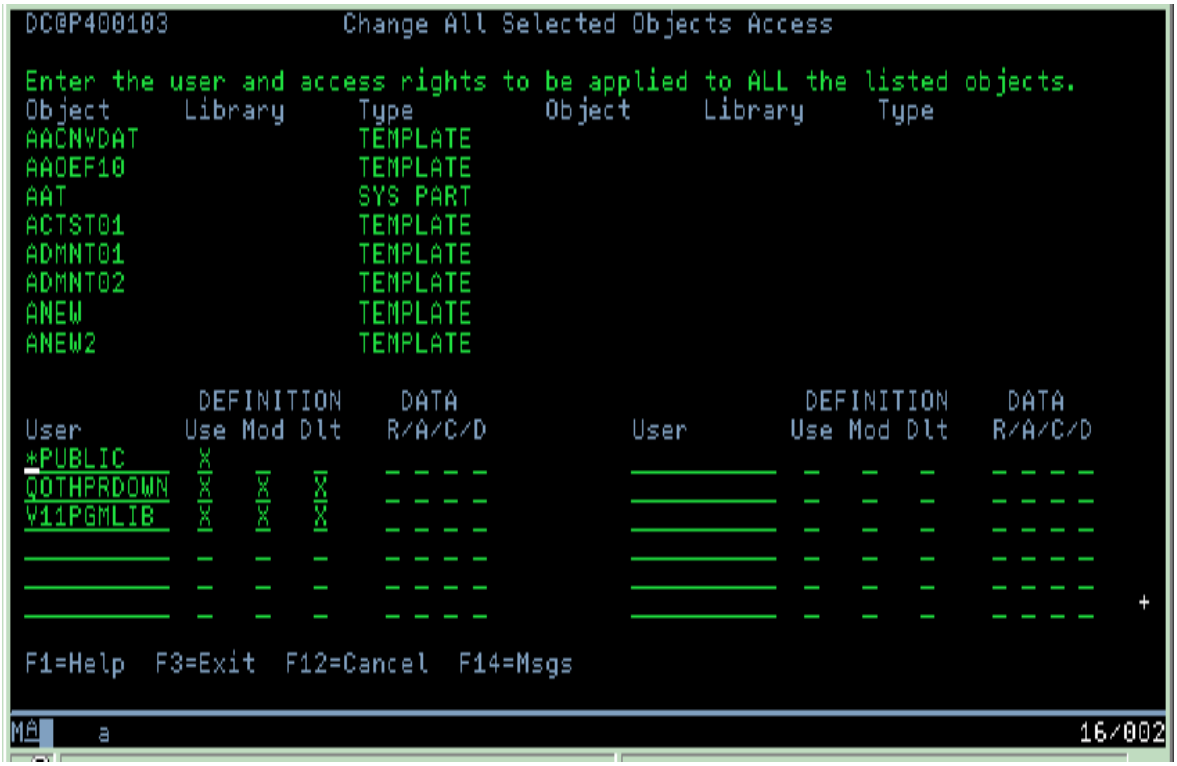
Long Passwords

Long passwords are now supported for LANSA for the Web profile switching. Until now, the Web Administrator User Registration only supported the mapping to a user profile with a password of length 10 characters.
For System i, if the Password Level system value is at level 2 or 3, a password length of up to 128 characters is supported.
For Windows, passwords up to 256 characters are supported.

6. iSeries Enhancements

Usability, performance and security improvements have been made to LANSA for iSeries.

- **Bulk Change of Object Authority on LANSA Objects**
  You can now change the authority to a group of LANSA objects in one go:



- **System i Export Improvements**

  The LANSA Export process in a System i environment has been enhanced:

