# WINDEV®

**925 NEW FEATURES**

AI code generation
Reactive procedures
WINDEV Suite SaaS
Password vault
Palettes
Secure web services
Integrated OAuth server
SSO automation
SMS one-time codes
Yousign
5x faster web services
New modifier
Control creation pane
Mobile scanner
Automatic HTTPS certificates
Web Scheduler & Organizer controls
Speed
Security
300 New WLanguage features
Windows, iOS, Android, Linux, Web, Java, PHP & more

NEW VERSION

## 2025

DEVELOP 10 TIMES FASTER

WINDEV.COM

# DEVELOP 10 TIMES FASTER

## The new version 2025 & WINDEV Suite SaaS bring you an incredible amount of useful new features.

AI code generation, palettes, secure web services, SSO automation, new controls, Yousign, integrated OAuth server, higher speeds, and more.

Version 2025 brings your teams 925 essential new features.

The ability to capitalize on your experience while taking advantage of new technologies and new tools is one of the main advantages of version 2025.

These new features meet your needs, while maintaining compatibility with the elements you already have.

WINDEV 2025, WEBDEV 2025 and WINDEV Mobile 2025 are your working tools. Our main goal is to help you succeed, regardless of the environment and devices your projects are aimed at.

Version 2025 will instantly become your favorite version.

**SUBSCRIBE OR ORDER VERSION 2025 TODAY!**

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**AVAILABLE FROM 2024!**

# AI: WLANGUAGE REAL TIME CODE GENERATION

Generative Artificial Intelligence provides developers with an invaluable tool.
Version 2025 introduces AI-based code suggestions in real time.

```
Click BTN_FindCustomer

    Click BTN_FindCustomer *

    // Search criteria
    QRY_Customer.ParamName    = EDT_Name
    QRY_Customer.ParamEmail   = EDT_Email

    HExecuteQuery(QRY_Customer)

∨ FOR EACH QRY_Customer

            // If a customer has been found, they are added to the table
            TABLE_CUSTOMER.AddLine(QRY_Customer.CustomerID,QRY_Customer.LastName,...
                        QRY_Customer.FirstName,QRY_Customer.Email,QRY_Customer.ISOCountry)

    END
```

*AI-powered code. AI detected the query items, found the Table control and populated the columns with the corresponding items.*

**001**  New feature WD WB WM
**BOOST PRODUCTIVITY THANKS TO AI**

Version 2025's AI-powered predictive code generation provides WLanguage code suggestions as developers type, drastically reducing the time needed for coding.

This allows for faster coding, reduces repetitive tasks and provides automation and suggestions for predictable parts of the code.
This feature is available in WINDEV 2025, WEBDEV 2025 and WINDEV Mobile 2025 and, of course, in SaaS* version.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*A powerful tool at your fingertips*

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# AI: PREDICTIVE WLANGUAGE CODE GENERATION

## 002 New feature WD WB WM
### AUTOMATIC CODE COMPLETION AND SUGGESTIONS

Version 2025 introduces context-based code suggestions. These suggestions take into account:

- the project,
- the code above and below the current line,
- previously modified code,
- windows,
- reports,
- sets of procedures,
- data file items (table columns).

AI suggests the most probable code based on all these elements.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*A new coding ally*

## 003 New feature WD WB WM
### GET SUGGESTIONS AFTER 1 SECOND OR PRESS A FUNCTION KEY

Non-intrusive code suggestions appear as "ghost text" (light yellow text) below the current line of code or at cursor position. By default, suggestions appear after 100 milliseconds without writing code.

To accept the code suggestion, simply press the TAB key.

To dismiss a suggestion, simply continue writing your code, or press the ESC key.

You can also request a new code suggestion by pressing CTRL+SHIFT+TAB.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Several options at your disposal*

## 004 New feature WD WB WM
### CODE SUGGESTIONS TO CONNECT TO SPECIFIC TECHNOLOGIES

One of the advantages of AI-powered WLanguage code generation comes into play when developers need to develop for a domain they are not familiar with.

Now developers can simply write a comment describing the desired process and AI will generate the corresponding code, based on the context of the current code and project.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*There are no limits*

## 005 New feature WD WB WM
### EASILY LEARN WLANGUAGE OR WLANGUAGE DOMAINS

AI-based WLanguage code generation is also useful for developers new to WINDEV, making it easier for them to discover the incredible possibilities of a 5GL.

Here too, writing a comment describing the desired process is all it takes to generate the corresponding code, based on the context of the current code and project.

The more precise the comment, the better the result.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*An essential tool for both new and experienced developers*

## 006 New feature WD WB WM
### SUGGESTIONS IMPROVE OVER TIME

This powerful generative AI feature is available at a relatively early stage.

New functionalities will be added over time, and the engine itself will improve through self-learning.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Like fine wine*

Note: depending on the number of suggestions provided over a given period of time, as well as server load, this feature may be temporarily paused to free up resources for other users.
This feature is available with no additional subscription needed, during the marketing period of the current version.

**Phantom text in yellow italics appears as the user types.**
**Press TAB to accept a suggestion.**

```
request_ws.URL = "https://api.weather.precilia.com/v1/forcast?latitude=
response_ws is httpResponse = HTTPSend(request_ws)
weather_forecastws is JSON = response_ws.Content

FOR EACH water_temperature IN weather_forecastws.temperature
    forecast.temperature_table.Add(water_temperature)
END

FOR EACH clouds IN weather_forecastws.cloud_cover
    forecast.clouds_table.Add(clouds)
END

FOR EACH wind_direction IN weather_forecastws.wind_speed
    forecast.wind_table.Add(wind_direction)
END
```

*AI analyzed the code, detected a pattern and therefore suggests a block of code for the following elements of the source JSON structure. To accept the suggestion (represented in light yellow italics), press TAB*

```
EDT_END_DATE = CalculateEndDate(EDT_CONTRACT_DATE)
```

*AI analyzed the window and detected that a procedure is calculating a due date. It detected an Edit control with a contract date, and suggests the most probable code to continue the current line. To accept the suggestion (in light yellow italics), press TAB*

*When coding, simply type a comment...*

```
pdf_contract is pdfDocument = PDFOpen(EDT_CUSTOMER_CONTRACT)
confidential_watermark is Watermark

// Adds a "Confidential" watermark to the first page of the PDF documen
```

**If you are not happy with the result, press SHIFT+TAB to request a new suggestion**

*...AI suggests code to perform the action described in the comment, based on the context of the project. Press TAB to accept, Shift+TAB to get a new suggestion, or Esc or keep typing to dismiss the suggestion*

```
pdf_contract is pdfDocument = PDFOpen(EDT_CUSTOMER_CONTRACT)
confidential_watermark is Watermark

// Adds a "Confidential" watermark to the first page of the PDF document
confidential_watermark.Text = "Confidential"
confidential_watermark.Font.Name = "Arial"
confidential_watermark.Position = iCenterH + iBottom

PDFAddWatermark(pdf_contract.Page[1], confidential_watermark)
```

# COLOR PALETTES
## LET END-USERS SWITCH TO THEIR FAVORITE THEME
## 1 LINE OF CODE, 1 CLICK

### 007 New feature WD WB WM
**ONE LINE OF CODE**

With palettes, end users can change the look of your application in 1 click.
In the source code, simply use the `PaletteChange` WLanguage function, indicating the palette to be applied.
The change is applied dynamically by the WINDEV 2025 graphics engine.
That's all it takes!

