Dockable Panel control
Token control
Clickable switch control
UUID
3D Pyramid chart
Webification of applications
Integrated Business Rule picto
OAuth + OpenID
SCM : silent check-out
Native JSON
Asymmetric encryption
HFSQLDrive
Organizer control on mobile
Printing from Android
Web Pane control
Deployment without FTP
Dynamic site updating
300+ WLanguage functions for
Windows, iOS, Android, Web, Java, PHP...
Version 24 offers an incredible amount of new, instantly useful features. New controls, new WLanguage functions, new cross-platform improvements... Your teams will be even more efficient!

Version 24 brings your teams 924 immediately useful new features. Build on your existing experience while taking advantage of new technologies: this is the benefit provided by version 24.

Operating modes are further simplified, the new functionalities meet your current needs.

WINDEV 24, WEBDEV 24 and WINDEV Mobile 24 are your work tools. The main objective of our teams is your satisfaction and success, on all environments and hardware platforms.

Version 24 will quickly become your favorite version!

NEW CONTROLS IN VERSION 24

NEW CONTROL #1

Dockable Panels allow creating sophisticated interfaces with ease. End users will be amazed by the customization possibilities available to them. And for your teams: no code required!

Benefit provided by this new feature of version 24: A incredibly powerful, yet easy-to-implement control.

The new Dockable Panel control in WINDEV 24 will help you save lots of time. You can organize the interface of your application into zones that the user can freely move around.
DOCKABLE PANEL CONTROL: HOW DOES IT WORK?

Dockable Panels (DoPa) can be moved around by the end user of your application. A DoPa can be docked on the left, on the right, at the top or at the bottom. Magnetism between panels is supported. A panel can be dragged out of a window, for example, to work on a second screen. Several DoPas can be grouped vertically. Several DoPas can be grouped in one single area, and be displayed like tabs. A popup menu allows (among other options) re-displaying deleted DoPas. If necessary, different layouts can be defined in a DoPa, which allows using it vertically and horizontally.

Benefit provided by this new feature of version 24: Organizational freedom for the end user

DOCKABLE PANEL CONTROL: CREATION

Dockable Panels (DoPas) are easy to define in the editor. It can be a set of controls, or an internal window. To create a Dockable Panel, you have two choices:

• you can create a DoPa and fill it with controls,
• or you can select a set of controls, and declare it is a DoPa via a simple right click (refactoring)

A WINDEV window can contain as many DoPas as desired.

Benefit provided by this new feature of version 24: It is extremely easy to create a Dockable Panel

DOCKABLE PANEL CONTROL: PROGRAMMING

By default, no programming is needed to take advantage of DoPa's powerful functionalities. But if you want, all the functionalities aimed at the end user are available through programming. Anything the end user can do is something you can program! For example, docking and undocking by programming (WLanguage functions of the Panel family), make visible or invisible (.Visible property), change the title or the icon (.Title or .Icon properties), etc.

It is even possible to create an entire DoPa dynamically (PanelCreate function).

Benefit provided by this new feature of version 24: It doesn't get easier and more powerful than that!

DOCKABLE PANEL CONTROL: USE EXAMPLES

There are hundreds of examples on how to use DoPas! Imagine: a message area, a notification area, a list to be permanently displayed, an order history, a real-time sales graph, stock market prices,... The end user can freely organize the main window of your application or process. Easy and effective.

Benefit provided by this new feature of version 24: We all need Dockable Panels

DOCKABLE PANEL CONTROL: KEY TECHNICAL INFORMATION

• Dockable Panels (DoPas) work in MDI and non-MDI.
• Dockable Panels can be undocked, either on the same screen or on a second one.
• They can be docked on the left, on the right, at the top or at the bottom.
• They can be resized just like a splitter (anchoring is used in MDI and non-MDI).
• Magnetism is managed.
• You can insert all types of controls in a Dockable Panel. They can be positioned anywhere.
• It is possible to use an Internal Window in a Dockable Panel. In this case, the layouts of the Internal Window are used when resizing the Dockable Panel.
• 2 or more Dockable Panels can be docked on the same side.
• Vertical Dockable Panels can be placed side by side, horizontal panels can be one above the other.
• Dockable Panels can be overlapped: in that case, tabs are created.
• Even when Dockable Panels are floating, they can be docked together: this creates a tabbed window.
• The configuration of the Panels can be saved, restored.

Benefit provided by this new feature of version 24: Functionalities that are attachable... and detachable
**Benefit provided by this new feature of version 24:**

The Token control is based on the Edit control. The token control can be used for input, or only for display. When input is enabled, it is possible to define an input mask: email, numeric... Assisted input is available. It can be a single-line or multiline control (most common case).

**Example of direct input in a Token control**

Benefit provided by this new feature of version 24:
Direct input available

**Example of clickable switch controls in both possible positions**

Benefit provided by this new feature of version 24:
A very popular and user-friendly control!

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Direct input available

**Example of clickable switch controls in both possible positions**

Benefit provided by this new feature of version 24:
A very popular and user-friendly control!
Use of an Image Gallery control
Benefit provided by this new feature of version 24:
This control allows for advanced image display and management without programming.

New feature WD WB WM UUID MASK FOR EDIT CONTROL
In version 24, new UUID (unique identifier) input masks will appear for the first time: UUID 128, UUID 256...

014

New feature WD WB WM
BOOKMARK DISPLAY
In version 24, bookmarks are displayed: it's more practical, to say the least!

016

EVOLUTIONS OF THE WORD PROCESSING CONTROL (WP)
The Word Processing control evolves favorably in version 24.

015

New feature WD WB WM
WORD PROCESSING CONTROL (WP): MANAGEMENT OF COLUMNS
Columns are now managed in WINDEV's Word Processing control.

017

New feature WD WB WM
WP CONTROL: IMAGE EDITING WITH AN INTEGRATED IMAGE EDITOR
Images inserted in a document can be edited directly in the control, thanks to the integrated image editor.

018

Password input
Benefit provided by this new feature of version 24:
Better document confidentiality, GDPR compliance

019

COMPATIBILITY WITH EARLIER VERSIONS
WINDEV 24 respects your existing assets.
No migration needed between WINDEV 7, 8, 9, 10, 11, 12, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22 or 23 and WINDEV 24: simply recompile the application and it will work in version 24.
Switching from WEBDEV 7, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22 or 23 to WEBDEV 24 is also extremely easy. Same for WINDEV Mobile.
The existing components (version 8 to 23) work directly (without needing to be recompiled) with applications in version 24.
Version 24 directly opens a project in version 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22 or 23.
And of course, different versions of your environments can coexist simultaneously on your PC; a license for version 24 also launches the old versions: 23, 22, 21, 20, 19, 18, 17, 16, 15, 14, 12, 11, 10, 9, 8, 7, 5.5,...
In version 24, everything becomes more simple: a single line containing only this control.

Benefit provided by this new feature of version 24:
- Finally a speed worthy of this super control!

In version 24, it is possible to insert section breaks easily.

Benefit provided by this new feature of version 24:
- Easier operations

The WLanguage _docInsert_ and _docAdd_ functions return the content of the inserted fragment. This avoids having to go through the document again.

Benefit provided by this new feature of version 24:
- Easier advanced programming

In version 24, it is possible to open and save XLSX files with a code such as _OpenDocument("*voice.xlsx")_.

Benefit provided by this new feature of version 24:
- Better document confidentiality. GDPR support

Images inserted in a spreadsheet (logo, etc.) can be edited directly in your application, thanks to the integrated image editor.

Benefit provided by this new feature of version 24:
- Image editing is easy and fully integrated

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Benefit provided by this new feature of version 24:
- Image editing is easy and fully integrated

In version 24, it is possible to open and save XLSX files with a password, and to add a password to an existing file.

Benefit provided by this new feature of version 24:
- Password protection

This 3D interactive chart (it can be handled with the mouse) allows visualizing descending data. Each section represents a percentage of the lower section. For example, the first section represents the percentage of Web users who fill their shopping cart, the second section represents the percentage of those users who have validated their shopping cart and who enter their contact information, etc...

As its name suggests, it is represented in the form of a pyramid.

### New Features in Controls

- **Image Editor Control**: The Image Editor control benefits from the new features of the Image Editor itself: ellipses, arrows, rectangles, Edit-in-place.
- **An increasingly powerful control**: See new features 086 to 092.

### Charts in Version 24

A new type of chart has been added to the family in version 24: the 3D Pyramid chart.

### New Pyramid Chart Control: Features

Section colors are generated by default, or can be configured by programming.

It is also possible to choose the characteristic of the pyramid slice that is proportional to the data: volume or height.

Benefit provided by this new feature of version 24:
- Advanced features for this chart

### New Pyramid Chart Control: Programming

The Pyramid chart is filled like the other charts, either by programming.

It is possible to define the orientation of the pyramid by programming.

Benefit provided by this new feature of version 24:
- Regular programming
WEBDEV IN WINDEV:
IT SIMPLIFIES EVERYTHING!

This new type of chart allows for real-time representation of permanent data flow. The chart moves automatically according to the data received in real time.

In version 24, it is possible to use WINDEV, WEBDEV and WINDEV Mobile in the same environment. Project elements are immediately common to all 3 platforms: analyses, queries, reports, procedures, classes, code,... These elements open directly in the WINDEV environment. This allows for easy portability and maintenance of a WINDEV application to the mobile and to the Web, without having to import or duplicate what already exists, or to change the environment.

In version 24, it is possible to create configurations of all types in a single project on the WINDEV environment:
- WINDEV application,
- WEBDEV site,
- iOS app,
- Android app

It is possible to switch immediately from one configuration to another. All configurations continue to evolve for all 3 platforms within the same project.

In version 24, it is possible to open WINDEV windows, WEBDEV pages and WINDEV Mobile windows simultaneously within the same environment. Of course, it is possible to automatically transform an entire window into a web page (or a mobile window) in a single operation. It is also possible to transform only one element from a window to a page.

It is necessary to have a license for each product.

In version 24, it is possible to immediately test a modification that has just been made: business logic, query, procedure, class, report...

A double-click is all it takes to select the configuration to be tested and then click on GO! You can immediately test the desired platform. You can easily imagine how many operations you avoid! And remember: there is no need to duplicate the code in each project.

You can copy and paste controls between different pages and windows. The control copied into WEBDEV keeps its original characteristics and look.

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WEBIFICATION OF YOUR WINDEV APPLICATIONS: INCREDIBLY EASY IN VERSION 24

A widespread need today is to transform Windows applications (or parts of applications) into dynamic websites. As you already know, WEBDEV allows you to retrieve the code, the queries, the reports, the classes, the windows... of a WINDEV application. Version 24 goes much further.

**New feature WD WB WM**

**WINDEV TO WEBDEV MIGRATION WIZARD**

To help migrate existing WINDEV applications to WEBDEV, a wizard analyzes the WINDEV application and generates a precise report with the modifications to make in the code. This report saves a lot of time.

Capture from the webification help window: click on a line to go to the corresponding element.

For example:
- if the WL function `Select` (which opens a file picker and returns the entire path of the file selected by the end-user) is used in the WINDEV application, the wizard immediately indicates that this concept does not exist in Web, and that this part should be modified accordingly. Indeed, an Internet browser does not have the right to explore the disk of the user’s computer. Here the wizard will recommend using an “Upload” control, which allows it to select a file and read its content from a browser.
- if the Registry is read, the report indicates that this cannot be done from a browser: this operation must be deleted, or its code must be replaced.
- if the application runs Word, the report indicates that a browser is not allowed to launch another application.
- if the application writes directly to the PC disk, the report indicates that browser is not allowed to write to the disk of the Web user’s computer.

Simply click on each line to correct the problem.

**Benefit provided by this new feature of version 24:**
You are assisted.

**New feature WD WB WM**

**WINDEV TO PAGE TRANSFORMATION IN 1 CLICK**

Version 24 improves the automatic transformation of controls from WINDEV to WEBDEV:
- if a control to be migrated does not exist on the Web, it is simply deleted, or its code must be replaced.
- if the Module is read, the report indicates that this concept does not exist in Web, and that this part should be modified accordingly.
- The number of control properties taken into account increases significantly; for example, in version 24 a button is migrated with its look.
- if a control to be migrated does not exist on the Web, it is converted into a control type that operates in the same way. For example, a WINDEV Ribbon control will be converted to a WEBDEV Tab control, with an equivalent look and size.

**Benefit provided by this new feature of version 24:**
Operations are significantly simplified.

There are more WL functions compatible between WINDEV and WEBDEV in version 24. Nearly 100 new functions have been added. In particular, the WL function `open` is now supported in WEBDEV.

**Benefit provided by this new feature of version 24:**
The more, the better.

**New feature WD WB WM**

**OPEN AND “CLOSE” IN WEBDEV: THE EXISTING WINDEV CODE WORKS DIRECTLY**

To facilitate the transition of WINDEV applications to WEBDEV sites, and to maintain programming habits, the WL functions `open` and `close` are now recognized in WEBDEV (in server code, Ajax or not).

In version 24, it is therefore no longer necessary to modify the page opening code. It should be noted that the `open` function has the same properties in WEBDEV as in WINDEV: it is blocking: the code after `open` is not executed until the opened page has been closed.