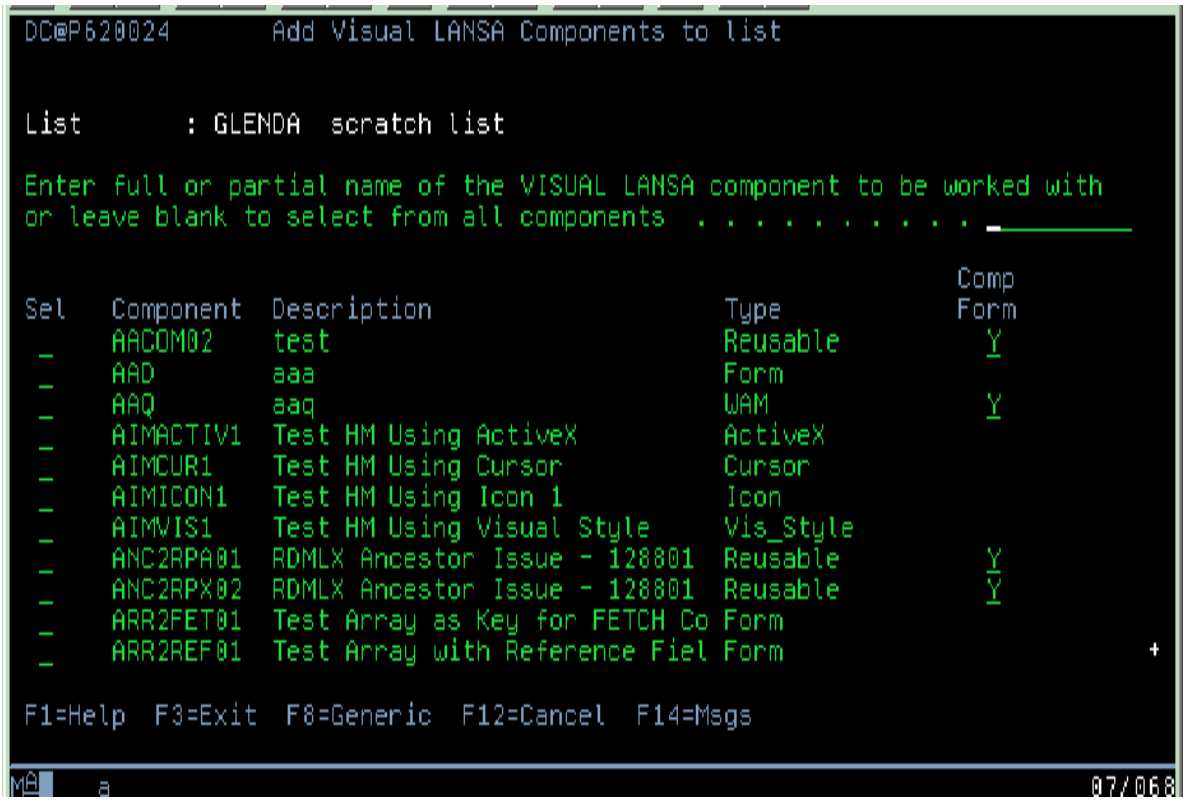
  A listing of the contents of an export can now be produced. This can be used to document the objects being installed.

  The limit on the number of processes or weblets included in an export has been increased from 999 to 32767.

  RDMLX built-in functions are supported.

  Batch export to PCs is supported.

  The export interface has been modified to display functions and Visual LANSA components as separate object types.



- Authority Checking on Direct Actions
  Security checking has been added to selected LANSA direct actions.

  To access these direct LANSA actions, the user must now have access to the equivalent LANSA menu option. This is to stop “back door” access to options such as import and export.

  <u>The actions affected are:</u>
  - LANSA EXPORT
  - LANSA IMPORT
  - LANSA PCEXPORT
  - LANSA REORG
  - LANSA FIELDS DEVELOPER(A)
  - LANSA FILES DEVELOPER(A)
  - LANSA PROCESSES DEVELOPER(A)

- **Partitions Can Be Deleted Using Housekeeping Menu**
  You can now delete a partition using the Partition Maintenance option of the Housekeeping menu. This is possible even if the partition contains data.

  The deletion submits a batch job to perform the removal of partition level data from the LANSA internal database tables. However, it will not remove LANSA objects from the partition module and file libraries.

  It is recommended that you run a reorganization of the LANSA Internal Database after a partition has been deleted.

- **Task History Can Be Filtered by Object Type**
  Within Work with Tasks, the list of objects in the Review of task History can be filtered by object type.

- **Performance Improvements System i Installation and Upgrade**
  Installing and upgrading to LANSA Version 11.4 is significantly faster than in the previous version.

7. Framework and RAMP

A number of enhancements have been added to Visual LANSA Framework and RAMP.

The new features in the Visual LANSA Framework and RAMP covered in this document have been delivered in EPC826. (Note that there have been three other Framework EPCs since Version 11.3: EPC785, EPC793 and EPC804.)