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Powerful customization, one click away*

### 008 New feature WD WB WM
**WHAT IS A COLOR PALETTE?**

A palette is a set of nearly one hundred colors.
Each color is intended for a specific use in the skin template: background, text, rules, etc.

Each color is named according to its use: main_background, main_text, banner, button_background, etc.
Once defined, palettes allocate a color to each "color name".
For example button_background = yellow or button_background = RGB(125,200,36)
When a new palette is applied, all controls automatically switch to the new colors.
This mechanism lets you change the look of an application easily and dynamically.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Working with colors is now easier than ever*

### 009 New feature WD WB WM
**HOW TO CHANGE A COLOR PALETTE**

The new `PaletteChange` WLanguage function allows you to change the color palette used by a skin template.
Now, you can refresh an entire application in 1 line of code.



PaletteChange



PaletteGenerate

Simply add an option in the application so that the user can choose the desired theme: dark theme, "same colors as the current Windows theme", etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Hoist your colors*

### 010 New feature WD WB WM
**COLOR PALETTES PROVIDED: DARK THEME AND MORE**

Numerous color palettes are available in version 2025.
For example, the "Dark theme" palette lets you easily switch your applications to dark theme.
This means all your applications can use this popular theme.
In your application, this will require a single line of code.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Like night and day*

### 011 New feature WD WB WM
**ONE SKIN TEMPLATE, MANY PALETTES**

Applications use skin templates to define their style book.
A skin template defines the style of the controls: control borders, rounding, effects, font and font size, control size, etc.
And, of course, skin templates use colors for all these elements.
In version 2025, the internal skin template format has been changed from fixed colors to a palette.
As an added benefit, skin templates from version 23 onwards are compatible with version 2025, and can therefore use different palettes. Feel free to use them in your existing applications.
When recompiling projects in version 2025, you will be prompted to adopt the new skin template format.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*The best of both worlds*

### 012 New feature WD WB WM
**USE THE COLORS OF THE CURRENT WINDOWS THEME**

The new `PaletteGenerate` WLanguage function generates a color palette based on the Windows accent color currently in use on the end user's computer.
This makes it easy to obtain a UI that matches the dominant color of the PC in use.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Cohesive UI without effort*

### 013 New feature WD WB WM
**ICONS AND BUTTONS**

A skin template contains icons.
When a different palette is applied, icons need to adapt, especially when switching to a dark theme.
In particular, icon colors must change automatically to improve readability.

*USE PALETTES TO CHANGE THE LOOK OF YOUR APPLICATIONS IN 1 LINE OF CODE*

For example, in dark theme, different colors change to white.



*Left - Original icons*
*Right - Automatically white icons for dark mode*

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Automatic adaptation*

### 014 New feature WD WB WM
**CHARTS**

An application can contain charts.
When a new palette is applied, the chart adapts to the new colors.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Beautiful charts by default*

### 015 New feature WD WB WM
**OPACITY IN COLORS**

Palette colors support opacity.
Transparency is defined by an alpha channel.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Even more possibilities*

2025
6
7
2025
New features in WINDEV 2025 WEBDEV 2025 WINDEV Mobile 2025 & WINDEV Suite SaaS
New features in WINDEV 2025 WEBDEV 2025 WINDEV Mobile 2025 & WINDEV Suite SaaS

## 016 New feature WD WB WM
### CREATE YOUR OWN COLOR PALETTES

When a project has to comply with a specific style book, you can simply create a specific palette.
The new **PaletteGenerate** WLanguage function allows you to create a color palette.
It is also possible to create additional named colors and include them in a palette.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Unleash your inner artist*

## 017 New feature WD WB WM
### ADVANCED MODE FOR GRAPHIC DESIGNERS

You can indicate that a named color is derived from another named color to which a filter has been applied. You can define the hue, lightness, etc.
This makes it possible to create color gradients.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*A palette that builds itself*

## 018 New feature WD WB WM
### GENERATE A COLOR PALETTE IN 3 CLICKS

It is also possible to generate a new palette almost automatically by providing only 1 to 3 basic colors.
A cohesive palette will be generated using these colors.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Harmonious colors in no time*

## 019 New feature WD WB WM
### EASILY SHARE PALETTES BETWEEN PROJECTS

On disk, palettes are stored as JSON files.
This makes it easy to share them between different projects.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Sharing is caring*

## 020 New feature WD WB WM
### USE PALETTE COLORS BY NAME

You can use a "named color" instead of the value of the color, anywhere in WLanguage code. This includes functions, properties, etc.
The same applies to the 7-tab window.

*Named color in the 7-tab window*

One advantage is that, when a new palette is applied, the new color is automatically used.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Call colors by their name*

## 021 New feature WD WB WM
### USE COLOR PALETTES IN MOBILE PROJECTS

Palettes in version 2025 can be used and shared with WINDEV Mobile applications.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Interoperability*

## 022 New feature WD WB WM
### ACCESSIBILITY: ADVANTAGES OF PALETTES

To help users with visual impairments (e.g., color blindness) make the most of your application, you can easily provide one or more adaptive palettes.
Some specific palettes can also help prevent epileptic seizures.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Colors for everyone*

## 023 New feature WD WB WM
### MULTIPLE PALETTES IN A SINGLE PROJECT

In a project, certain windows may require a different appearance.
Some examples include settings or administration windows.
To achieve this, you can use different palettes for different windows within a single project.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
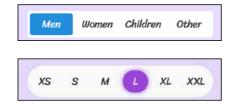*Practicality*

# NEW CONTROL FEATURES

## 024 New feature WD WB WM
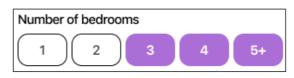### NEW SEGMENTED BUTTON CONTROL

The new Segmented Button control is a smart way to group options together and allow single or multiple choice. These options can be represented using images as well.
This is much easier than a using a series of switch controls.
See new feature 242

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Powerful and simple code, perfect alignment*

## 025 New feature WD WB WM
### BLUR CONTROLS

In version 2025, you can programmatically blur the content of an Edit, Combo Box or Image control.
The default blur level makes text unreadable. You can change this value at any time.
The new **..Blur** property takes the blur radius as a parameter.
In particular, blurring makes it possible to comply with GDPR regulations directly in the code, if you don't want to make a given control invisible.