**Benefit provided by this new feature of version 24:**
Keeping the same code.

**OPEN function which is available in WEBDEV.**

A new way to develop

The old project conversion method was to duplicate the WINDEV project in WEBDEV. It worked, but we had everything twice. Then came the possibility of opening the same project with WEBDEV and WINDEV. However, it required constantly switching from WEBDEV to WINDEV to perform the operations, and it took a long time.

In version 24, it’s a revolution!

All operations can now be performed from the WINDEV environment.
That’s already huge, but there is more: besides, you benefit from:
- a migration wizard;
- transforming a window into a page while keeping its initial look;
- more common WL functions that improve compatibility, especially the OPEN function which is available in WEBDEV.

**Benefit provided by this new feature of version 24**
The development method is simplified.

**Benefit provided by this new feature of version 24**
There are more WL functions compatible between WINDEV and WEBDEV in version 24. Nearly 100 new functions have been added. In particular, the WL function `open` is now supported in WEBDEV.

**Benefit provided by this new feature of version 24:**
The more, the better.

A click is worth countless operations
Benefit provided by this new feature of version 24 :
That’s some power!
generated at the original location of the lines.
A call to this procedure (with the appropriate parameters) is
the procedure are automatically detected and generated.
If passing parameters is necessary, the parameters expected by
the procedure are automatically detected and generated.

A choice in code editor allows you to extract the business
code and GUI code. In the code editor, a different background
color identifies each type of code.

• right click and click on Refactoring, then select “Create a
new procedure, simply :
• select the block of lines of code,
• right click and click on Refactoring, then select “Create a
local procedure” or “Create a global procedure”.

In version 24, the option “enable Business/GUI highlighting”
allows you to have a quick and synthetic view of how the code
is interlocked.

Business logic will have a blue background and GUI code will
have a green background. These colors are configurable.
Some lines may include both business logic and GUI code.
These lines will have an orange background.
The calls to procedures are even colored according to the con-
tent of the procedures!
When the code has an alternation of colors, it certainly means
that everything is mixed! It’s not necessarily a poorly written
code, it’s just a code that doesn’t respect this architecture.
To respect the splitting architecture, all you have to do is
group the identical codes, i.e. of the same color.
Benefit provided by this new feature of version 24 :
Distinguish the types of code immediately.

If passing parameters is necessary, the parameters expected by
the procedure are automatically detected and generated.
A call to this procedure (with the appropriate parameters) is
generated at the original location of the lines.
That’s some power!
Benefit provided by this new feature of version 24 :
A click is worth countless operations.

It is therefore easy to apply the architecture to only one part
of a project.
Benefit provided by this new feature of version 24 :
You are informed by the compiler.

This attribute can also be used with variables, in particular the
global variables of the window. This allows you to categorize
the variables in a window to help split the code.
When these attributes are used, the compilation detects attri-
bute violations.
When GUI code is used in a business procedure, a compilation
error is generated.
Calling a procedure that executes business logic in a proce-
dure that has a GUI attribute generates a compilation error.
This allows you to check the code structure of an element.
Attribute error detection can be requested either for specific
windows or for the entire project.

WINDEV 24 WEBDEV 24 WINDEV Mobile 24 new features
WINDEV 24 WEBDEV 24 WINDEV Mobile 24 new features
BUSINESS RULES: THEY TURN INTO HELP IN YOUR APPLICATIONS

Reminder: WINDEV allows you to enter “Business Rules”. These are explanations on the processing rule to be applied to a control, code, window.

In version 24 these Business Rules can be used automatically as an aid to end users.

ENTERING BUSINESS RULES IS EASIER

In version 24, Business Rules are entered in Word Processing mode, and no longer in RTF mode: it’s easier and its presentation is richer.

It is easy to insert images, tables, graphics, workflows...

A new option makes it possible to indicate whether each Business Rule is visible or not to the end user (Distributable Business Rule).

A Business Rule can be associated with one or more controls.

Example of a Business Rule on delivery management

Benefit provided by this new feature of version 24:

Powerful formatting

A PDF IS GENERATED AND CAN BE INCLUDED IN YOUR APPLICATION

All the Distributable Business Rules of a project can also be automatically grouped in a PDF document. This document is installed with the application.

The end user can see it via the “?” menu.

Benefit provided by this new feature of version 24:

An automatic technical aid

PROJECT IMAGE GALLERY: FOR AN OVERVIEW OF THE IMAGES USED

In version 24, it is possible to view all the images of a project with a single click.

This gallery is viewed from the “7 tabs”.

Overview of all images used in the project

Benefit provided by this new feature of version 24:

Getting to see the big picture

PROJECT IMAGE GALLERY: LIGHTEN YOUR PROJECTS: UNUSED IMAGES, DUPLICATES...

When an image is present in the project directory (and subdirectories) but it is not used, it is marked.

If necessary, you can delete it.

Duplicate images are marked: totally identical images of course, but also binary identical images with a different name, or stored in different subdirectories.

Deleting images makes it possible to reduce the size of projects.

Images that are not integrated into the SCM are also marked.

Benefit provided by this new feature of version 24:

Clean. Save space

PROJECT DASHBOARD: NEW “TEMPLATES” WIDGET

A new Widget joins the project Dashboard.

This Widget displays an overview of the templates used in the project: The widget allows you to update the templates (red button).

Benefit provided by this new feature of version 24:

Red makes your templates look even better.

DISPLAY OF NEWS AND UPDATES

The editor now shows information and news about your products: new version available, new downloads online, etc...

This display is customizable.

PROJECT EXPLORER POPUP MENU: “DUPLICATE” OPTION

The project explorer popup menu is enhanced with a new practical option: duplication.

This feature allows you to quickly duplicate a window, a class, a query, a page...

Benefit provided by this new feature of version 24:

Double

ENVIRONMENT

NEW FEATURE WD WB WM

A PDF IS GENERATED AND CAN BE INCLUDED IN YOUR APPLICATION

NEW FEATURE WD WB WM

PROJECT IMAGE GALLERY: LIGHTEN YOUR PROJECTS: UNUSED IMAGES, DUPLICATES...

NEW FEATURE WD WB WM

PROJECT DASHBOARD: NEW “TEMPLATES” WIDGET

NEW FEATURE WD WB WM

DISPLAY OF NEWS AND UPDATES

NEW FEATURE WD WB WM

PROJECT EXPLORER POPUP MENU: “DUPLICATE” OPTION
XML TEMPLATE : TRIGGER THE UPDATE

In a project, you can use "Template" XML documents. These templates allow the compiler to know the structure of the XML that will be manipulated by programming. These models allow for automatic completion, detection of compilation errors, ...

In version 24, when the "template" XML file is updated on the disk, a menu option is available to update the "template XML" in the environment.

Benefit provided by this new feature of version 24 : The compiler will detect XML programming errors.

MULTI-SCREEN AND DIFFERENT DPI

As you know, the environment supports multi-screen mode. This working approach is very comfortable, if you can adapt it to your proposes: go for it! (almost 70% of you are already working in this mode).

Version 24 now supports screens with different DPI on the same PC.

DISPLAY OF A PICTO FOR THE PLATFORM OF THE EXAMPLE

For each example, the editor displays a picto indicating the platform(s) on which the example is based.

Benefit provided by this new feature of version 24 : You know at a glance the target that the example works on.

DATA MODEL EDITOR

Your editors are updated to the latest version thanks to the "automatic update" option (unless you have unchecked it).

In version 24 it is also possible to update to the latest version with a single click.

There is no longer a series of successive updates to be performed as it may have been in the past.

Benefit provided by this new feature of version 24 : Up to date with one click!

PROJECT MONITORING CENTER

The information of the Project Monitoring Center (requirements, tasks, bugs, contributors, etc.) is accessible in programming through a component provided.

This component allows you to reproduce this data, for example to edit specific statistics, or to share the data with another tool.

Benefit provided by this new feature of version 24 : Openness.

MANAGER OF A REQUIREMENT

A requirement is divided into tasks.

Tasks are assigned to the team members.

The project is then copied to your computer.

Benefit provided by this new feature of version 24 : All the configurations are supported.

DATA MODEL EDITOR: ANTI-WRINKLE CREAM

In version 24, the Data model editor is rejuvenated.

Editing items is far more simple and more fluid than in earlier versions.

Benefit provided by this new feature of version 24 : Your teams will be more efficient.

TIME TRACKING: LISTING OF WORK TIMES

Work times can be listed for one or for all the requirements in a list of requirements.

Benefit provided by this new feature of version 24 : Information at an atomic level.

NEW feature WD WB WM
XML TEMPLATE : TRIGGER THE UPDATE

NEW feature WD WB WM
MULTI-SCREEN AND DIFFERENT DPI

NEW feature WD WB WM
DISPLAY OF A PICTO FOR THE PLATFORM OF THE EXAMPLE

NEW feature WD WB WM
DATA MODEL EDITOR

NEW feature WD WB WM
DATA MODEL EDITOR: ANTI-WRINKLE CREAM

NEW feature WD WB WM
PROJECT MONITORING CENTER

NEW feature WD WB WM
MANAGER OF A REQUIREMENT

NEW feature WD WB WM
TIME TRACKING: LISTING OF WORK TIMES

NEW feature WD WB WM
DATA MODEL EDITOR: ANTI-WRINKLE CREAM

NEW feature WD WB WM
PROJECT MONITORING CENTER
**CONTINUOUS INTEGRATION SOFTWARE FACTORY**

**077**  
**NEW ACTION TO UPDATE WEB SERVICES**  
Continuous integration is based on the execution of action plans. A new action allows requesting the update of the WSDL description file of the webservices used in the project.  
**Benefit provided by this new feature of version 24:** A third-party Webservice evolves without compatibility? You will know right away!

**078**  
**SPECIFY A ROBOT TO RUN AN ACTION PLAN**  
In version 24, it is possible to assign a robot to run certain action plans. This can be useful when using a powerful machine, or a machine with expected peripherals: printer,..  
**Benefit provided by this new feature of version 24:** The test on the specified machine

**INSTALL**

**079**  
**COMPACT SETUP: COMMAND LINE**  
The compact setup now accepts command lines and their parameters.  
**Benefit provided by this new feature of version 24:** Command lines!

**AAF : YOUR APPLICATIONS OFFER FUNCTIONALITIES**

**081**  
**INPUT HISTORY: DELETE ONE OR MORE ENTRIES**  
Among the AAFs available in the Edit control, keeping an input history is highly valued and commonly used by end users. This AAF allows the end user to directly select the values previously entered. In version 24, it is possible to delete one or more values previously entered. The user can delete confidential, unwanted or irrelevant values to shorten the list!  
**Benefit provided by this new feature of version 24:** Everyone has the right to be forgotten

**082**  
**LINKING AAFS WITH USER GROUPWARE FOR GDPR**  
The use of export AAFs can be restricted by a programmed password. In version 24, it is possible to protect exports directly from the User Groupware settings, i. e. by group and user. (see new feature 083 and 178)  
**Benefit provided by this new feature of version 24:** Total security, without programming. And GDPR!

**PASSWORD SECURITY : USER GROUPWARE**

**083**  
**LINK WITH GDPR**  
User Groupware integrates functionalities dedicated to the GDPR. Windows handling personal data are highlighted in the User Groupware rights definition interface. Thus, the Supervisor can adjust the rights of users and groups according to the GDPR constraints linked to the data.  
**Benefit provided by this new feature of version 24:** Being “GDPR Compliant” is easier!

**084**  
**OAUTH + OPENID AUTHENTICATION**  
OAuth + OpenID authentication is especially useful for sites intended for the public, but not only. This mechanism keeps the end user from creating yet another password by using their social network login data. The OAuth standard allows a user to be authenticated. The OpenID standard allows knowing this user. Once the user is identified by OAuth, the user’s profile is transmitted to your application or site by OpenID. The following buttons are available by default:  
- Facebook  
- Google  
- LinkedIn  
- Microsoft

It is also possible to create your own buttons for other OpenID Identity providers : Instagram,... See also new feature 124  
**Benefit provided by this new feature of version 24:** Knock knock! - Who’s there?

**085**  
**MULTILINGUAL USER GROUPWARE**  
Before version 24, the files used by the User Groupware (GPU) for identification and connection permissions were specific to the language of the editor. In version 24, the files are portable between the different languages of the editor. It is also now possible to use the GPU in WEBDEV while combining the languages of the Framework and the Application Server.  
**Benefit provided by this new feature of version 24:** Better cross-platforming
NEW TOOLS

The image editor integrated into the environment offers new tools in version 24. Note that these new tools are also available in the Image Editor control that you can include in your applications.

ELLIPSE, CIRCLE, OVAL

An ellipse is an oval shape. In version 24, the image editor allows you to create ellipses. It is possible to specify the line thickness, its color and background color...

 Benefit provided by this new feature of version 24:
Everybody loves another round

ARROW

The "arrow" tool offers the expected functionalities: line thickness, color, line type, position of the arrow(s), arrow types, arrow size...

 Benefit provided by this new feature of version 24:
Unleash the archers

RECTANGLE

It is possible to create rectangles directly with the image editor. Many parameters are available: line thickness, color, background colour, angle roundness...