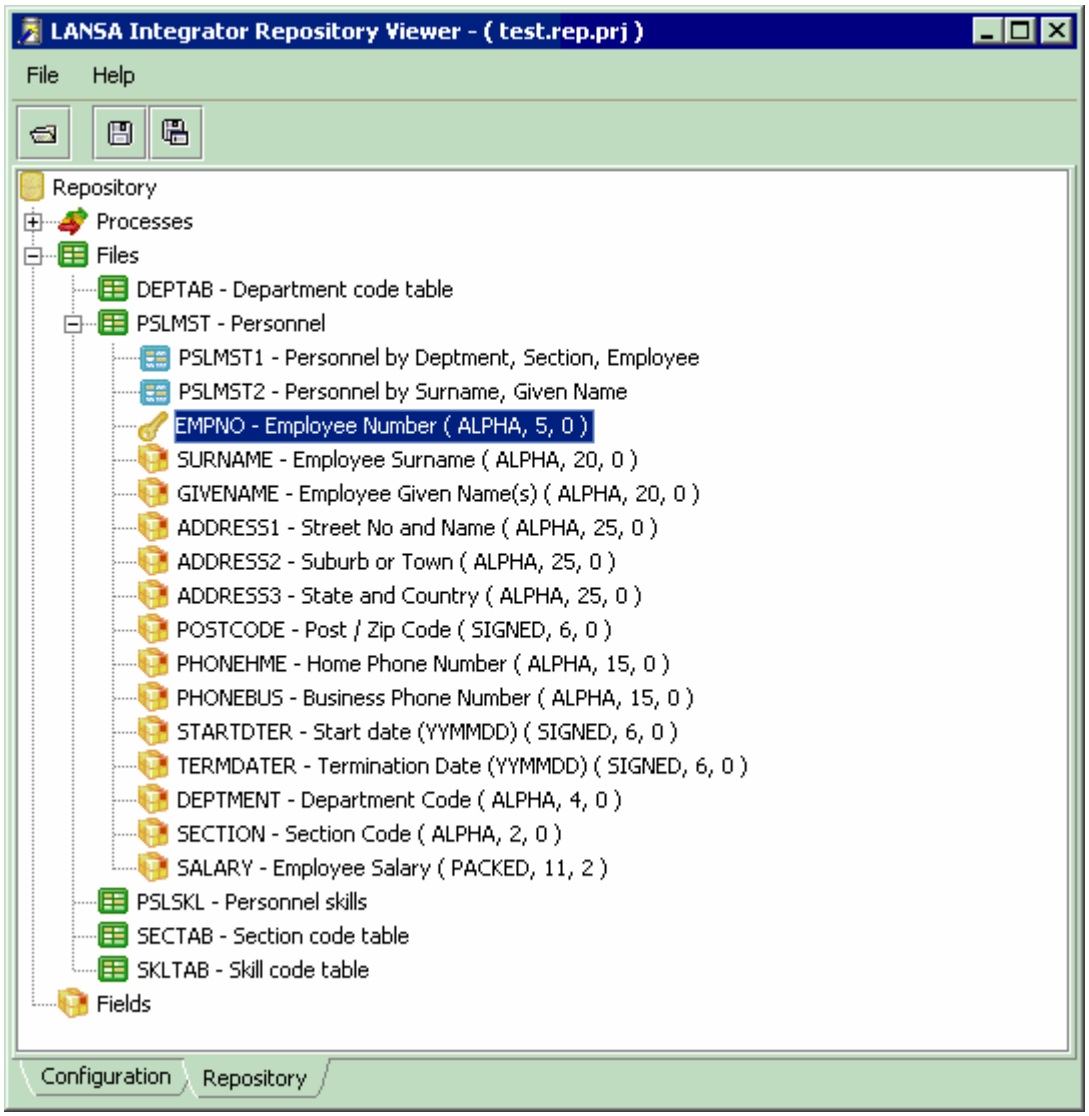
See December 2007 Newsletter for all details!

8. LANSA Integrator

New features have been added to the LANSA Integrator interface and the XML and SOAP wizards and services. Performance has also been improved.

- **Usability**

  A variety of usability and functional improvements have been made to the Integrator user-interface, including a new Repository Viewer for viewing the contents of the LANSA Repository:



  A variety of usability and functional enhancements have also been made to XML and SOAP wizards and services.

- **Performance**
  Performance improvements include a new JSM pool server for distributing JSM workload across multiple JSM instances on the same machine or across multiple machines.

- **Enhanced and New Services**
  The PDF document service has been enhanced.

  A new JavaScript Object Notation (JSON) Wizard and an accompanying HTTPInboundJSONService for sending JSON (Javascript object notation) messages has been included. JSON is or can be used as an alternative to XML and other formats in some applications.

  Other new services are:
  OpenLDAPService
  XMLBindQueueService
  HTTPInboundXMLBindService
  HTTPInboundQueryService
  SMTPMailAttachmentSignatureService

9. Unicode Support

LANSA Other Files now support the loading of RDMLX files with Unicode fields.