*Last name and Phone fields have been programmatically blurred*

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Easy GDPR compliance and privacy tool*

## 026 New feature WD WB WM
### TABLE CONTROL BASED ON DATA FILES: SORT AND FILTER ON ALL COLUMNS

In version 2025, the Table control enables users to sort and filter all columns, including non-indexed columns.
Bear in mind that, on non-indexed columns, you must manipulate a reasonable volume of data to optimize response times.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Let users make the most of your tables*

## 027 New feature WD WB WM
### END-USER REPOSITIONABLE NOTES: NEW LOOK

Repositionable Notes get a new look in version 2025.
See new feature 219

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Modernize controls by simply recompiling projects*

# 5 NEW SMART CONTROLS

## 028 New feature WD WB WM
### 5 NEW SMART CONTROLS

Version 2025 features 5 new Smart controls:
- Retrieve one-time code
- QRCode with central logo
- Light color picker for web
- Handwritten signature for mobile
- Page range input

You can learn more about these Smart controls in their corresponding sections: New feature 215 for WINDEV, 442 for WINDEV Mobile, and 781 for WEBDEV.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Massive time savings*

# NEW FEATURES OF WORD PROCESSING AND SPREADSHEET CONTROLS

## 029 New feature WD WB WM
### SPREADSHEET CONTROL: NATIVE CSV SUPPORT

CSV is a legacy format used to create spreadsheets. Today, it is still used as an export format by many programs.
WINDEV has always included WLanguage functions for CSV files. In version 2025, the Spreadsheet control lets you directly display and manipulate the contents of a CSV file.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Native support*

## 030 New feature WD WB WM •
### WORD PROCESSING CONTROL: EXPORT TO PDF & PRESERVE LINKS

You can insert web links into your document.
In version 2025, when a document containing links is exported to PDF (**DocToPDF** WLanguage function), links are preserved and URLs are clickable.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*True links, no matter the format*

## 031 New feature WD WB WM
### SPREADSHEET: 3 NEW FUNCTIONS FOR FORMULAS

Version 2025 introduces three new functions for formulas in Spreadsheet controls:
- DATEDIF: Difference in days between 2 dates
- GROWTH: Value along an exponential trend
- DCOUNTA: Counts non-empty cells in a range.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Simple, yet powerful programming*

## 032 New feature WD WB WM
### MISCELLANEOUS

- Ability to use the format painter programmatically

# NEW CHART CONTROL

## 033 New feature WD WB WM
### ICONS INSTEAD OF LABELS

In version 2025, categories in Pie and Donut charts can be represented using icons instead of labels.

This makes for a more modern, user-friendly data representation.



*Icons replace labels*

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Charts you're happy to look at*

# PDF CONTROL: NEW FEATURES

## 034 New WD WB WM •
### PROGRAMMATICALLY READ FROM AND WRITE TO FIELDS IN PDF FORMS



*In this PDF form,
fields have been populated programmatically.
Once filled out, users can then save the PDF document.*

A PDF document may contain form fields on different pages.
In version 2025, these fields can be manipulated programmatically.
Among other actions, you can:
- read values
- write values
- save a PDF document modified programmatically or edited by the end user

This enables you to automate various processes:
- generate pre-populated forms
- retrieve data directly
- perform batch processing: fill out and send a form, without human intervention

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Essential PDF functionalities*

## 035 New WD WB WM •
### LIST FIELDS IN A PAGE OF A PDF FORM

In version 2025, it is also possible to analyze a page programmatically to detect form fields. This allows you to:
- list fields
- determine their type

The `pdfPage` WLanguage type now contains additional information as an array of PDF controls.
This enables even more automated processing.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*More automation possibilities*

## 036 New feature WD WB WM
### EXTRACT PAGES FROM A PDF DOCUMENT TO CREATE A NEW PDF DOCUMENT

The new `PDFExtract` WLanguage function allows you to extract one or more pages from a PDF document, and create a new document from these pages.
Example:

```
MyPDF = MySourcePDF.Extract("3,10,15-16,36")
```

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Extremely useful feature*

## 037 New feature WD WB WM
### NEW CHART CONTROL: PICTORIAL PERCENTAGE

A new type of chart appears in version 2025: Pictorial Percentage chart.
This new chart visually illustrates data as percentages, using shapes, such as bottles, human silhouettes, thermometers, etc.
This makes information easier to understand at a glance.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025
*New type of chart*

## 038 New feature WD WB WM
### NEW PICTORIAL PERCENTAGE CHART: PROGRAMMING

The new Pictorial Percentage chart uses the same programming as any other standard chart.
You can specify the desired images programmatically, or via the 7-tab window.
Supported formats are vector (SVG) or bitmap (JPEG, PNG, etc.).
Vector format is recommended for images that are likely to be resized, without losing quality.
You can manipulate this type of chart using `gr` functions.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Standard programming*



*A few examples of the new Pictorial Percentage chart*

## 039 New feature WD WB WM
### CHARTS: FASTER DISPLAY

WINDEV's internal display engine can now use Direct2D.
When a WINDEV application uses this engine, charts are loaded much faster.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Compile your projects in version 2025, and let the magic happen*

This opens endless possibilities.



## 040 New feature WD WB WM
### CHARTS: CUSTOMIZABLE TOOLTIPS

All charts feature tooltips.
In version 2025, these tooltips are customizable and can contain dynamic data, provided programmatically.
Custom tooltips can be created using an Internal Window.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Display information exactly the way you want*

# IMAGE EDITOR: NEW FEATURES

## 041 New feature WD WB WM •
### VIEW AND EDIT IMAGES IN FULL SCREEN MODE

In version 2025, the Image Editor control features a new image display mode: "Full Screen View".
This mode displays only the image in full-screen mode.
To enable this display mode, press F11.
A new full-screen editing mode has also been introduced, allowing you to take full advantage of your screen real estate.
This mode is ideal for precise alignment tasks, or to get a comprehensive overview of your work.


*Image Editor in a standard window*


*F11: Full-screen mode enabled*

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*See the full picture*



## 042 New feature WD WB WM
### IMAGE EDITOR: FASTER THAN EVER

In version 2025, images are loaded much faster, regardless of the display engine used.
This is extremely useful for all image editing tasks, such as zooming, moving layers, etc.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Major improvement for TSE / RDP*

# EDIT WEBSITES AND MOBILE APPS IN WINDEV

## 043 WD WB WM
### ONE SINGLE ENVIRONMENT FOR ALL YOUR PROJECTS

As you know, it is possible to use WINDEV, WEBDEV and WINDEV Mobile in the same environment.
Project elements are immediately shared between all 3 platforms: analyses, queries, reports, procedures, classes, code, etc.
All windows, pages and mobile windows are in the same project.
These elements open directly in the WINDEV environment.
This allows for easy maintenance and portability of a WINDEV application to mobile and Web, without having to import or duplicate elements of the project.
This feature is available both in standard and SaaS versions.