 Benefit provided by this new feature of version 24:
A well-formed feature

EDIT IN PLACE NEW LOOK

(MORE USER-FRIENDLY QUICK EDITING MENU)

Images can be modified in the image editor in different ways. Among these ways, it is possible to right-click on an element that you want to modify, and to display a "popup" menu on this element. In version 24, this context menu has been made more user-friendly.

 Benefit provided by this new feature of version 24:
Taste the new menu

SELECTING THE RIGHT LAYER BY DEFAULT

An image can have several overlapping layers. The CTRL + CLICK key combination allows you to directly select the most appropriate layer, i.e. the one containing image data, just one click away!

 Benefit provided by this new feature of version 24:
Easy navigation

IMAGE EDITOR CONTROL

As you know, you can include an "Image Editor" control in your windows. You can define settings so that the end user won’t be able to load any image other than the one you display, or not be able to create a new one: the end user will be able to modify only the image you display.

 In version 24, the "NEW" and "OPEN" buttons can be removed from the ribbon in the Image Editor control in one click via the 7 tabs.

 Benefit provided by this new feature of version 24:
Freedom, yes, but within frames...

SCM

"SILENT CHECK-OUT" MODE

In version 24, the check-out confirmation window may no longer appear. The "Silent Check-out" option allows you to hide this window. This enables users familiar with the SCM operating mode to skip an informative step that requires validation, and thus to save time.

 Benefit provided by this new feature of version 24:
Less steps!

SHARED DIRECTORIES (AND CONTENT) BETWEEN DIFFERENT SCMS

In version 24, it is possible to share a directory and its content between several different SCMs: a log management class, an internal component for sending emails...

This helps to structure the sharing of elements in large organizations.

 Benefit provided by this new feature of version 24:
Easy sharing
MULTIPLE SYNTAXES TO THE RESCUE!

Many WLanguage functions offer several possible syntaxes. These syntaxes can accept different parameters. In previous versions (23 and before) the tooltip only showed the parameters of the first syntax.

In version 24, all the syntaxes are proposed in a tooltip, right above the line.

This has a double effect: on the one hand, you can select your preferred syntax, and on the other hand you can discover syntaxes that you didn’t know about and that can be very useful for you!

That can’t be bad!

Benefit provided by this new feature of version 24: Now you know it all!

REVERSE ASSIGNMENTS

In version 24, it is possible to reverse one or more assignments with one single operation. For example in POO, a procedure to load from an HFSQL file,

LAST_NAME = Client.lastname
FIRST_NAME = Client.first name

When the saving method must be written, everything has to be reversed. In version 24, simply copy the assignments of the loading procedure, paste them, and invert all the assignments with 1 click.

Benefit provided by this new feature of version 24: A useful shortcut

ATTRIBUTES (COMPILATION DIRECTIVE):

An attribute is a directive passed to the compiler. The compiler produces different byte-code depending on the attributes passed.

WLanguage offers more and more attributes. These attributes are powerful and practical: mapping, serialization, ... New attributes appear with each new version.

In version 24, to know these attributes, simply type the character "<" to see the list of available attributes for the current line.

Benefit provided by this new feature of version 24: Beautiful attributes

SMART RENAMING OF MEMBERS

When a member of a class is renamed, a GUI compilation error appears. A Lightbulb icon to the left of the error message indicates that the editor can help you.

Click on the lightbulb, and the member will be renamed throughout your entire project.
Another philosophy of code writing

Benefit provided by this new feature of version 24:
See the complete list in new feature 303.

MyTable.Add (customer)
MyString.Left (4)
MyString is string = "This is a test"

Example of syntax on a Table element

A UUID is a randomly generated, unique identifier, for which a duplicate is statistically impossible.
Use a UUID each time you want to make sure an element is unique.

In version 24, a native JSON type appears in WLanguage.
This type allows to natively manage data in JSON format (without having to build or analyze strings).
A "JSON template" can be provided to the code editor.

For example:
Mystring is string = "This is a test"
Mystring.Left (4)
MyTable.Add (customer)

Homogenization

In version 24, a native JSON type appears in WLanguage.
This type allows to natively manage data in JSON format (without having to build or analyze strings).
A "JSON template" can be provided to the code editor.

New feature WD WB WM
NEW CHRONO TYPE

In version 24, the new Chrono type is introduced.
Managing stopwatches is so much easier!
MyChrono.Start is clearer than manipulating subscripts, especially if there are several stopwatches.

Benefit provided by this new feature of version 24:
Ready, set, go!

A UUID is a randomly generated, unique identifier, for which a duplicate is statistically impossible.
Use a UUID each time you want to make sure an element is unique.

In version 24, WLanguage offers the new UUID type, on 128 bits, and on 256 bits.
The UUID type makes it possible for example to manipulate hash results (SHA256), identifiers, blockchain keys, the content of HFSQL UUID items (see new feature 156) etc...
The UUID type is also useful for GDPR pseudonymization.
Benefit provided by this new feature of version 24:
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The UUID type is also useful for GDPR pseudonymization.
Version 24 is a solid foundation

In version 24, the new Critical Section (Thread Synchronization) introduced by this new feature of version 24:

- Managing critical sections is significantly easier.
- Benefit provided by this new feature of version 24: Well synchronized threads.

This new syntax facilitates programming the use of types that have a beginning and an end.
- The use of the new types Chromo and Critical Sections is simplified.
- Benefit provided by this new feature of version 24: Clearer programming.

Going directly from an array to the function Min (and Max) allows you to reduce the code to a single line: no need to program the browsing of the array.
- A small but useful new feature.
- Benefit provided by this new feature of version 24: Efficient programming.

The HttpRequest type offers an additional property: destination.
- This property allows you to save the result of the query directly to a file on disk, without using memory.
- This is very useful when receiving large volume data.
- Benefit provided by this new feature of version 24: No memory consumption.

An attribute is a directive for the compiler.
- An attribute is entered in the code editor, between angular brackets (for example <serialize=false>).
- In version 24, it is possible to define the automatons of internal procedures and procedures thanks to attributes: timer, thread, automatic or delayed execution, ...
- Benefit provided by this new feature of version 24: Even internal procedures have attributes.

You know the powerful Word Processing, Spreadsheet, Image Editor and PDF Reader controls (images and documents in docx, xlsx and pdf formats).
- In your applications, when you wanted to propose the editing of a document in one of these controls, it often involved the creation of a dedicated blank window, containing only this control.
- In version 24, everything becomes more simple: Simply use the new WLanguage function OpenDocument.
- A simple line of code is all it takes: OpenDocument (Invoice.docx).
- Benefit provided by this new feature of version 24: Office controls in 1 line of code.

New WLanguage functions for managing XLS sheets are available in version 24:
- iPrintXLS allows you to print an XLS sheet
- iSequencingAddXLS allows you to print several XLS documents in a row, and even to combine XLS sheet prints with reports.
- Benefit provided by this new feature of version 24: XLS sheet programming is even more powerful.

Version 24 has logged in: email, last name, first name...
- The OpenID protocol allows you to retrieve information that is generally much more convenient, also accepts certificates in version 24.
- Benefit provided by this new feature of version 24: Usefulness.

The HttpRequest type offers an additional property:
- This makes it possible to make this file invisible and to avoid managing its deployment.
- Including this file is easy: just include it in the configuration.
- It is possible to include several files.
- It is then easy to either extract the file or read its content.
- A file is extracted by the fExtractResource function.
- The content of a file can be read directly in the WDL using: fGetResource.
- Benefit provided by this new feature of version 24: Great flexibility.

This new syntax facilitates programming the use of types that have a beginning and an end.
- The use of the new types Chromo and Critical Sections is simplified.
- Benefit provided by this new feature of version 24: Clearer programming.

In version 24, you can choose where the certificate is stored:
- on disk
- in the WDL library of your application.
- This allows, among other things, automation in the use of Chorus, the invoicing system of the French government.
- Benefit provided by this new feature of version 24: Certificate confidentiality.

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The management of “public/private keys” makes it possible to implement secure exchanges and authenticated communications.

New feature WD WB WM
ASYMMETRIC ENCRYPTION: PRIVATE KEY, PUBLIC KEY
2 USES

In version 24, encryption by “public/private key” becomes possible for both uses:
- authenticate communications (already available)
- secure communications (it’s a new feature in version 24!).

A certificate is needed: it contains the private key. The private key included in the certificate must remain private: if it is distributed or stolen, your identity is highly compromised.

Benefit provided by this new feature of version 24:
Security made public: to protect privacy

Authenticated exchanges

1 - Bob gives his public key to Alice
2 - Bob signs the message with his private key
3 - Alice makes sure that Bob’s message has not been falsified

Authenticated communication makes it possible to send a message while ensuring the identity of the author. The CertificateSign WL function allows you to sign a message (with the certificate), while Certificate-Check ensures that the signature and public key match (no need for the certificate here).

Alice wants to send a message to Bob. She signs the message with her private key. Only Bob can decrypt the message, since the only way to decrypt the message is to use the associated private key. Of course, only Bob has this private key.

Benefit provided by this new feature of version 24:
I know who wrote

Secure exchanges

1 - Bob gives his public key to Alice
2 - Alice encrypts the message with Bob’s public key
3 - Only Bob can decrypt the message with his private key

Secure communication consists in sending a message and ensuring that only the recipient(s) will be able to decrypt it, and therefore read it.

When a secure message is sent, it is the recipient who must have a private key (and therefore a certificate). The sender must simply encrypt the message with the public key.

Only the recipient who has the corresponding private key can decrypt the message.

(So it’s basically the “opposite” of what you might think at first, but it makes sense!)

Bob wants to send a message, and he wants to sign this message in a way that cannot be falsified.

Bob signs the message with his private key.

Benefit provided by this new feature of version 24:
I’m the only one who can read the message
### New feature WD WB WM
**PASSWORDS ON DOCX AND XLSX FILES**

In version 24, the WLanguage functions of the XLS and DOCX families allow you to manage documents protected by password, and also to add passwords on existing documents. This is useful for data security. It also makes it possible to meet certain GDPR requirements.

**Benefit provided by this new feature of version 24:**
- Security!

### New feature WD WB WM
**PDF/A-3: ARCHIVING AND ATTACHMENTS**

The PDF/A-3 archiving format (note, A-3 has nothing to do with paper size; A is for Archiving, and 3 is a version number) is supported in version 24. This format allows you to include attachments to the PDF archive: XML, XLS, DOCX.

This format is necessary for Factur-X and Chorus (see new feature 187).

**Benefit provided by this new feature of version 24:**
- Stronger PDFs.

### New feature WD WB WM
**OOP ARRAY**

Rather than copying an instance of an object into an array, it is now possible to add the reference of this object in the array. The functions ArrayInsertReference and ArrayAddReference appear in version 24.

**Benefit provided by this new feature of version 24:**
- The array is an object.

### New feature WD WB WM
**TRANSFORM A BARCODE INTO AN IMAGE**

In version 24, the new BarCodeImage WLanguage function allows transforming a Barcode variable into an Image variable. The image can then be saved in the format of your choice. The image can also be modified by all the usual WLanguage image management functions.

**Benefit provided by this new feature of version 24:**
- Total freedom in the use of barcodes.

### New feature WD WB WM
**INSERT AN IMAGE IN A QR CODE (FOR EXAMPLE FOR INSTANCES IN SWITZERLAND)**

Invoices issued in Switzerland must include a QR Code. This QR Code must contain an image of a Swiss flag in its center.
- Image and ...ImageProportion, two new properties for the Barcode type, allow you to specify the image to be inserted in the center of the barcode, and its size.

### New feature WD WB WM
**PDFPASSWORD**

PDFPassword, a new WLanguage function, allows defining a password for an existing PDF file.

Reminder: reading PDF files with passwords is already possible.

**Benefit provided by this new feature of version 24:**
- Security also for PDFs!

### New feature WD WB WM
**Print : Mini Preview**

When printing a report or using the iPrint function, it is now possible to request the use of a mini preview instead of the traditional preview.

**Benefit provided by this new feature of version 24:**
- Little preview, huge advantage.

### New feature WD WB WM
**NEW FEATURES**

- SSL socket : TLS 1.2 standard support.
- The new dPolyline function draws all lines from an array of points.
- The new LeapYear function is used to know if a year is a leap year.
- The new yesterday and tomorrow functions help you avoid declaring local variables for calculation.
- The new TraceDeleteAll function allows deleting all the contents of the trace.
- The TwainTo and function no longer blocks other threads.
- OPC UA server : communication example provided.
- Useful for multi-gigabyte files : hashFile can have a progress bar.
- All the DateTimeToXXXTimeToXXXDateTimeDateTime variable.
- The drawing functions of the xxxx family can take an Image control or an Image type as a parameter. This makes it possible for example, to call the xxxx functions on several controls in parallel.

**Benefit provided by this new feature of version 24:**
- Unlock everything!

### New feature WD WB WM
**Interface Inheritance**

In OOP, an interface is a set of methods accessible from outside a class, by which you can modify an object (basically it is an abstract class that has no code).

In version 24, it is possible to inherit an interface from another interface. This advanced feature is useful for architecture designers who create structures with many levels of abstraction.