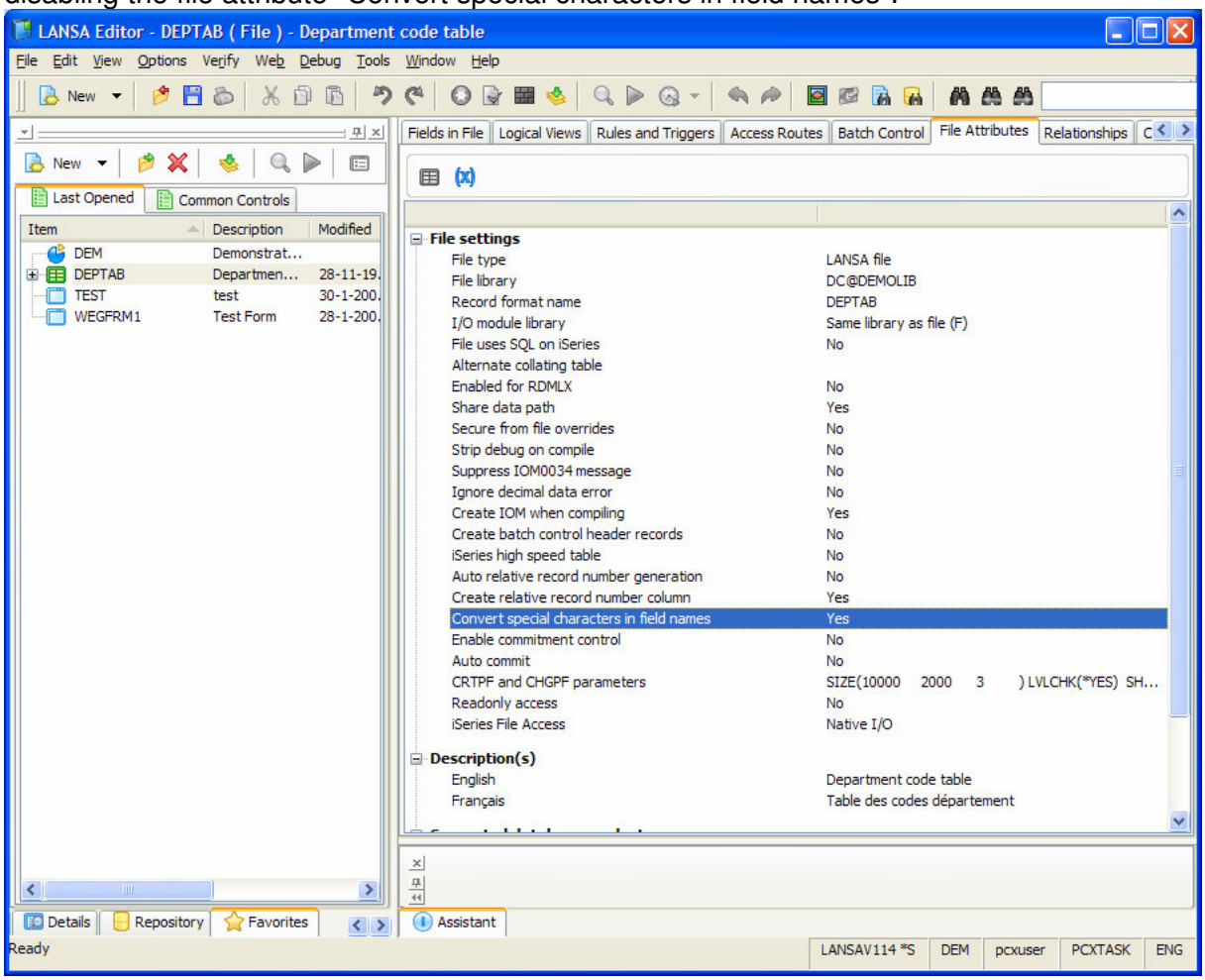
Unicode is now supported in LANSA at the database level.
RDMLX files with Unicode fields can be loaded using LANSA Other Files. The data will be converted from Unicode to the current code page when reading from the file and converted from the current code page to Unicode when writing to the file.

10. Many Other Enhancements

Many other enhancements have been made to make LANSA programming easier.

- **System i Compatibility**
  The POINT command and OPEN USE_OPTION(OPNQRYF) can now be used in RDMLX code on System i servers for compatibility with existing RDML code.

- **Column Names that Are Identical to Field Names Can Now Be Used on Platforms Other than System i**
  Prior to this change, fields containing @, #, or $, or resolving to an SQL keyword would be converted to another name when tables were created.
  Now, existing files that fail to compile in the IDE with fatal error 979 can be built by disabling the file attribute "Convert special characters in field names".



New files will automatically have the flag disabled so they will be created with column names that are identical to field names.
Functions and components that previously failed to build with PRC1066 will now build correctly.

- **Inline Comments in RDML Commands**
  It is now possible to check out and check in RDML code that has comments on the same line as command lines.
  Single multi-line comments are now preserved during check in and check out. Previously, these were split up into multiple single line comments.

  Also, in Visual LANSA, comments in RDML functions can now exceed 55 bytes.

- **Built-in Function LIST_PRINTERS**
  A new Built In Function LIST_PRINTERS has been added to allow retrieval of a list of printers currently configured. Additionally, WPxx X_RUN parameters can now be used to enable setting printer preferences (layout etc).