In version 2025, several changes were made to the environment to improve daily workflow. Some of these changes include the color of the icon at the top of the environment indicating the current configuration (yellow for WINDEV, blue for WEBDEV and orange for WINDEV Mobile).
Reminder: A license of the corresponding software products is required.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*One for all, all for WINDEV*

# TRANSFORM WINDEV APPLICATIONS INTO SAAS

## 044 New feature WD WB WM
### EASILY TRANSFORM DESKTOP APPS INTO SAAS

A growing need is to transform Windows applications (or parts of applications) into SaaS applications, to be sold under a subscription model.
A SaaS administration site is provided with WEBDEV Application Server 2025. Thanks to WINDEV 2025 and the `SaaS` functions, you can use this site to manage the applications you wish to distribute in SaaS mode.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Create SaaS applications*

# DATA MODEL EDITOR DATA SCHEMA

## 045 New feature WD WB WM
### CTRL+E: SEARCH FOR A DATA FILE

As you know, CTRL+E is a powerful key combination. You can use this shortcut to search for or set the position on a project element.
In version 2025, search also includes the description of data files (tables) and items.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*More powerful search*

## 046 New feature WD WB WM •
### MODEL CLASS (ORM): REGENERATE ALL CLASSES IN A SINGLE ACTION

You can generate classes that correspond to the description of data files (tables).
This allows you to structure your application using the Object-Relational Mapping technique (ORM).
The "Regenerate all model classes" menu option regenerates the class when the structure of the data file (table) is modified.
In version 2025, a new option allows you to regenerate all the relevant classes in a single operation.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Less actions*

## 047 New feature WD WB WM
### WARNING: IMPACT OF STRUCTURAL CHANGES ON DEPLOYED APPLICATIONS

As you know, HFSQL automatically handles changes made to the structure of data files (tables) in deployed applications.
However, some existing processes may be affected by this structural modification. Some examples include:
• deleted item
• change of item type
• etc.
The Database Schema Editor in version 2025 includes a new feature that warns you when a structural change has an impact on existing applications, even for applications you haven't developed.
Simply indicate the name (address) of the server(s) hosting the data, and use this feature.

Note: This functionality is automatically executed before an "automatic data file modification" is run.
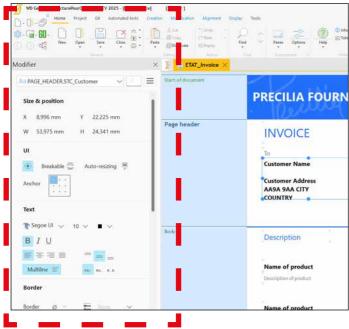See new feature 173

# ENVIRONMENT

## 048
New feature WD WB WM
**NEW MODIFIER**



*All parameters at your fingertips*

Version 2025 features a revamped modifier pane.
See new feature 062

## 049
New feature WD WB WM
**CONTROL CREATION PANE**

Version 2025 also introduces a new, incredibly useful pane: the Control Creation Pane, which allows for an intuitive control creation process.
See new feature 065

## 050
New feature WD WB WM
**FASTER, MORE RESPONSIVE ENVIRONMENT**

In version 2025, the environment is faster and less resource-intensive, providing a much smoother user experience.

## 051
New feature WD WB WM ●
**5X FASTER TEMPLATE UPDATES**

Window, page and report templates are widely used to obtain a cohesive design language. When required, template updates use all available cores.
In version 2025, updating one or more templates across an entire project is on average 5 times faster.
This is particularly useful for large-scale projects.

## 052
New feature WD WB WM
**PROJECT EXPLORER: EVEN MORE PRACTICAL**

In version 2025, the Project Explorer offers 2 new features:
• ability to rename a window, report, page, class, set of procedures and more from within the explorer
• lighter UI, showing only the sections in use

## 053
New feature WD WB WM
**NEW VOCABULARY: DATA FILE OR TABLE?**

In version 2025, you can choose the vocabulary used in WLanguage, the environment and help systems.
See new feature 170

## 054
New feature WD WB WM ●
**EDITING IN WINDEV SUITE: THE ICON IN THE WINDOWS BAR IS IN THE RIGHT COLOR**

In WINDEV Suite, you can develop applications for Desktop and Mobile, as well as websites.
In version 2025, the icon displayed in the Windows taskbar adopts the color of the configuration currently being edited: yellow for WINDEV, blue for WEBDEV and orange for WINDEV Mobile.

## 055
New feature WD WB WM ●
**NEW EDITOR SHORTCUTS**

3 practical new shortcuts in the editors:
• Space: move elements by the background
• ALT: duplicate
• SHIFT+Resize: proportional resize.

New feature WD WB WM

## 056 to 058
**MISCELLANEOUS**

• New presentation of tutorials
• Faster project migration
• Launching Windows Explorer from the environment: ability to choose the desired file manager (e.g. Total Commander)

# STATIC PROJECT AUDIT

## 059
New feature WD WB WM ●
**DETECT LARGE IMAGES**

The static audit now detects images of disproportionate dimensions.
Reducing these images lightens and speeds up the application or website.

# DYNAMIC PROJECT AUDIT

## 060
New feature WD WB WM
**NEW WARNING: DRAWING IN A COLORLESS IMAGE**

One trap a developer can fall into when programmatically modifying an image is forgetting to specify the shape or background color. The dynamic audit now identifies and highlights this problem. This means the developer doesn't have to lose time trying to figure out why nothing appears where the image should be.

# PROJECT MANAGEMENT HUB

## 061
New feature WD WB WM ●
**AUTOMATIC NOTIFICATION OPTIONS**

By default, the Project Management Hub is configured to automatically send project status notifications to all relevant recipients.
In version 2025, you can decide which messages should be sent to each recipient.
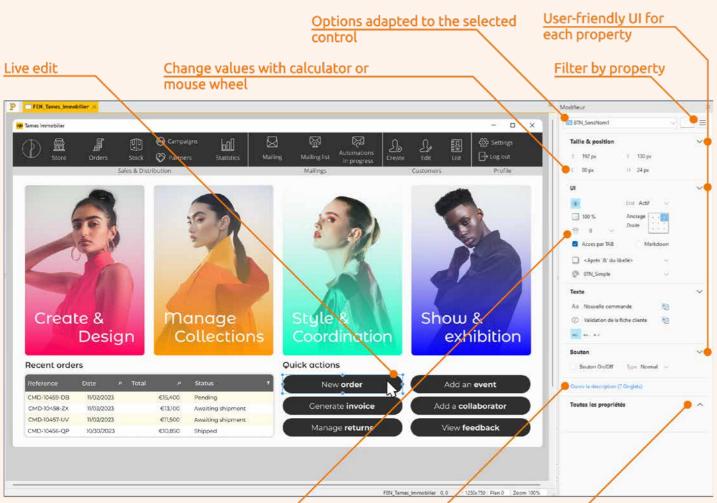These are some of the configurable notifications:
• New task in a requirement managed by the contributor
• Requirement development completed
• Requirement test completed
• End of a requirement task
• New incident

**WINDEV 2025 IS COMPATIBLE WITH YOUR EXISTING PROJECTS. JUST COMPILE AND GO.**

You don't need to migrate projects from previous versions to version 2025. Simply recompile the application and it will run in version 2025.

This also applies to WEBDEV and WINDEV Mobile.

You can use components from previous versions with applications in version 2025.

IDEs in version 2025 directly open projects from previous versions.

You can have different versions of your environments on your PC. With a license for version 2025, you can also launch previous versions.

# NEW MODIFIER

Options adapted to the selected control

User-friendly UI for each property

Live edit

Change values with calculator or mouse wheel

Filter by property



The pane can be moved, resized or displayed on a second screen

7-tab window options

Collapsed properties

## 062 New feature WD WB WM
**MODIFIER UX ADAPTS TO THE CONTROL TYPE**

The new modifier will instantly become an essential tool in your workflow.