**Benefit provided by this new feature of version 24:**
- Tax-free inheritance.

### New feature WD WB WM
**What is "THIS"?**

"This" is a common keyword in many languages. In WLanguage, the corresponding keyword is "Object." (there is certainly a good historical reason).

In version 24, it is possible to use the keyword This as well.

**Benefit provided by this new feature of version 24:**
- ... This is it

### New feature WD WB WM
**ATTACHMENTS**

Web services have a very wide spectrum and not all of them comply with the standard. The ease of use of a third-party Webservice in an application or site depends on its designer.

Version 24 offers a very useful function to adapt the XML content to a SOAP WebService. The SOAPToHTTP function allows retrieving the content of the HTTP request that goes to the third-party Webservice server. It is now possible to modify the XML content in order to adapt it to the expectations of the Webservice.

**Benefit provided by this new feature of version 24:**
- Unlock everything!

### New feature WD WB WM
**Countries**

New WLanguage functions allow you to retrieve the name or ISO code of countries.

These are the functions GetCountryName(ISOCode) and GetCountryISO(CountryCaption).

**Benefit provided by this new feature of version 24:**
- The planet is at your fingertips!
HFSQL DATABASE

**155 New feature WD WB WM**

**NEW JSON ITEM TYPE**

In version 24, HFSQL offers a new and useful type of item: JSON items.

This type of item allows you to run queries that include operations on JSON.

When writing or modifying a JSON item, HFSQL checks the syntax of its content.

If the syntax is wrong, an error is generated.

New SQL commands make it possible to query the database on the content of JSON items.

4 new commands allow testing if a value is JSON, as well as its type.

IS JSON, IS JSON ARRAY, IS JSON OBJECT, IS JSON SCALAR

JSON ARRAY, JSON OBJECT

allow you to build a JSON object.

JSON ARRAYAGG, JSON OBJECTAGG

allow you to build a JSON object for a set of records.

Finally, 3 new commands are introduced to query the content of the item:

JSON EXISTS, JSON VALUE, JSON QUERY.

Benefit provided by this new feature of version 24:

- Compliance with the JSON standard

**156 New feature WD WB WM**

**NEW UUID ITEM TYPE**

A UUID (Universal Unique Identifier) is a random number deemed unique: this number is so big that the probability of the same identifier being generated twice is lower than the probability of a piano falling on your head twice in a lifetime...

A UUID is useful to easily and reliably identify any element.

In version 24, HFSQL offers the new UUID item type.

This type of UUID item complies with the 128-bit RFC 4122 standard.

Only the 128 bits is standardized.

The UUID item goes even further than the standard by offering a more powerful 256-bit mode.

The major interest of UUID is to allow anonymization and pseudonymization, useful for compliance with the GDPR standard.

The UUID also allows you to manage cryptocurrencies identifiers...

Benefit provided by this new feature of version 24:

- Let it do the numbers

**157 New feature WD WB WM**

**AUTOMATIC UUID**

HFSQL can manage UUIDs for you.

It is possible to automatically initialize a UUID item when writing a record; the UUID thus corresponds to a non-sequential unique identifier.

If necessary, to facilitate an existing migration, a record can include an automatic UUID and an automatic identifier.

The same record can contain several UUIDs.

Benefit provided by this new feature of version 24:

- Some serious power

**158 New feature WD WB WM**

**ADVANCED ENCRYPTION STANDARD: A MORE POWERFUL ENCRYPTION**

AES is available for data files (.ftx), for indexes (.mdx, .ftx), for memos (.mno).

Data is more secure.

The speed of data encryption and decryption is optimized:

performance is better than with other encryption methods!

This encryption allows, among other things, case-sensitive passwords.

Benefit provided by this new feature of version 24:

- Top-level security!

**159 New feature WD WB WM**

**ODBC DRIVER ON HFSQL**

In version 24, the ODBC driver provided to access HFSQL from third-party software allows access to "array" items.

Benefit provided by this new feature of version 24:

- Better interoperability

**160 New feature WD WB WM**

**ADMINISTRATOR PASSWORD WHEN INSTALLING**

When installing an HFSQL server, for security reasons, it is necessary to enter a custom password for the administrator account.

Benefit provided by this new feature of version 24:

- Better security

**161 New feature WD WB WM**

**HFSQL CONTROL CENTER: UNLIMITED QUERIES**

The HFSQL Control Center allows you to enter and run queries.

In version 24, queries are run in a thread, in the background.

This means that you are not blocked while the query is run, and that you can launch several queries simultaneously.

Benefit provided by this new feature of version 24:

- Significant time savings

**162 New feature WD WB WM**

**IMPROVED BROWSING SPEED OF THE HREAD FAMILY IN CLIENT/SERVER MODE**

In version 24, HFSQL ClientServer offers improved data file browsing speed when using the iRead history functions.

The speed has increased by 10%.

Benefit provided by this new feature of version 24:

- Better performance

**163 New feature WD WB WM**

**MISCELLANEOUS**

- The new hExportXLS and hExportCSV functions make it possible to export an HFSQL data file (or the result of an HFSQL query) to Excel or to CSV format with one single line of code.

- The iTrack function allows an application to be automatically notified when a change is made to an HFSQL data file; this function, HTtrack, is now available in Windows services.

- hMoveDir now works on stored procedures.

Benefit provided by this new feature of version 24:

- I’ll take it!

**164 New feature WD WB WM**

**NULLIF**

The NULLif SQL function takes 2 parameters.

NULLif returns NULL if the 2 parameters are equal, and returns the first parameter if the parameters are different.

Benefit provided by this new feature of version 24:

- Useful for compatibility

**165 New feature WD WB WM**

**DROP INDEX**

The Drop Index SQL function allows you to delete indexes.

Benefit provided by this new feature of version 24:

- It’s the Create Index’s mirror image

**166 New feature WD WB WM**

**BETTER SELECTION OF COMPOSITE KEYS WITH THE “OR” SQL OPERATOR**

In some cases (use of COALESCE), the performance of the query is improved if there are composite keys in a data file.

Benefit provided by this new feature of version 24:

- Try not to go too fast!
No need to re-translate standard message windows!

During framework updates, these windows therefore benefit from the evolutions of the framework, without having to customize them. In version 24, it is possible to translate these windows without having to customize them. Before version 24, the translation necessarily involved the customization of these standard windows.

A Blockchain-specific item

In version 24, native connectors (Native Access) manage UUID.

In version 24, native connectors (Native Access) manage UUID.

Translation of the AAF export menu

The Msoledbsql driver for SQL Server is supported by the native connector in version 24.

benefit provided by this new feature of version 24:

All driver versions are supported.

Block chain (Bitcoin, Ethereum, etc.). If you manage a blockchain yourself, the UUID item and the new WLanguage UUID type allow you to generate and manage unique identifiers.

(see new feature 156)

Benefit provided by this new feature of version 24:

A Blockchain-specific item
**GDPR**

**178 New feature WD WB WM**

**GDPR : PASSWORD IN EXPORT AAFS AUTOMATICALLY MANAGED BY THE USER GROUPWARE**

As you know, AAFs (Automatic Application Features) allow you to export the content of the table controls of your applications to Excel, Word, PDF, XML... These tables may contain sensitive data.

In version 24, these export features can automatically be secured via a password, which is automatically managed by the User Groupware.

Thus, you don’t have to program anything in order to grant specific users access to these features.

Benefit provided by this new feature of version 24 :
Automatic security of AAFs

**179 New feature WD WB WM**

**GDPR : A WINDOW WITH GDPR DATA IS MARKED IN THE GROUPWARE**

When editing rights in the User Groupware, the windows that contain personal data are marked. This allows administrators to verify that they have given access to personal data to the right users only.

Benefit provided by this new feature of version 24 :
A useful reminder

**180 New feature WD WB WM**

**GDPR AND HFSQL: NEW ENCRYPTION MODES**

To ensure even better data security, HFSQL version 24 adds AES to the list of supported encryption modes.

Benefit provided by this new feature of version 24 :
Higher encryption level

**181 New feature WD WB WM**

**GDPR AND HFSQL: UUID ITEM FOR PSEUDONYMIZATION**

The HFSQL database now offers UUID items on 128 or 256 bits. This type of item makes data pseudonymization possible: Pseudonymization is necessary in certain fields of work.

See new feature 156
Benefit provided by this new feature of version 24 :
Easier anonymization

**182 New feature WD WB WM**

**GDPR AND WLANGUAGE: UUID TYPE FOR PSEUDONYMIZATION**

To allow an easy and rigorous use of UUID items, WLanguage offers the new UUID type, on 128 or 256 bits.

Benefit provided by this new feature of version 24 :
Easy and rigorous programming

**TELEMETRY**

**183 New feature WD WB WM**

**GDPR : MISCELLANEOUS**

Spreadsheets and word processing documents managed by WINDEV native controls can now be encrypted. Encryption is managed in read and write mode. (See new feature 018)

Benefit provided by this new feature of version 24 :
Your applications manage encrypted office documents

**184 New feature WD WB WM**

**REPORTS SENT PERIODICALLY**

Telemetry allows you to edit reports that contain statistics on the use of your applications.

It is possible to request one (or more) reports to be sent at regular intervals, for example weekly, monthly, yearly...

It is possible to specify the versions of the application that should be taken into account in the report: all versions, latest version only...

Benefit provided by this new feature of version 24 :
It’s all good over here

**185 New feature WD WB WM**

**CUSTOM TELEMETRY: NEW WIDGET**

Custom telemetry consists of defining "sensors". The application sends values to the sensor.

A new Widget allows you to view the information of all customized sensors.

The Widgets of the custom sensors are also printed in the reports.

Benefit provided by this new feature of version 24 :
An overview of the sensors

**ELECTRONIC INVOICING**

**186 New feature WD WB WM**

**FACTUR-X (HYBRID INVOICE): PDF/A-3 ARCHIVES WITH ATTACHED FILES**

Factur-X, is a hybrid invoice standard: an invoice that is readable both by humans (PDF) and EDI (XML).

An invoice in the Factur-X standard contains a PDF archive (A-3 standard) of the invoice, and the standard XML file (5 standards are defined in Europe, depending on the level of detail) that includes the invoice details.

Version 24 has all the necessary XML functions to generate and sign XML files.

Version 24 makes it possible to create PDF files according to the A-3 archive standard. See new feature 132

Benefit provided by this new feature of version 24 :
Create your invoices according to the Factur-X standard in version 24

**187 New feature WD WB WM**

**CERTIFICATE IN WDL LIBRARY : NO NEED FOR SETUP**

In an electronic invoice, a certificate is used to ensure the authenticity of the invoice.

Usually, a certificate is installed on the host machine.

This requires various operations as well as Windows “Administrator” rights.

This can be complicated, even impossible (servers, etc.).

In version 24, the $httpRequest and $restRequest WLanguage types (for using REST Webservices) have a Certificate property to use a certificate during requests.

It is no longer necessary to use httpCertificate!

Benefit provided by this new feature of version 24 :
Simplified code

**188 New feature WD WB WM**

**HTTPREQUEST AND RESTREQUEST WLANGUAGE VARIABLES: “CERTIFICATE” PROPERTY**

In version 24, the $httpRequest and $restRequest WLanguage types (for using REST Webservices) have a Certificate property to use a certificate during requests.

It is no longer necessary to use httpCertificate!

Benefit provided by this new feature of version 24 :
Simplified code

**189 New feature WD WB WM**

**CHORUS PRO : AN EXAMPLE OF ELECTRONIC INVOICING**

The European Union has chosen to generalize electronic invoicing.

In France, electronic invoicing has become mandatory for invoicing government services.

The French government has set up the Chorus Pro system to submit and monitor invoices.

It is the tool for managing the expenditure and non-tax revenues of French government services.

Version 24 makes it easier to automate the submission of invoices on Chorus Pro.

Benefit provided by this new feature of version 24 :
Create and submit your invoices on Chorus Pro with version 24

**AUTOMATIC TESTS**

**190 New feature WD WB WM**

**MANAGEMENT OF OPEN WINDOWS FROM INITIALIZATION PROCESS**

It is possible to create automatic tests while windows are open in the window initialization processes.

Benefit provided by this new feature of version 24 :
Create automatic tests

**191 New feature WD WB WM**

**MONITORING BOT (WATCHDOG)**

The database containing all defined tests and tests performed by the robot can now be used in Client/Server mode.

Benefit provided by this new feature of version 24 :
Shared data management
THE ROBOT CAN BE INSTALLED ON A COMPUTER WITHOUT WINDEV

In previous versions, the configuration of the Control Centers used by the robot required a computer with WINDEV. In version 24, having WINDEV installed is no longer necessary. Benefit provided by this new feature of version 24:
Easier setup

ALERT EMAILS SENT BY THE ROBOT: SECURE SMTP

In case of a failure from the robot (for example: inaccessible server, response timeout, application not responding, etc.) you can have the robot send a warning email. Sending this email can now be done using the secure SMTP protocol.
Benefit provided by this new feature of version 24:
Increased security

UAC

With older versions, the configuration and use of a monitoring robot required elevated privileges, which opened a UAC window. In version 24, only the setup requires the elevation of privileges. Thereafter, the configuration is done simply, without any privilege elevation. This allows users without administrator rights to configure the robot.
Benefit provided by this new feature of version 24:
A more accessible robot

IMPORTING / EXPORTING CHECKS

In version 24, the robot allows you to export and import checks. The exchange follows the XML standard.
Benefit provided by this new feature of version 24:
Better interoperability

REDIS

REDIS is a “scalable key-value” Big Data database. In version 24, a native access to REDIS is proposed.
Benefit provided by this new feature of version 24:
Here is another native connector for you!