This new pane offers a smart, user-friendly view of the properties of the current window, page, control or group of controls.

Properties are sorted by relevance, according to the control.

Each property is represented visually, providing a much better user experience.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Most relevant properties at the top of the list*

## 063 New feature WD WB WM
**UNIVERSAL MODIFIER**

The new modifier is available for all elements:

- control
- window
- page
- report

The layout adapts to each element, while maintaining overall coherence.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*One modifier to rule them all*

## 064 New feature WD WB WM
**CHANGES IN REAL-TIME**

Changes made in the new modifier are immediately reflected in the current element.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*See changes in real time*

# CONTROL CREATION PANE

## 065 New WD WB WM
**RIBBONS ARE GOOD, BUT PANES ARE BETTER**

The ribbon contains all available controls.

With so many controls to choose from, it can become difficult to find your way around.

In version 2025, a new control creation pane allows you to easily create the controls you need.

Of course, the ribbon is still available.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Better UX*

## 066 New WD WB WM
**NEW LAYOUT**

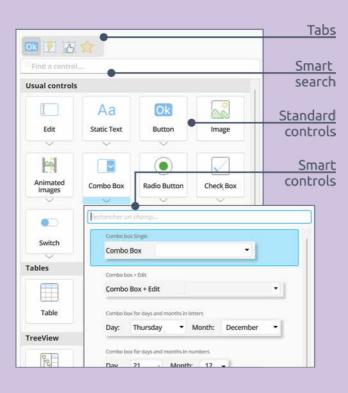The new pane offers a much clearer layout.

Controls are grouped by categories.

Each control is presented in a thumbnail.

The pane can be positioned on the right or left of the environment, or can be undocked.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Practical, yet powerful*
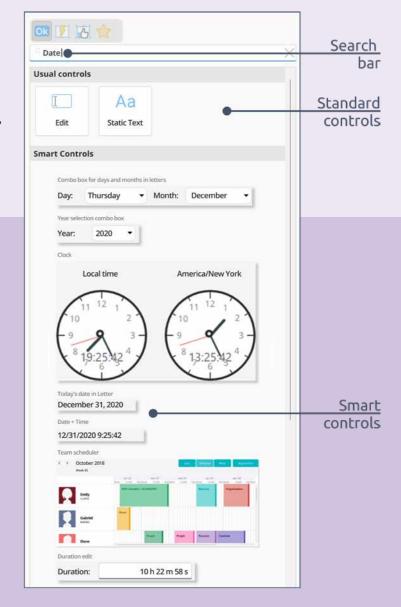
## 067 New WD WB WM
**FEATURES**

The control creation pane contains a number of smart and essential features:

- Intuitive search mode that filters results as you type one or more keywords (Example: Date, date combo, time input, etc.)
- Preset controls
- Favorite controls
- Smart controls

You can position the pane at the top, bottom, on a 2nd screen, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Find the exact control you want, within seconds*



Search bar

Standard controls



Tabs

Smart search

Standard controls

Smart controls

Smart controls

- New blocker incident
- Resolution and archiving of an incident
- Incident changed to blocker
- Incident changed to non-blocker
- Reassignment or reopening of an incident
- Request for more information about an incident
- Incident changed to "Won't fix"
- New workaround for an incident
- Workaround modified
- Incident moved to another set
- Incident changed to another type
- Incident moved to another sprint
- Cancellation of a task associated with a requirement
- Requirement associated with a sprint
- etc.

**Benefit of this new feature in version 2025:**
*Fine-tune notifications*

## 068 New feature WD WB WM
**MISCELLANEOUS**

- New incident ticket status: Fixed and retested
- Ability to send a notification to all contributors of a requirement
- Ability to delete a project and all its dependencies.

## TECHNICAL AND FUNCTIONAL DOCUMENTATION

## 069 New feature WD WB WM
**SOFTWARE INVENTORY (SBOM)**

An SBOM (Software Bill Of Materials) is a comprehensive list of all the software components and their dependencies in an application.

You can now edit this list in the auto-generated technical documentation.

**Benefit of this new feature in version 2025:**
*Inventories made easy*

## SOFTWARE FACTORY: CONTINUOUS INTEGRATION

## 070 New feature WD WB WM •
**MIGRATE NON-SCM PROJECTS**

The Software Factory now enables you to request the migration of a project that is not hosted in the SCM.
A new action has been added for this purpose: Migration of a project on disk.

**Benefit of this new feature in version 2025:**
*Less actions required*

### New feature WD WB WM

## 071 to 075 MISCELLANEOUS

- Ability to change the order of action plan parameters
- New action to generate a test library
- Ability to set an SCM database password
- New parameter for specifying a check-in comment
- New action to add a project to the SCM database

## USER GROUPWARE: PASSWORD PROTECTION

## 076 New feature WD WB WM
**EXPOSE USER ACCOUNTS USING AN OAUTH SERVER**

User Groupware (GPU) accounts can be integrated into the OAuth server provided with version 2025.
This allows third-party applications to use GPU accounts for authentication.

**Benefit of this new feature in version 2025:**
*Seamless authentication*

## GIT / GITHUB / GITLAB

## 077 New feature WD WB WM
**GIT: PROPERTIES IN TEXT FORMAT**

New properties available in text format:
- Caption
- Image
- Visibility
- ....

**Benefit of this new feature in version 2025:**
*Less actions*

## 078 New feature WD WB WM
**VIEW THE HISTORY OF CHANGES MADE TO AN ELEMENT DIRECTLY IN THE ENVIRONMENT**

In version 2025, you can see the list of successive versions of an element and compare their differences directly from the environment.

**Benefit of this new feature in version 2025:**
*Less actions*

## IMAGE EDITOR

## 079 New feature WD WB WM •
**BUILT-IN IMAGE EDITOR: IMPROVED PERFORMANCE**

The image editor built into the environment benefits from major performance improvements.
Modifications are much faster and smoother.

**Benefit of this new feature in version 2025:**
*A more powerful image editor for developers*

## WDMSG AUTOMATIC TRANSLATION



## 080 New feature WD WB WM
**FASTER EXTRACTION OF TEXT TO TRANSLATE**

In version 2025, if a project is hosted in the SCM, the text from its windows, pages, code, etc., is extracted much faster.
This operation can be up to 2 times faster.

**Benefit of this new feature in version 2025:**
*Faster is always better*

## SCM - COLLABORATIVE SOURCE CODE MANAGER

## 081 New feature WD WB WM •
**ADDITION OF AN ITEM WITH THE SAME NAME AS A PREVIOUSLY DELETED ITEM IN THE SCM DATABASE**

When an element is deleted from the SCM, it remains in the history.
Later, sometimes much later, you create a new element using the same name as the previously deleted element.
When this happens, the SCM now offers you two options:
- restore the old element
- use this name for the new element.
This is a much more practical approach, compared to previous versions.