STOCKS ON PASSED/FAILED CHECKS

In version 24, the robot display statistics on the execution of checks. Tests with errors are listed and can be clicked on.

NEW CONTROLS

The new “Dockable Panel” control is a major new feature of version 24 for WINDEV. This control allows you to create sophisticated interfaces,

BENEFIT FROM THE 180 NEW FEATURES OF VERSION 24

WINDEV benefits from the 180 common new features of version 24, and in particular from PDF A/3, WEBDEV in WINDEV, the Business logic/GUI code splitting (MV method), changes in the environment, the new program documentation, User Groupware linked to the GDPR, SCM sharing, changes in the code editor and in the report editor, HFSQL, HFSQLDrive, support of Chorus/ Factur-X, etc...

Benefit provided by this new feature of version 24:
Hundreds of new features for WINDEV in version 24

Dock, undock
**GALLERY CONTROL AVAILABLE IN WINDEV 24**

The "Image Gallery" control is available in WINDEV 24. The Gallery control automatically displays and manages sets of photos or images. It is possible to browse through images; clicking on an image opens an enlarged view of the cell containing the image. No programming is needed, yet all customizations are possible in WLanguage, such as adding texts, prices, buttons...

**Benefit provided by this new feature of version 24:**
A powerful gallery

---

**THE GALLERY CONTROL ALSO DISPLAYS PDFS WITH WINDEV 24**

In WINDEV, it is possible to display thumbnails of PDF documents in the Gallery control. This makes it possible to display a list of invoices in a gallery, for example.

**Benefit provided by this new feature of version 24:**
A PDF gallery

---

**EDIT CONTROL: THE HINT TEXT NOW GOES ABOVE THE CONTROL**

In version 24, Edit controls offer a new layout: when entering information, the hint text can move over the control and become a caption. An option is available to remove the hint text once the user leaves the Edit control.

**Benefit provided by this new feature of version 24:**
It goes up 'n' down

---

**TOKEN CONTROL ON WINDEV 24**

Token controls are more and more commonly used in interfaces. It is now a standard control in WINDEV. see new features 007 to 011.

**Benefit provided by this new feature of version 24:**
This control allows you to save hours of programming

---

**CLICKABLE SWITCH CONTROL**

Clickable switch controls give a modern look to your interfaces. Thanks to WINDEV 24, there is nothing special to program, just select the desired switch from the supplied library! see new feature 012.

**Benefit provided by this new feature of version 24:**
Version 24 switches things up.

---

**PDF READER CONTROL: ROTATION**

The PDF Reader control now manages document rotation. An end user can change the orientation of one or more pages.

**Benefit provided by this new feature of version 24:**
Useful for pages scanned upside down!
**Significant automation**

Benefit provided by this new feature of version 24:

- Static controls offer automatic animations: Scrolling and flashing, with refresh rate and move rate settings.

**Benefit provided by this new feature of version 24:**

- Static, but not so static

---

**Benefit provided by this new feature of version 24:**

- **Template.**

In version 24, it is possible to "bind" (perform a memory link) the template in this window.

This model can be overridden: it is possible to add controls to the global variables of the control.

A window can use a control template.

---

**Benefit provided by this new feature of version 24:**

- **Binding (in English):** There is no additional tool to install.

For other languages, simply download the corresponding dictionary, then use the $\text{WLanguage}!\text{DictionaryLoad}$ function to load the dictionary.

---

**Less code and more security, again**

Benefit provided by this new feature of version 24:

- Data confidentiality.

This is also an advantage for GDPR compliance, as it improves disk, and therefore to "expose" it.

It is no longer necessary to temporarily save the PDF file to make a file link: the control and a Memo item (Binary Memo) containing a PDF file is linked to a file (in the workspace).

In version 24, it is possible to define a file link between a PDF control and a Memo item (Binary Memo) containing a PDF file.

**Benefit provided by this new feature of version 24:**

- Express relooking!

---

**The HTML control gets a fresh face!**

The HTML control in WINDEV offers 2 modes in version 24:

- The "classic" mode, which existed in the previous versions
- A "modern" mode that displays HTML content in a more sophisticated way, in the same way as a browser.

**Benefit provided by this new feature of version 24:**

- The HTML control is even more powerful

---

**Benefit provided by this new feature of version 24:**

- **Table with binding:**

Changes (and added/deleted rows) made in a table with memory binding are now applied in the linked array (Two-way binding).

**Benefit provided by this new feature of version 24:**

- More significant automation

---

**Benefit provided by this new feature of version 24:**

- **Office control ribbon:**

The office control ribbon (Word Processing, Spreadsheet, PDF Reader, Image Editor, etc.) is easily customizable by programming.

It is easy to add your own tabs.

**Benefit provided by this new feature of version 24:**

- Customize the ribbon

---

**Benefit provided by this new feature of version 24:**

- Significant automation

---

**Benefit provided by this new feature of version 24:**

- Less code and more security, again

---

**Windev 24 also benefits from the new features of the Word Processing control, the Spreadsheet control, UUID masks, ...**

See new features 015 to 035.

---

**Benefit provided by this new feature of version 24:**

- **Spelling checker directly in the Edit control**

It checks everywhere without installing anything else!

---

**Benefit provided by this new feature of version 24:**

- **Access by programming**

- Customization

---

**Benefit provided by this new feature of version 24:**

- **Spelling checker directly in the Edit control**

It checks everywhere without installing anything else!

---

**Benefit provided by this new feature of version 24:**

- **Accessibility by programming**

- Customization

---

**Benefit provided by this new feature of version 24:**

- **Binding on the PDF control**

In version 24, it is possible to define a file link between a PDF control and a Memo item (Binary Memo) containing a PDF file.

It is also possible to assign the control directly by programming:

- **MyPDFControl - MyFile.PDF.SalesProposal**

It is no longer necessary to temporarily save the PDF file to disk, and therefore to "expose" it.

This is also an advantage for GDPR compliance, as it improves data confidentiality.

**Benefit provided by this new feature of version 24:**

- Less code and more security, again

---

**Benefit provided by this new feature of version 24:**

- **Other common new control features**

WINDEV 24 also benefits from the new features of the Word Processing control, the Spreadsheet control, UUID masks, ...

See new features 015 to 035.

**Benefit provided by this new feature of version 24:**

- More powerful controls
HELP IN YOUR APPLICATIONS

WINDEV offers several levels of help for the applications you distribute:
• launching the application’s general help (HTML or PDF), called by F1.
• automatic display of a tooltip when hovering over an element.
• text displayed in the status bar (for compatibility); this is more of an information message than a help message.
In version 24, a new concept appears: a pictogram (several models available) appears next to the controls that offer contextual help. This help can be generated automatically (via Business Rules), or entered manually.

A NEW TYPE OF HELP IN YOUR APPLICATIONS: THE "IBR PICTO"

The behavior of tooltips in your applications is improved in version 24. Usually, a tooltip is displayed when hovering over a control. In version 24, it is possible to make a picto automatically appear next to each control that offers a tooltip. It is also possible to request that tooltips are automatically filled by the distributable Business Rules (non-confidential rules) associated with the control. When the end user clicks on the picto, the tooltip appears.

The picto is customizable. If the content of the help is too large, only the beginning appears. The user must then click on the “...” at the end of the text.

WINDEV allows entering Business Rules from the editor (see new feature 053). A Business Rule can be simple (for example: Total = Sub Total + Taxes) or can be complex, such as the details of a customs duty calculation on several pages. When a business rule is associated with a control and the business rule is distributable (it is not confidential), the IBR picto is automatically displayed next to the control, and the user has access to the Business Rule. It is possible to disable this mechanism.

The set of Business Rules is also generated as a PDF that can be viewed from the “?” menu of your applications.

Benefit provided by this new feature of version 24:
More complete range of styles

ENVIRONMENT

CREATING A PROJECT FROM AN EXAMPLE

It is possible to create a new project with a single click from one of the many examples delivered. This means not having to create a project “from scratch”.

Benefit provided by this new feature of version 24:
More user-friendly help

CREATING EXES WITHOUT DOING ANY GOS: UH-OH, THAT’S NOT GOOD!

A team member creates an EXE without even doing a GO? Hmmm... A window asks them if it’s really good to do such a thing... They should (at least) immediately do a GO to make up for it!

It is even strongly recommended to create a set of automatic tests and to launch them before any deployment...

Benefit provided by this new feature of version 24:
Avoid distributing a module that has never been launched

WINDOW EDITOR

CONTROL STYLE SELECTION: ALL THE SKIN TEMPLATES OF THE PROJECT

Before version 24, when selecting a style for a control, only the styles of the skin template associated with the window were proposed. In version 24, when the project uses several skin templates, all of their styles are proposed. This is particularly useful when a window has no associated skin templates.

Benefit provided by this new feature of version 24:
More complete range of styles

POPUP MENU: THEY CAN BE COPIED / PASTED

Another useful new feature is that it is now possible to copy/paste popup menus.

Benefit provided by this new feature of version 24:
More time saved

Whoever sees this icon knows he hasn’t done a single GO since the compilation...

It is even strongly recommended to create a set of automatic tests and to launch them before any deployment...

Benefit provided by this new feature of version 24:
Avoid distributing a module that has never been launched
End users keep the automations they created

**Benefit provided by this new feature of version 24:**
by email).

Before changing to another computer, end users can export and save the file (or send it to themselves by email).

In version 24, a new option appears in the "?" menu: export/import customizations.

Before changing to another computer, end users export the file, import it and thus find all their automations, notes, queries, custom reports...

**Benefit provided by this new feature of version 24:**
End users keep the automations they created.

### CODE EDITOR

#### 224 New feature WD WB WM
COMMON NEW FEATURES

The WINDEV code editor obviously benefits from the common innovations of the code editor:
- HTML link in comments, invisible processes, help on multiple syntaxes, ...
- See new features 098 to 104.

**Benefit provided by this new feature of version 24:**
New features that prove themselves useful day by day.

#### 225 New feature WD WB WM
F2 ON NAME OF PLANE

Another useful new feature in the code editor of WINDEV 24: pressing the F2 key on the name of a plane takes you to that plane (by opening the window if necessary).

**Benefit provided by this new feature of version 24:**
It doesn’t fly but it’s the right plane.

### DEBUGGER

#### 226 New feature WD WB WM
EXPRESSIONS: SYNTAX HIGHLIGHTING AND SUPPORT

In version 24, the variable display area of the debugger benefits from syntax highlighting, and full support of the code editor.

#### 227 New feature WD WB WM
CONDITIONAL BREAKPOINT

In version 24, the debugger allows setting conditional breakpoints.

A conditional breakpoint is triggered when an expression is true.

For example:
```
Hykray . Count > 0
```

**Benefit provided by this new feature of version 24:**
Conditional breakpoints without modifying the code.

#### 228 New feature WD WB WM
END USERS: COMPUTER CHANGE ASSISTANCE

As you know, an end user of your software can create automations, import/export automations (for example), pre-fill controls, and add Custom-Notes in the windows and reports of your applications.

When updating your software, these elements are automatically kept.

### AAF

#### 229 New feature WD WB WM
INSTALLING CUSTOMIZATIONS ON COMPUTERS

The mechanism of customization via AAFs makes applications significantly more user-friendly, and improves user efficiency, eliminating hundreds or thousands of entries and clicks per day:
- an accountant will not have to re-enter the current date or a batch of transactions,
- statistical ranges will be filled in automatically,
- specific references to a service to be re-entered in each file will be proposed in the input history,
- experienced users will have created queries that are useful to the company,
- these same users will have created reports to be given to their service providers when the goods are taken away (for example),
- insert company-specific notes to assist in the use of complex or rarely used windows,
- etc, etc...

And all this without using development resources.

Thanks to the previous feature, it is possible to easily distribute a set of predefined automations on different computers:
- Automatic button validations
- Pre-entered values,
- Custom-notes,
- Custom queries,
- Custom reports,

**Benefit provided by this new feature of version 24:**
End users can perform better.

### JAVA

#### 230 New feature WD WB WM
JAVA 9

WINDEV 24 supports Java 9.

**Benefit provided by this new feature of version 24:**
Stay up to date!

#### 231 New feature WD WB WM
CLASS MEMBERS: "MAPPING" ATTRIBUTE SUPPORTED

The Mapping attribute allows defining the item to which a class member is linked.

When executing FileToMemory and MemoryToFile all class members that have this attribute will be automatically filled with the contents of the items.

**Benefit provided by this new feature of version 24:**
A relation attribute.

#### 232 New feature WD WB WM
PROCESS PROPERTY

... .Process, a powerful property, allows you to modify the behavior of controls by programming.