**Benefit of this new feature in version 2025:**
*A choice right when you need it*

## 082 NEW OPTION: CLOSE ALL NON-CHECKED OUT DOCUMENTS

New feature WD WB WM

Often, when browsing through a project, you open different elements to view them, then leave them open.
This visually loads the open documents bar.
In version 2025, a new option allows you to close all documents that have been opened but not checked out.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Clean up the editor in one click*

## 083 ELIMINATE FALSE POSITIVES

New feature WD WB WM

When a team uses the SCM, each developer regularly checks their changes back into the project repository.
When another developer checks out these resources, the SCM displays a list containing all the modified elements.
This list also contains the elements in which only the internal structure of objects has been modified.
In version 2025, you can choose not to view these elements, which cleans up the list.
The branch merge also features this type of list.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*See only the changes you care about*

## 084 FASTER DELETION OF BRANCHES AND DIRECTORIES

New feature WD WB WM

The SCM uses its own database to manage project repositories.
This database format evolves regularly, in particular to improve performance and functionality.
It is therefore recommended to migrate this database every year.
Simply click "Migrate to the latest format" in the "Tools" tab of the SCM administrator. This option completes the migration process without affecting your workflow.
We strongly advise you to update this database.
Note that the SCM remains compatible with all versions of the environment.
For example, the database format in version 2025 allows for faster deletion of branches and directories.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Smooth operation*

## 085 VIEW PROJECT SHARES

New feature WD WB WM

In version 2025, a new option displays a list of all projects (hosted in the same SCM) with which the current project shares elements.
The list shows both the names of the projects and the names of the shared elements.
This makes it possible to identify projects that may be affected if changes are made to one of these elements.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Get a better view*

## 086 LIST OF CHECKED-OUT ELEMENTS IN 1 CLICK

New feature WD WB WM

The SCM can display a list of checked-out elements that also indicates the developer that checked them out.
This option is now available directly in the ribbon.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Easier access to a useful feature*

## 087 SCM: MISCELLANEOUS

New feature WD WB WM

- The element check-in UI is now the same, whether you are checking in one or multiple elements
- Option to automatically compile the project when retrieving elements.

## SCMDRIVE: YOUR PROJECTS IN THE CLOUD IN 3 CLICKS

SCMDrive is the go-to, cloud-based source code management solution.
Subscribe now to benefit from a competitive price and start using your SCM within minutes.
This SCM is accessible from anywhere in the world.
In version 2025, the SCM database format is updated by the SCM administrator.
Visit **www.scmdrive.com**

## CODE EDITOR

## 088 CODE EDITOR: SMOOTHER ACTIONS

New feature WD WB WM •

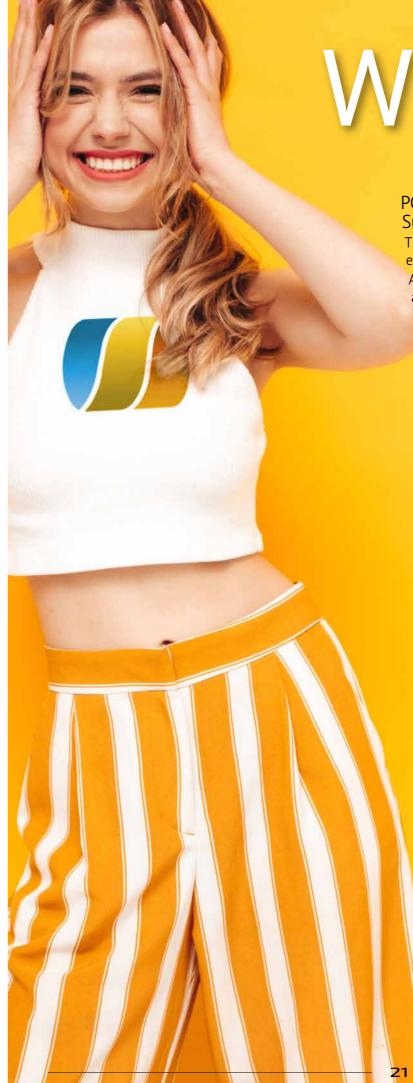The code editor in version 2025 will exceed the expectations of all developers.
All actions are now faster and smoother, regardless of the size of the code.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Better UX*

# WINDEV®
## *Suite SaaS*

PC SOFT is proud to introduce WINDEV Suite SaaS.
This SaaS version is the combination of the 3 environments.
All the new features presented in this document are available in the SaaS version of WINDEV, WEBDEV and WINDEV Mobile.
Other new features will be added to the SaaS version over the course of the year. Unlike the legacy version, you don't have to wait until the end of the year to benefit from the new features. This is one of the major advantages of the SaaS version.

### *8 ADVANTAGES OF SAAS VERSION*

1. You're always up to date, and benefit from hundreds of exclusive new features all year round
2. You can still use your old versions to maintain your projects
3. No USB ports required
4. No dongles required
5. Ability to work offline
6. Available on Windows ARM, TSE and Windows VM (Linux, Mac, Azure, VMWARE, etc.)
7. Monthly billing available, for clearer budgets
8. 3-year subscription available, avoiding multiple purchase orders and forms

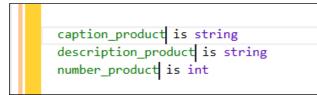To learn more, visit WINDEV.COM/SAAS, or contact PC SOFT or your local distributor.

Note: "SaaS" refers to how you log in to the IDE. You don't have to change any of your habits. Simply develop your projects as usual, but without a dongle!

## 089 MULTICURSOR: EDIT MULTIPLE LINES IN A SINGLE OPERATION

New feature WD WB WM

```
caption is string
description is string
number is int
```

*The tooltip contains clickable options and useful info*

```
caption_product is string
description_product is string
number_product is int
```

*3 lines added at the same time*

Version 2025 introduces a powerful feature in the code editor.
Multicursor allows you to perform the same operation simultaneously at all cursor positions.
For example :
• insert text in several places at once
• rename several occurrences in a single operation
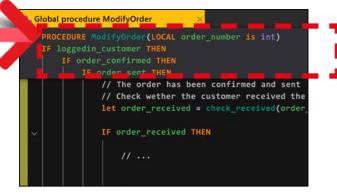Operations are performed using shortcut keys:
Use Ctrl+Alt+Click to place cursors on a line.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Less actions required*

## 090 STICKY HEADER NEVER GET LOST AGAIN

New feature WD WB WM



*Note the procedure code pinned at the top of the window. This area contains the headers of each block*

Sticky headers are very handy when the code overflows the working area and involves nesting.
Here's how it works: As you scroll down, the first line of each block remains displayed at the top of the editor.
Clicking any of the pinned lines takes you directly to the corresponding code.
If necessary, you can disable this feature.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*The context is always visible*

## 091 VIEW ALL EVENTS AND HIDE EMPTY EVENTS IN 1 CLICK

New feature WD WB WM

The code editor in version 2025 lets you edit all window, page or reports events and their controls in a single code window, with just 1 click.
This options provides a comprehensive overview of the code.
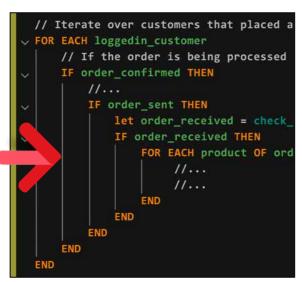To avoid overloading the editor, events that contain no code are not displayed.
While in this mode, you can edit the code as usual.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Free up space*