**Benefit provided by this new feature of version 24:**
It’s ok if you need some time to process it.

### Databases supported by WINDEV

- HFSQL, Oracle, SQL Server, Access, PostgreSQL, MySQL, PostgreSQL,
- SQLite, xBase, MariaDB, MongoDB, Informix,
- MySQL, Memcached, progress, Sybase, Azure,
- ActiveX, Reporting Services, SharePoint,
- XML, JSON, CSV, XLS,
- HTTPS, SMTP, FTP, FTPS,
- etc.

**WINDEV 24 WEBDEV 24 WINDEV Mobile 24 new features**
NEW WLANGUAGE TYPES
Several new WLanguage types appear in Java, in particular:
• Control
• Point
• Rectangle.
Benefit provided by this new feature of version 24:
Totally our type

12 NEW WLANGUAGE FUNCTIONS
WLanguage offers 12 new functions and 7 new constants (to discover on the online help) for Java.

58 NEW FUNCTIONS
67 NEW LINUX CONSTANTS FOR WINDEV
WLanguage offers 58 new functions and 67 new constants (to discover on the online help) for Linux.

ASSEMBLY SELECTION INTERFACE
In the environment, selecting DotNet assemblies is much faster in version 24.
Benefit provided by this new feature of version 24:
Faster operations

COMMON NEW FEATURES
The language is the cornerstone of the development.
WLanguage is enriched in WINDEV version 24. It benefits from common new features and numerous improvements: extension of prefixed syntax, new syntaxes, visualization of http request flow, certificate in the WDL library, OAuth and OpenID library, etc...
See new features 109 to 149.
Benefit provided by this new feature of version 24:
Ever-increasing power in WLanguage

Looper: Which break did the user click on?
In version 24, it is possible to know the break on which the end user has clicked!
This allows you to program the appropriate process.
For example, if the end user clicks on a country break, you can display additional information about the country: turnover, number of customers, ...
Benefit provided by this new feature of version 24:
Finer programming

Console EXE
A new type of configuration allows you to create Console EXEs.
Benefit provided by this new feature of version 24: Console yourself by creating powerful batches in WLanguage

A Console EXE has no interface (no window). This type of EXE mainly allows you to create batch procedures, taking advantage of all the power of WLanguage.

Benefit provided by this new feature of version 24: More and more power for WLanguage

5 new WLanguage properties are available for WINDEV.

DisplayBookmarks

Displays or not the bookmarks in a Word Processing control.

Token

Indicates whether or not the edit control allows tokens.

TokenListSeparator

Indicates the separators that trigger the creation of a new token during input.

Benefit provided by this new feature of version 24: More and more power for WLanguage

Environmental Policy

Preserving our environment is essential. When PC-SOFT prints "traper" documents, PC-SOFT, the paper supplier or the printer, (FSC) Forest Stewardship Council certified and PEFC - Program for the Endorsement of Forest Certification certified reprints as many trees as used for the print-

For example printing 100,000 documentations of 92 pages on glossy paper consumes 50 trees with a trunk of 15 cm in diameter. PC-SOFT or the printer has 50 trees replanted immediately. Also, we favor buildings coming mainly from recycled wood (from sawmills for instance) and from mills for instance) and from paper documentation on request.

308 NEW SYNTAXES IN PREFIXED INPUT

303 to 610

308 NEW SYNTAXES IN PREFIXED INPUT

Prefixed syntax, which appeared and became very popular in version 23, is now supported by a very large number of additional functions. For example: mystring.ExtractString() myarchive.ExtractFile().

Reading and developing code is made easier. See the list of supported new syntaxes on the opposite page.

Benefit provided by this new feature of version 24: Take stock of your (function) calls
And version 24 of WINDEV Mobile also benefits from many new features, especially:

- Sharing projects with WEBDEV, splitting business logic/GUI code (MV method), centralized management of project images, changes in the window editor, new interface of the analysis editor, online centralised management of project images, changes in the window editor.
- New feature WD WB WM
- BENEFIT FROM THE 180 NEW FEATURES OF VERSION 24

Version 24 offers 180 common new features. Of course, WINDEV Mobile 24 benefits from most of these 180 common new features, especially sharing projects with WEBDEV, splitting business logic/GUI code (MV method), centralized management of project images, changes in the window editor, new interface of the analysis editor, online examples, SCM sharing, changes in the code editor, new prexlfed WLanguage syntaxes, private and public key management, WebService frame analysis,

And version 24 of WINDEV Mobile also benefits from many new features specific to the mobile world.
FEATURE SUMMARY
- Images can be arranged in rows or columns
- Automatic re-organization of images when resizing the window
- Pressing and holding on an image zooms in in a new window.
- The Next and Back buttons are automatically managed
- Gestures are supported
- Animation at image change
- Everything is automatic, but it is possible to add controls and processes. For example, it is easy to display the price of an item and add a "Buy" button on it...
- The pull-to-refresh functionality is automatic
- The "Infinite Looper" option can be checked.
- ...
**663 New feature WD WB WM**

**SWITCH CONTROL**

The Switch control, which is widely used in mobile interfaces, offers new features adapted to mobile devices. The end user uses it either by dragging the cursor or by tapping directly on the desired side.

**666 New feature WD WB WM**

**REAL-TIME CHART CONTROL**

The Real-Time Chart control appears in WINDEV Mobile 24. This control automatically displays the chart of incoming data... continuously.

The chart "slides" on the screen. See new feature 035.

**665 New feature WD WB WM**

**ASSISTED INPUT IN YOUR APPS**

In version 24, assisted input is available in your applications. The AssistedInput function family allows managing words or sentences proposed in the assistance.

Benefit provided by this new feature of version 24:
A popular control on mobile devices.

**669 New feature WD WB WM**

**CROSS-PLATFORM: WIZARD TO CONVERT WINDEV APPLICATIONS INTO MOBILE APPLICATIONS**

As you know, switching from WINDEV applications to Mobile is very easy. WINDEV Mobile reuses all the elements of WINDEV projects: Windows, Queries, Code... all of it without ever leaving the WINDEV editor (of course, it is necessary to have a WINDEV Mobile license).

Sure, the windows must be resized so that they fit phone and tablet screens.

And there are also code adaptations to be made for features not supported on mobile phones, such as the absence of a mouse on a tablet!

In version 24, an assistant analyses the code of your project and indicates precisely the lines of code to be modified.

Benefit provided by this new feature of version 24:
A welcome help.

**666 New feature WD WB WM**

**CREATION OF SOAP & REST WEBSERVICES**

In version 24, the creation of SOAP and REST Webservices is available in WINDEV Mobile.

Don’t switch from one environment to another to create your Webservices!

Benefit provided by this new feature of version 24:
Easy block end.

**667 New feature WD WB WM**

**DEFAULT SPLASH SCREEN : A CONTEMPORARY LOOK**

As you know, when you create a mobile application, a splash screen is added by default (it can be customized or deleted).

In version 24, this splash screen offers a more modern look.

Benefit provided by this new feature of version 24:
Modern splash screens for your apps.

**668 New feature WD WB WM**

**"7 TABS" OF THE ACTION BAR : A NEW LOOK!**

When you develop applications, the "7 tabs" interface for creating the action bar is simplified and grouped together.

When developing a cross-platform application, system-specific options are indicated.

For example, the "text color" option, which is available only on iOS, can be filled in, and the parameter will be ignored when running on Android.

Benefit provided by this new feature of version 24:
A fresh splash.

**664 New feature WD WB WM**

**REAL-TIME CHART CONTROL**

The Real-Time Chart control appears in WINDEV Mobile 24. This control automatically displays the chart of incoming data... continuously.

The chart "slides" on the screen. See new feature 035.

**667 New feature WD WB WM**

**DEFAULT SPLASH SCREEN : A CONTEMPORARY LOOK**

As you know, when you create a mobile application, a splash screen is added by default (it can be customized or deleted).

In version 24, this splash screen offers a more modern look.

Benefit provided by this new feature of version 24:
Modern splash screens for your apps.

**665 New feature WD WB WM**

**ASSISTED INPUT IN YOUR APPS**

In version 24, assisted input is available in your applications. The AssistedInput function family allows managing words or sentences proposed in the assistance.

Benefit provided by this new feature of version 24:
A popular control on mobile devices.
A recurring issue for professional mobile applications is "where can I store my data files so that they can be accessed from anywhere and by all users?". With WINDEV Mobile 24, the answer is simple: in the cloud with HFSQLDrive!

In version 24, it is possible to host your data files without having to create a hosting platform. With HFSQLDrive, you create your account, get immediate login credentials, and install (or create) your data files in your secure cloud, all in 3 clicks. And within a minute, your applications can access this data in read and write mode.

HFSQLDrive offers a fixed, very attractive fee.

Note: a private cloud is also available, with PCSCloud.net. PCSCloud.net allows you, among other things, to define dedicated platforms, and to store and share your data files.

**Benefit provided by this new feature of version 24:**
You were all waiting for it

**New feature WD WB WM**
**HFSQLDRIVE:**
**YOUR DATA FILES ACCESSIBLE ON THE CLOUD IN 3 CLICKS (MOBILE BACKEND)**

**New feature WD WB WM**
**HFSQLDRIVE, MOBILE DATA FILES IN THE CLOUD IN A FEW CLICKS**

No complicated settings. Just answer a few questions, and your data files will immediately be accessible in the cloud and usable by all authorized users of your applications.

**Benefit provided by this new feature of version 24:**
Easy data hosting

**New feature WD WB WM**
**HFSQLDRIVE: PRICING**

HFSQLDrive pricing is based on simple criteria. Different fees apply according to various parameters:
- Volume of data stored
- Number of simultaneous users
- Reading/ writing limit (in millions per day)

Backup options are also available. An HFSQLDrive dashboard allows you to edit these options. If 100 or more users are accessing the data simultaneously, note that it is preferable to subscribe to a dedicated platform on PCSCloud.net.

**Benefit provided by this new feature of version 24:**
Simple and attractive fees

**New feature WD WB WM**
**HFSQLDRIVE: FEATURES**

All HFSQL features are available:
- Programming commands, of course
- Queries
- Control center
- User account creation
- Rights management
- Automatic modifications
- ... 

Automatic backup options are available.

**Benefit provided by this new feature of version 24:**
You can enjoy the functional richness of HFSQL

**New feature WD WB WM**
**HFSQLDRIVE: WINDEV MOBILE, BUT ALSO WINDEV AND WEBDEV**

HFSQLDrive also works on WINDEV and WEBDEV. This makes it easy to set up interconnected applications, front-ends/back-ends in WINDEV or WEBDEV...

**Benefit provided by this new feature of version 24:**
WINDEV and WEBDEV won’t become green with envy

**New feature WD WB WM**
**2 NEW SKIN TEMPLATES FOR MOBILE**

The Material Design Blue 2 and Ninja skin templates for mobile are delivered with version 24: use them as you like to customize your apps!

**Benefit provided by this new feature of version 24:**
New looks for your apps
Common New Features for Mobile

Developing for iOS has never been as powerful as with WINDEV Mobile 24. You benefit from powerful new features that come in addition to all the existing ones. iOS evolves, and so does WINDEV Mobile 24. WINDEV Mobile 24 for iOS benefits from the general common features of version 24, plus features common to mobile devices: Gallery control, Token control, Organizer control, Switch control, Real-Time Chart control, creation of SOAP and REST Web services, HFSQLDrive, ...

And in addition to the general common new features, in addition to the common new features specific to mobile devices, version 24 offers the following new features for iOS.

676 New feature WD WB WM
COMMON NEW FEATURES FOR MOBILE

677 New feature WD WB WM
IOS 12

WINDEV Mobile 24 supports iOS 12.

Note that Apple has announced that as of March 2019, all new applications and updates of existing applications on the Apple Store must have been compiled for iOS 12 and take into account the iPhone Xs Max.

Benefit provided by this new feature of version 24 :
Enjoy all the features of iOS 12

678 New feature WD WB WM
IPHONE XR, XS, XS MAX

WINDEV Mobile supports the Apple Watch 4.

Note that Apple has announced that as of March 2019, all new applications and updates of existing Apple Watch applications on the Apple Store must have been compiled for iOS 12 and take into account the Apple Watch series 4.

Benefit provided by this new feature of version 24 :
WINDEV Mobile 24 is right on time!

679 New feature WD WB WM
APPLE WATCH 4

680 New feature WD WB WM
ARTIFICIAL INTELLIGENCE (AI) : MACHINE LEARNING ON IPHONE AND IPAD

The latest iPhone models are equipped with a processor that has features dedicated to neural networks, capable of performing 5 billion operations per second!

Apple provides an SDK (CoreML) that makes it possible to take advantage of these features.

WINDEV Mobile 24 allows you to interface with this SDK, and thus implement AI features in your applications.

Benefit provided by this new feature of version 24 :
Harness the power of the new iPhones

681 New feature WD WB WM
GO OF APPLICATION UNDER DEVELOPMENT DIRECTLY ON THE IPHONE, WITHOUT A MAC, WITHOUT AN EMULATOR!

When developing an application for iOS (iPhone or iPad), WINDEV Mobile 24 allows you to test the application being developed (launch a GO) without having to recompile it on Mac, but directly on the iPhone or iPad.

All you have to do is download once and for all the WMDEV app available for free on the Apple store.

The iPhone must be on the same network as the computer (on the same Wi-fi for example).

You have to do it only once : during the very first GO from WINDEV Mobile, a QR Code is displayed in the environment.

Simply launch the WMDEV application and scan this QR Code. This automatically establishes communication between the WINDEV Mobile editor and the computer on which WMDEV is installed.

Then, during the next GOs, WMDEV automatically downloads the elements necessary to launch the test.

Note that this feature is subject to Apple’s discretion and Apple may decide to remove the application to download from its store.

Please accept our apologies in advance if Apple withdraws the application.

Benefit provided by this new feature of version 24 :
No need to recompile on Mac to test

682 New feature WD WB WM
DEBUGGING IOS APPLICATIONS, WITHOUT MAC, DIRECTLY ON IPHONE OR IPAD!

WINDEV Mobile 24 also allows you to debug your iOS application directly on the device thanks to the new “GO on phone” option.

The application on the phone is controlled by the debugger. You can then access the debugger: breakpoints, step by step, content of variables, stacks...

Benefit provided by this new feature of version 24 :
Debugging directly on iPhone or iPad
In version 24, NFC functions are available on iPhone. For example, a WINDEV Mobile application allows you to open a hotel room door (hotels that offer this service).

Open your hotel room door with your iPhone (or your Android smartphone!)

Android development has never been as powerful as with WINDEV Mobile 24. You benefit from powerful new features that come in addition to existing ones. Android evolves, and so does WINDEV Mobile 24. WINDEV 24 for Android benefits from the general common features of version 24, plus features common to mobile devices: Gallery control, Token control, Organizer control, Switch control, Real-Time Chart control, creation of SOAP and REST Webservices, HFSQLDrive, ...

And in addition to the general common new features, in addition to the common new features specific to mobile devices, version 24 offers the following new features especially for Android.

### SWIFT CODE: DIRECT INPUT IN THE CODE EDITOR

WINDEV Mobile 24 allows you to enter Swift code directly. Syntax highlighting is very helpful. It is possible to call WLanguage code from Swift code, and also to call Swift code from WLanguage code.

### 7 NEW TYPES

7 new types of variables are available for iOS:

- chrono
- token
- json
- openIDIdentity
- openIDAuthentication
- openIDAccessToken
- openIDIdToken

### 4 NEW PROPERTIES

New properties for iOS are available in WLanguage

- tokenEnabled
- tokenAllowDuplicate
- tokenListSeparator
- token

### 65 NEW WLANGUAGE FUNCTIONS FOR IOS

65 new functions for iOS are available in WLanguage

- OrganizerDisplayPreviousPeriod
- OrganizerDisplayNextPeriod
- OrganizerAddAppointment
- OrganizerChangeMode
- OrganizerBackgroundColor
- OrganizerDateVisible
- OrganizerTimeDisplayed
- OrganizerWorkingHour
- OrganizerInfoXY
- OrganizerListAppointment
- OrganizerMode
- OrganizerSelectedRange
- OrganizerPosition
- OrganizerSelectMinus
- OrganizerSelectPlus
- OrganizerDeleteAppointment
- OrganizerDeleteAll
- OrganizerToiCalendar
- AddReference
- ProfilerStart
- ProfilerEnd
- LeapYear
- ControlToSource
- dbgStartMemoryDiff
- dbgEndMemoryDiff
- dbgSaveDebugDump
- dbgSaveMemoryDump
- GetCountryISO
- GetCountryName
- GetUUID
- GetUUID256
- dPolyline
- WithSpace
- fLoadResource
- WinSize
- GesturePointerType
- gBackgroundGradient
- gFontStrikeout
- grAddTimeData
- grRealTimeInterval
- HAddLink
- HAddTask
- HDeclare
- HExportCSV
- HExportXLS
- HCloseAnalysis
- Yesterday
- HFree
- HMode
- HCheckIndex
- InsertReference
- OpenIDReadIdentity
- EditAddToken
- EditInsertToken
- EditTokenCount
- EditDeleteToken
- EditDeleteAllToken
- SOAPToHTTP
- SQLConnect
- SQLListSource
- SQLTransaction
- ArrayAddReference
- ArrayInsertReference
- TableSavePositionAndSelection
In version 24, an iPrintBarCode function is available on Android.

Benefit provided by this new feature of version 24:
Easy barcode printing for Android

**ANDROID NOTIFICATIONS : BADGE ON THE APP ICON**

On Android, system notifications offer Android-specific features. WINDEV Mobile 24 makes it possible to manage these specific features. The first specific feature is the possibility to display a badge on the app icon. The . ..Badge property is used to modify this badge.

**THE "IPRINT" OF THE REPORT**

In version 24, the report editor makes it possible to generate the sequence of WLanguage iPrint commands corresponding to the static report. The controls are positioned in the same way they appear in the report editor. The font, color and attributes are kept. This allows you to use the report generator as a print code generator. The generated code is structured, with an internal procedure for each block, for example. Preset controls are identified, and generated with the WLanguage code that is needed to keep them working. Then, simply add a little code to make loops, replace variables... It is also possible to request the generation of the code only for a control or a block.

Benefit provided by this new feature of version 24:
Generates nothing but good things

**A brilliant new feature**

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**NEW FEATURE**, **WD**, **WB**, **WM**

**ANDROID FILE SELECTOR**

In version 24, URISelect, a new WLanguage function for Android appears. URI is the acronym for Uniform Resource Identifier. URI is an identifier that indicates where the file is located: on the phone, on Google Drive, on an FTP... This function is the equivalent of the FileSelect Windows function, but returns a URI type. It allows you to propose navigation through all files, directories and resources on the phone. The hamburger menu is automatically enabled to select the source.

Here, the URISelect function displays 4 folders, 2 PDF documents, 1 test document and 1 image.

Benefit provided by this new feature of version 24:
How to live without it?

**NEW FEATURE**, **WD**, **WB**, **WM**

**WLANGUAGE "CONTROL" TYPE**

The control type is also available on Android. The . ..Process property is very powerful and allows overriding the behavior of the control! The default process of controls can be modified using this property.

Benefit provided by this new feature of version 24:
A long-awaited type

**NEW FEATURE**, **WD**, **WB**, **WM**

**RECTANGLE AND POINT TYPES**

The Rectangle and Point types are available on Android.

Benefit provided by this new feature of version 24:
An effective type

**NEW FEATURE**, **WD**, **WB**, **WM**

**ARRAY ITEMS**

In version 24, the Array items are (finally) available on Android! This feature is available for Embedded HFSQL and Client/Server HFSQL.

Benefit provided by this new feature of version 24:
A useful type

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**NEW FEATURE**, **WD**, **WB**, **WM**

**THE REPORT EDITOR GENERATES THE "IPRINT" OF THE REPORT**

In version 24, the report editor makes it possible to generate the sequence of WLanguage iPrint commands corresponding to the static report. The controls are positioned in the same way they appear in the report editor. The font, color and attributes are kept. This allows you to use the report generator as a print code generator. The generated code is structured, with an internal procedure for each block, for example. Preset controls are identified, and generated with the WLanguage code that is needed to keep them working. Then, simply add a little code to make loops, replace variables... It is also possible to request the generation of the code only for a control or a block.

Benefit provided by this new feature of version 24:
Generates nothing but good things

---

**NEW FEATURE**, **WD**, **WB**, **WM**

**CHROME OS**

The Chrome Operating System allows Android applications to run on different hardware (not just phones and tablets). In version 24, new Chrome OS-specific functionalities appear:
- minimum & maximum size support for windows in window mode
- mouse support: hover, right click, cursor and tooltip events
- detection of held-down keys
- ...

Benefit provided by this new feature of version 24:
A brilliant new feature

---

**NEW FEATURE**, **WD**, **WB**, **WM**

**CHANNELS**

It is possible to trigger notifications by programming. In version 24, it is possible to define notification categories ("channels"). These groups appear in the application settings. The end user can thus configure the display of each of these groups. Note that notifications can be displayed on a locked screen.

Examples of notification categories for one of your apps: the end user can configure each of the categories that your app has defined.

Benefit provided by this new feature of version 24:
Users can channel positive energy into their lives with these... channels.
**NEW FEATURES FOR ANDROID**

### ANOTHER ADVANTAGE OF WINDEV MOBILE

If you have an old application developed in Windows CE, WINDEV Mobile 24 offers backward and cross-platform compatibility of your code and interfaces. WINDEV code can also be retrieved.

### KEYBOARD

An Android device can have a physical keyboard, or can be connected to a physical keyboard (through the Samsung DeX system for example). WINDEV Mobile 24 manages keyboard events, with the possibility of intercepting them in WLanguage code.

### CUSTOMIZE

...InputMask property: customize

In version 24, the ...InputMask property accepts custom masks on Android. This property makes it possible to create custom masks.

### JAVA 9 SUPPORT

WINDEV Mobile 24 supports Java 9.

### FRAMEWORK X86 INTEL

In version 24, applications made with WINDEV Mobile also work on devices equipped with Intel x86 processors: certain Chromebooks, tablets, phones...

### 64-BIT HFSQL

The embedded version of HFSQL is also available in 64-bit version for Android.

### MAVEN

Maven repository is supported in version 24.

### 64-BIT SUPPORT

This increases the portability of your applications even more.

### JAVA 9 SUPPORT

Never without my WINDEV!
Windows Mobile, Windows CE and Windows Embedded are very popular in industrial settings. Please note: your Windows Mobile and CE code is compatible with Android (and iOS). If you migrate your industrial devices from CE to Android, you don’t lose your code! All thanks to WINDEV Mobile!

Your teams will be happy to keep their know-how!

**NEW FEATURES**

**UWP**

**COMMON NEW FEATURES**

UWP development benefits from the common new features of version 24. See new features `<C1>` to 197 `<C1>`

**NEW ENVIRONMENT**

UWP development also benefits from the new development environment of version 24.

**FRAMES**

In version 24, advanced frames are supported on UWP: border radius, line thickness, ...

**NEW LANGUAGE FUNCTIONS FOR UWP**

16 new WLanguage functions for UWP appear.

**WEBDEV 24 NEW CONTROLS**

As a foretaste of the new controls, let’s take a look at the “Clickable Switch control”. These “clickable switch” controls are increasingly popular in web pages. In WEBDEV 24, it is very easy to use this type of control in your pages.

**WEBDEV 24 BENEFITS FROM**

WEBDEV 24 benefits from most of the 180 new common features of version 24. WEBDEV 24 benefits from the possibility of editing web pages directly in WINDEV, the new Token control, changes in WLanguage, HFSQL, Webservices, OpenID, prefixed WLanguage syntax, changes in the code editor, SCM sharing, Business Logic/GUI code splitting, etc., etc...

And in addition to all these new features, WEBDEV 24 benefits from new features specific to the Web.

Benefit provided by this new feature of version 24:

An increasingly popular control
The use of sliding panes in Web sites and applications is becoming more and more popular. These panes can contain controls, menu options, charts, internal pages, ... WEBDEV 24 offers an automatic management of these panes. These mechanisms are made possible by significant improvements of the "Drawer control". Note that the closed pane shakes when the mouse hovers over its area in order to be noticed!

Benefit provided by this new feature of version 24:
Smart, functional panes

In this page the left pane is open
In the page below the pane is closed.
There is just a border of a few pixels visible, and the button in its center.
When the mouse hovers over the area of the pane, the pane "vibrates" a few pixels to be noticed!

Benefit provided by this new feature of version 24:
Easier to open

Examples of pane buttons

Automatic panes display data that can be hidden on demand, either by the user using a button or by programming. When a pane is closed, the rest of the page adapts itself to occupy the entire space.
When a pane is opened, the content of the rest of the page is either automatically moved or overlapped.
A pane (drawer) can be placed on the left, on the right, at the top or at the bottom.
A page can contain several panes (several drawers).
Smart feature: when the user hovers over the closed pane with the mouse, the pane "shakes" a few pixels to indicate its presence!

Benefit provided by this new feature of version 24:
Everything is automatic

Creating an automatic pane in the WEBDEV 24 page editor is very easy. An automatic pane is created like a Drawer control. It is possible to create an "automatic pane" zone and to place the desired controls in it. Automatic panes can also be created by selecting a set of controls, then, right-click to choose a "refactoring" of these elements into an automatic pane. The automatic pane can also contain an internal page. Then, simply position the open/close button (optional). Benefit provided by this new feature of version 24: Easy to create

A pane indicates its presence with a "button" that opens or closes the pane when clicked on. There are several button templates. This button is optional, the pane works in the same way with or without it. This button is just a visual aid for the Web user.

Benefit provided by this new feature of version 24:
Easier to open

There is no programming required to use automatic panes. The settings are defined using the "7 tabs" technology. However, it is possible to modify the automatic panes by programming, to open, close, resize them,...

Benefit provided by this new feature of version 24:
Everything is automatic
Benefit provided by this new feature of version 24:
web interface greatly facilitates interactions.
Existing elements remain the same and do not change anything about your existing elements,
In version 24, WEBDEV simplifies and secures many operating modes in the editors.
In version 24, image management becomes much more intuitive.
The creation of projects becomes more intuitive.
The page opening speed is drastically improved.
The speed of the environment brings comfort and productivity to the developer.
Depending on the type of project, the compilation speed in version 24 can be improved by a factor of 2 to 5.
Depending on the type of project, the compilation speed in version 24 can be improved by a factor of 2 to 5.