## 092 INDENT GUIDES

New feature WD WB WM



*Note the fine lines representing the blocks of code*

This new feature lets you easily identify each block of code, reducing mental workload and making for a smoother user experience.
A fine line is all it takes.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Less risk of errors*

## 093 SYNTAX HIGHLIGHTING & TYPE OF ELEMENT IN CODE SUGGESTIONS

New feature WD WB WM •



*Code suggestions are also highlighted*

The elements displayed in the code suggestions use the same syntax highlighting as the code.
The code suggestions popup has been improved in version 2025.
The type of element is shown next to each suggestion: Control, string, int, real, boolean, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Essential information at a glance*

## 094 100,000 CHARACTER-LONG LINE OF CODE

New feature WD WB WM •

At some point, every developer has just wished they could paste large content, like a JSON description, directly into a line of code.
In version 2025, the code editor supports lines of code of up to 100,000 characters.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Yes, 100,000!*

## 095 DELETE TRAILING SPACES AND TABS

New feature WD WB WM •

It is very common to leave trailing space or TAB characters at the end of lines of code.
In version 2025, the code editor automatically removes these unwanted characters.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Cleaner code by default*

## 096 SET CURSOR THICKNESS & BLINK RATE

New feature WD WB WM

It may seem like a small detail, but many developers have their preferences when it comes to the cursor in the code editor.
In version 2025, it is now possible to set the cursor thickness, and its blink rate.



BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Total customization*

## 097 FASTER MINIMAP

New feature WD WB WM •

In version 2025, the minimap (small preview in the scrollbar) is much faster, making for a smoother user experience.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Fly through your code*

# WEB SERVICES: 2.5 OR 10 TIMES FASTER

## 098 SOAP & REST WEB SERVICES

New feature WD WB WM

WINDEV and WEBDEV 2025 make it easy to create web services that can be used by both proprietary and third-party applications and websites.
These web services can be hosted on Windows or Linux.
In version 2025, web services are significantly faster.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Better web services and microservices*

For instance, a web service used simultaneously by multiple clients is on average 10 times faster than in previous versions.
Note that you are free to disable this optimization mode, if you prefer to keep using the mode available in the previous version.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Compile your project in version 2025 for 10x faster web service calls*

## 099 WEB SERVICES AND HIGH LOADS WITH SIMULTANEOUS CALLS: 10 TIMES FASTER

New feature WD WB WM

In version 2025, web services perform better under high loads.
For example, database connections are preserved and no longer reopened with each call.
Processes have also been optimized.

## 100 WEB SERVICES AND HIGH LOADS WITH SEQUENTIAL CALLS: 2.5 TIMES FASTER

New WD WB WM

Sequential web service calls have also been optimized.
Calls are 2.5 times faster.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Compile your project in version 2025 for 2.5x faster web service calls*

## 101

### "Pascal Case", "snake_case": SWITCH BETWEEN VARIABLE NAMING CONVENTIONS IN 1 CLICK



There are several popular variable naming conventions.
Two of the most common are:
Pascal Case: The first letter of each word is capitalized.
Example: CustomerName
Snake case: All lowercase, words separated by a underscore.
Example: customer_name
In version 2025, you can switch from one naming convention to another.
You can apply changes to
- the current element
- all elements of current process (local variables only)
- all the project elements.

One way of taking advantage of this new feature is to use one convention for local variables and the other for global variables. This makes it very easy to identify variables at a glance.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Readability and practicality*

New feature WD WB WM

## 102 to 107  MISCELLANEOUS

- Shift + Mouse wheel for horizontal navigation
- Ctrl+ ^ sets the position at the beginning of the block of code. (Example: Go to IF in an "IF ...THEN... ELSE" block)
- CTRL + D (D for duplicate) also works on a selection
- Name of the event displayed in the open documents bar
- Option to disable parameter tooltips
- Selection preserved when the editor regains focus

# DEBUGGER

## 108
New feature WD WB WM

### AUTO RUN RTPP IF THE CODE TO BE DEBUGGED CONTAINS THREADS

RTPP stands for Real Time Performance Profiler. This tool allows you to view and debug the activity of different threads at runtime. If the code to be debugged contains threads, an RTPP pane opens automatically to facilitate debugging.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*A valuable debugging tool when you need it*

## 109
New feature WD WB WM

### FREEZE & UNFREEZE ONE OR MORE THREADS

In version 2025, the debugger lets you temporarily block the execution of threads of your choice.
For example, this avoids interrupting a step-by-step execution of your code.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Fine-tune your debugging process*

# DEVOPS

## 110
New feature WD WB WM

### INTEGRATED DEVOPS ENVIRONMENT

WINDEV, WEBDEV and WINDEV Mobile, along with WINDEV Suite (SaaS) version 2025, form an increasingly cohesive DevOps environment.
You benefit from all the necessary functionalities to implement the DevOps approach: no more scattered, barely-compatible tools.
You have all the integrated tools to manage the DevOps methodology: lifecycle management, sprints, testing, continuous integration, deployment, continuous delivery, production, user feedback, and more.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Integrated and open to all methodologies*

# REPORT EDITOR

## 111
New feature WD WB WM •

### SIDE-BY-SIDE PAGE PREVIEW

In version 2025, you can view recto/verso pages side by side. Regardless of the available space, two pages will be displayed. You can indicate that the first page is a cover page.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Intuitive display mode*

## 112
New feature WD WB WM

### DIFFERENT MARGINS FOR ODD & EVEN PAGES

In version 2025, the Report Editor lets you specify different values for odd and even pages.
This is particularly useful for bound documents or documents stored in physical folders.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Advanced layout option*

## 113
New feature WD WB WM •

### DIFFERENT RECTO & VERSO SIDES

In version 2025, you can print a document containing two different reports. A common case would be an invoice on one side, and the general terms and conditions on the other.

See new feature 230

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*The right to be different*

## 114
New feature WD WB WM •

### REPORT EDITOR: MISCELLANEOUS

- Page number set by default for each new report created
- UI audit: If the report contains a table that does not have a Total column, a UI error is generated.
- 

# ✦ ARTIFICIAL INTELLIGENCE



## 115
New feature WD WB WM

### WLANGUAGE SOURCE CODE GENERATION

Version 2025 features AI-powered code generation.
See new feature 001

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*New, yet essential technology*

The ● icon indicates that the new feature is already available in the SaaS version released in June.

---

# PCSCLOUD.NET ☁
# DEDICATED CLOUD SOLUTION

**PCSCLOUD.NET: A CLOUD TO DEVELOP AND DEPLOY YOUR PROJECTS.
A DEDICATED VIRTUAL MACHINE AT YOUR SERVICE.**

*APPLICATIONS*
- WEBDEV Application Server to host WEBDEV websites
- Cluster of WEBDEV Application Servers
- WEBDEV Application Server to provide web services
- SaaS platform
- Your own Private Store for your WINDEV and WINDEV Mobile applications

*TELEMETRY*
- Telemetry platform

*DATA*
- HFSQL server to access databases.
- HFSQL Spare, to set up HFSQL backup servers
- Universal data replication server
- Mobile User Groupware

*DEVELOPMENT ENVIRONMENT*
Project Virtualization Platform: private SCM, Control Centers, Dictionaries.