NEW TOKEN CONTROL

Token controls are very easy to include in your pages, and they are widely used for multiple sorting criteria.
It is a new type of control which is available in version 24 of WINDEV, WEBDEV and WINDEV Mobile.
In WEBDEV, the Token control has an additional feature.
The Token controls used in a page

NEW YOUTUBE CONTROL

In WEBDEV 24, it is easy to display videos on YouTube thanks to the new, well named “YouTube” control.
This control is available through the “YouTube” option of the Multimedia control.
Simply enter the video URL and specify some options, if necessary: play video automatically, display gridlines,...

MULTIMEDIA CONTROL: IT ACCEPTS URLS

In version 24, the Multimedia control accepts URLs.
This allows you to play videos (or music,...) on another server, especially on CDNs.
CDNs are content servers, dedicated and optimized for storing large volumes of data.

PROJECT CREATION

The creation of projects becomes more intuitive.
The different modes (Classic (Session), AWP, PHP) are presented in a better way.
The interface for creating pages is also reviewed and simplified.
Benefit provided by this new feature of version 24:
An even better interface

IMAGE MANAGEMENT

In version 24, image management becomes much more intuitive.
No more “static”, “dynamic”, “generated” images...
The type of image is automatically detected.
Please note that your existing elements remain the same and work just as well.
Benefit provided by this new feature of version 24:
Everything becomes automatic

730 INTERFACE OF THE “7 TABS”
The “7 tabs” technology allows for fast and powerful creation of sophisticated interfaces.
In WEBDEV 24, the content of the “7 tabs” windows is significantly simplified while keeping its functional richness.
The content of WEBDEV’s “7 tabs” is harmonized with WINDEV and WINDEV Mobile.
You will love this set of modifications, it is even easier to create your pages!
Benefit provided by this new feature of version 24:
A harmonized interface

731 ANCHORING AND ZONING

Anchor and move operations are simplified in version 24.
WINDEV users will find a similar behavior.
Benefit provided by this new feature of version 24:
Less work just as well.

INCREASED SPEED IN THE ENVIRONMENT

The speed of the environment brings comfort and productivity to the developer.
In version 24, the speed of actions in the WEBDEV environment increases significantly:
tasks such as opening, saving, generating,...are much faster: up to ten times.

Note: some of these improvements were implemented during version 23.
WINDEV 24 comes with 5 illustrative examples of Responsive pages:

- administration page
- blog
- ...

These illustrative pages have been designed so that you can discover (by comparison) the parameters to apply to your own pages in order to make them responsive: blade, control visibility, anchoring...

By studying these pages in the editor, you will know how to organize your responsive blades in your own pages!

**Benefit provided by this new feature of version 24:**
A valuable help to create your Responsive pages.

**Examples:**

1. **Dashboard**
   - Dashboard on PC
   - Dashboard on the phone, at runtime

2. **Blog / News**

3. **Presentation of services**

4. **Achievement portfolio**

5. **Presentation of a mobile app**

IN THE WEBDEV EDITOR

PC blade

Tablet blade

Phone blade
**PAGE TEMPLATES : INCREASED SPEED OF PAGE UPDATES**

Updating pages using page templates is much faster in version 24. The technology for spreading changes has been optimized, and the gain can be substantial. **Benefit provided by this new feature of version 24:**

- You won’t spend more time staring into infinity by the coffee machine.

**CHART**

**FULL SCREEN** MODE FOR CHARTS

In version 24, WEBDEV allows the user to switch a chart of the page to “full screen” mode with a click. The Esc key allows you to return to the previous mode, which is the standard behavior.

**EASY WEBIFICATION OF YOUR WINDEV APPLICATIONS**

The support of many new WLanguage functions (such as `Open`) allows a much faster porting of the existing elements in WINDEV.

**EASY WEBIFICATION OF EXISTING WINDEV APPLICATIONS**

Webifying existing WINDEV applications (or parts of applications) has never been as easy as in version 24. Numerous new features make transforming a Windows application into Web significantly easier:

- Opening and editing WEBDEV pages directly in the WINDEV editor
- Transforming a window into a page with a right-click, or transforming an entire application
- Wizard for modifying Windows code that must be adapted to the Web (in Web, certain Windows features are not available, due to the integrated security features in the Browser, for example)
- Assistance for splitting Business logic/GUI code if necessary (MV and MVP methods)
- Even greater number of compatible WLanguage functions
- Compatibility of `Open` and `Close` functions in WINDEV, with the same behavior (locking `Open`)
- ...

See new features 040 to 046 and 036 to 039. **Benefit provided by this new feature of version 24:**

- Keep your legacy code

**BROWSER WLANGUAGE**

**OOP IN BROWSER CODE (IT WAS ON SERVER ALREADY!)

In version 24 it is possible to use OOP (object programming) in browser code. This allows for better portability and code sharing. And this allows especially those who want to program in OOP to do so.** **Benefit provided by this new feature of version 24:**

- Stay classy, no matter the circumstances

**IMAGE ASSIGNED BY PROGRAMMING**

Before version 24, when an image was assigned by programming, it was necessary to indicate in the “7 tabs” of the image control if the image was in the `_web` directory or not. “Locate the image in the `_web` directory in the browser code”: it was a little tedious...

In version 24, it is no longer necessary to specify if the image is in the `_web` directory or not. It is assigned in any case. Note that the existing settings are kept; a “compatibility” combo in the “7 tabs” makes it possible to keep, find and modify old settings if necessary. **Benefit provided by this new feature of version 24:**

- Simple and effective

**2 NEW SKINS**

2 new skins come with version 24: Material Design Blue 2 and Ninja skins.

Use these skins for your sites as you like!

**Benefit provided by this new feature of version 24:**

- More and more choices
New feature WD WB WM
BROWSER CODE: 9 NEW FUNCTIONS

New feature WD WB WM
WLANGUAGE "CLOSE" FUNCTION WEBDEV
In version 24, the Close function is supported in WEBDEV. Benefit provided by this new feature of version 24: Once opened, it must be closed...

New feature WD WB WM
WLALANGUAGE "OPEN" FUNCTION WEBDEV
In version 24, the Open function is managed in WEBDEV, as well as OpenChild and OpenSister. It must be pointed out that these WLanguage functions have the same behavior in WEBDEV as in WINDEV; this is a “blocking” function, which waits for the other functions. Benefit provided by this new feature of version 24: Easier code portability.

New feature WD WB WM
"DIALOG" AND "INPUT" WLANGUAGE FUNCTIONS IN WEBDEV
The Dialog and Input functions are managed in WEBDEV 24. On the one hand this can simplify programming, and on the other hand it improves the automatic cross-platform porting of applications.

New feature WD WB WM
EXAMPLE OF A JAVASCRIPT COMPONENT BEING INTEGRATED IN WEBDEV
A CALENDAR WITH DATE RANGE PICKER
An illustrative example of JavaScript code integration in a WEBDEV site is provided in version 24. In this example, the calendar manages the selection of a date or a range. Modify, customize and freely use this complete example (or other JavaScript codes) in your sites and applications!
This simplifies the code.

In version 24, many new WLanguage functions support Ajax. See the entire list in the online help.

In version 24, it is possible to use the PageDisplay WLanguage function in an Ajax process. This simplifies the code.

In version 24, the test tool also includes 4K screens: the Display a page from another site activation is displayed in the corresponding process, directly in the code editor.

In version 24, automatic help also works in Ajax processes:

**Evolution of WLanguage**

In version 24, it is possible to use the MVP architecture with WEBDEV.

In version 24, the test tool also includes 4K screens: the display is adapted accordingly.

In version 24, the preset action can be seen in the code: a description is displayed in the corresponding process, directly in the code editor.

**NEW CAREFUL INTERACTIONS**

In version 24, there are new interactions, on the controls.

**In version 24, WINDEV, WEBDEV and WINDEV Mobile new features**

WEBDEV allows creating and testing REST Webservices. In version 24, the test tool also includes 4K screens: the display is adapted accordingly.

In version 24, many new WLanguage functions support Ajax. See the entire list in the online help.

In version 24, it is possible to use the PageDisplay WLanguage function in an Ajax process. This simplifies the code.

In version 24, the test tool also includes 4K screens: the Display a page from another site activation is displayed in the corresponding process, directly in the code editor.

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**NEW CAREFUL INTERACTIONS**

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WINDEV 24 WEBDEV 24 WINDEV Mobile 24 new features

842 New feature WD WB WM
NOTHING TO INSTALL FOR THE GO : WEB SERVER INTEGRATED TO THE ENVIRONMENT
To test your sites under development, there is no need to install and configure a Web server (such as IIS or Apache) on your development computer. A Web server is integrated into the WEBDEV development environment.

Benefit provided by this new feature of version 24 :
Nothing to install, nothing to configure.

843 New feature WD WB WM
GO OF SITE: THE END OF UAC
In earlier versions of WEBDEV, a UAC (Windows Account Control) could be triggered several times during the day. In version 24, thanks to the integration of the Web server into the environment, UACs disappear and developers are no longer interrupted.

Benefit provided by this new feature of version 24 :
UACs were (sometimes) annoying.

844 New feature WD WB WM
LINUX
The functions of the Key function family are now available for WEBDEV Linux.

Benefit provided by this new feature of version 24 :
Improves cross-platforming.

845 New feature WD WB WM
APPLICATION SERVER DOCKER

846 to 954
109 NEW WLAN- LANGUAGE FUNCTIONS ON LINUX

954 New feature WD WB WM
GO OF SITES

APPLICATION SERVER

957 New feature WD WB WM
SECURITY AUDITS : CLASSIC (SESSION) MODE MEETING THE STANDARDS
The WEBDEV Classic (session) mode is based on an automatic management of sessions. Session identification uses a protocol that makes it impossible to maliciously generate the identifier used (more than 1 million billion billion possibilities).

However, it was theoretically possible to copy/paste the session ID (full URL) in another browser with the same IP address and enter the session, if it hadn’t already ended. This was only possible from a computer in the same company, and enter the session, if it hadn’t already ended. Nevertheless, security audits could identify this theoretical possibility.

In version 24, this operation is no longer possible.

Benefit provided by this new feature of version 24 :
Green light for audits.

955 New feature WD WB WM
SPAO : MANAGEMENT OF PLANES
A Single Page Application is often built on different planes. In version 24, managing planes is more visual.

It is easy to :
• View all the planes
• Insert a plane
• Move a plane.

This new feature has an effect of the planes of the page themselves, but also on the planes of the containing controls.

Benefit provided by this new feature of version 24 :
It doesn’t fly but it’s the right plane.

956 New feature WD WB WM
INSTAGRAM
A new “Instagram” control opens the user’s Instagram account page.

This allows the user, for example, to easily subscribe to an Instagram account.

Benefit provided by this new feature of version 24 :
1 billion users on Instagram!
**Simplified Linux Setup:**

In version 24, a Docker container with the WEBDEV Application server is present in Docker Hub. Setting up a Linux WEBDEV Application Server becomes extremely simple: 1 line to type or script! Depending on the type of server (10 or unlimited simultaneous connections), you will be asked for the server’s serial number.

**SAAS**

**Simplified Setup:**

In version 24, it is no longer necessary to use an FTP server to install the WEBDEV application server. This simplifies the setup process! Of course, it is still possible to continue using an FTP server.

**Rest Webservices**

In version 24, it is possible to specify that a procedure must be called (and executed automatically) each time a Webservice is called. This makes it possible, for example, to set up security or billing systems, such as a check of a token passed in the header.

**Deployment of Your Sites: Dynamic Updates**

This new feature will satisfy all Classic (Session) site administrators. Updating a Dynamic Classic site (session site) no longer requires disconnecting all Internet users to perform the update! In version 24, the update of a site does not affect connected users, whether in AWP or Classic mode.

**Management**

In version 24, the administrator in Web mode benefits from new features: install several sites with the same name on the same server, make the JSON description of a REST Webservice accessible,...

**Version 24 offers many other new features, which we will let you discover once you have ordered and received your product...**
Order today! Versions 24 have been announced. Any purchase of WINDEV Mobile 23 or WEBDEV 23 (excluding updates) as of 9/1/2018 entitles you to a free update (package and manuals) to versions 24, as soon as available. Any purchase of an update to version 23 after 9/1/2018 entitles you to version 24 (package and manuals) for the difference in update price and shipping cost. New versions are being announced now in our online store, or call us toll-free at 1-800-412-8688. Additional improvements and new features other than those described in this document may be made available in a new version. WINDEV, WEBDEV and WINDEV Mobile are professional software. The array of new features adds up to more than $24,000 since certain new features concern several aspects and are presented more than once. Despite these values in calculating this document, some new features are not yet commercial. The screen shots and the lists are given for information purposes only. Don’t hesitate to contact us if you need any additional information or to get confirmation of a feature. All the trademarks mentioned in this publication are registered trademarks of their respective owners.
TECHNOLOGY DOES NOT WAIT: ORDER VERSION 24 TODAY

Your code is unique: Windows, Internet, HTML, CSS, Linux, Mobile, Java, .Net, PHP, Mac, Web service, Android, iOS, Cloud, SaaS...