**SCMDRIVE, HFSQLDRIVE AND WEBDEVDRIVE** are purpose-built cloud solutions:
- for SCM data sharing
- for hosting HFSQL databases
- for website hosting

# PASSWORD VAULT IN YOUR WLANGUAGE CODE

# NO MORE READABLE PASSWORDS IN THE CODE

## 116 — New feature WD WB WM
### SECURE PASSWORD HANDLING IN THE CODE

```
DatabaseConnection is Connection

// Connection description
DatabaseConnection.User     = User
DatabaseConnection.Server   = Server
DatabaseConnection.Database = Database
DatabaseConnection.Provider = hAccessHFClientServer

// Password - Caution! This password is confidential and must not be
DatabaseConnection.Password = "xdW9..2t+..8 +"

// Open connection
HOpenConnection(DatabaseConnection)
```

Passwords, private keys and tokens are often used in programming. Some examples include:
- database connection password
- data file (table) password
- email account password
- OAuth token
- spreadsheet password
- Word document password

For obvious security reasons, these elements should not be left unencrypted in the source code.
To avoid the need to set up personal or third-party security mechanisms, version 2025 comes with a password vault containing secret string vaults as standard.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Automatic security*

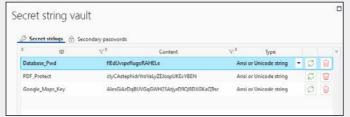## 117 — New feature WD WB WM
### A PASSWORD VAULT FOR YOUR PROJECT

This powerful tool works in a simple way. From version 2025 onwards, the project allows you to save passwords (secret strings) in a vault integrated into the project.
You can also create a vault within a set of procedures, which is useful if you need to share a vault.

---

The vault itself is password-protected.
Each secret string is associated with an identifier and a description.
In the source code, simply use this identifier.
All project developers can use this identifier.

*Secure editing of secret strings*

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Protect your passwords automatically*

## 118 — New feature WD WB WM
### USE IN WLANGUAGE

Secret strings are very easy to use in WLanguage.
In the code, simply use the identifier defined in the vault.
To pass this value securely to a procedure, use the new **SecretString** WLanguage type.

```
DBConnection is Connection
DBPassword is SecretString = DB_Password
DBConnection.Password = DBPassword
```

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*As easy as it gets*

## 119 — New feature WD WB WM
### BUILT-IN PROTECTION

In debug and trace mode, secret strings will never be visible.
Functions that display readable content (e.g., **Info**) have no effect.
In practical terms, it is impossible to retrieve the contents of a variable of type **SecretString**.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*We've got you covered*

---

## 120 — New feature WD WB WM
### TOTAL AUTOMATION

No manual actions required, no files to load, no parameters to define. When you use a password vault, it's automatically loaded with the executable.
Yet another advantage of WINDEV's total integration.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Effortless security*

## 121 — New feature WD WB WM
### MULTIPLE VAULT PASSWORDS

The vault itself is password-protected.
You can create several passwords to access the same vault.

---

There are 2 password levels:
- master password
- secondary password

For example, the project manager can hold the master password, and create a secondary password for each developer who is authorized to create or modify passwords.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*A truly secure vault*

## 122 — New feature WD WB WM
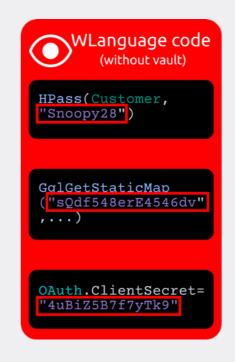### DETECT PLAIN TEXT PASSWORDS

In version 2025, plain-text passwords in the code are detected and generate a warning at compile time.
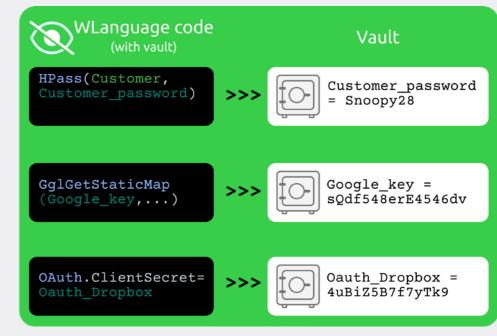This check can be enabled in the compiler options.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*No stone left unturned*

## 3 EXAMPLES OF PASSWORDS IN THE PASSWORD VAULT

## WLANGUAGE

**123** New feature WD WB WM

### THREAD LOCAL STORAGE (TLS): STORE DATA LOCAL TO A THREAD

TLS allows you to provide a unique copy of a global variable for each thread.

This makes it possible for several threads to use global variables without overwriting them.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Avoid overwriting previously set values*

**124** New feature WD WB WM

### FASTER PROCEDURE CALLS IN THREADS

In version 2025, threads using procedures are executed up to 8 times faster.

Procedure calls in threads are now significantly faster.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Automatic optimization in version 2025*

**125** New feature WD WB WM •

### RETRIEVE CERTIFICATES FROM THE WINDOWS CERTIFICATE STORE

The new `CertficateExport` WLanguage function lets you export a certificate from the Windows certificate store to a local file.

This makes it possible to use the certificate outside of Windows.

This is also useful for certain WLanguage functions that require the certificate file (`.pfx` and `.cert`).

---

Bear in mind that a password will be required if the certificate is password-protected.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Freedom*

**126** New feature WD WB WM

### COMBINE A CERTIFICATE AND A PRIVATE KEY IN A SINGLE CERTIFICATE (PFX)

In version 2025, you can merge a certificate file without a private key and a private key into a new certificate file in `pfx` format.

This is particularly useful for OpenSSL users (but not only!).

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*More possibilities*

**127** New feature WD WB WM •

### DRIVE FUNCTIONS: GET DATE AND TIME FROM FILES

The `DriveListFile` WLanguage function now has a new option for retrieving additional information when listing files:

- date and time of the file
- file size

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Useful for comparing versions*

**128** New feature WD WB WM •

### 3 NEW WLANGUAGE FEATURES FOR OAUTH

In addition to the general new features for OAuth (OAuth server - new feature 768, secure web services - new feature 763), there are 3 new WLanguage features:

- The `AuthIdentify` function can now be used to authenticate users by directly passing login credentials. This allows you to create an application-specific login window, for example.
- The `AuthLogout` function allows you to log out from an authentication server.
- The `AuthRevokeToken` function revokes the OAuth token.

---

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Even more power*

**129** New feature WD WB WM •

### ENCRYPTION

AES-192 is widely used for data protection. This symmetrical key algorithm secures data by encrypting it in 128-bit blocks using a 192-bit key.

AES-192 encryption is available in version 2025.

In addition, version 2025 introduces the new `cryptCTR` and `cryptCFB` constants for CTR and CFB modes to define how blocks are processed during encryption.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Ever safer*

**130** New feature WD WB WM

### EXPLICIT CONVERSION OF SIMPLE TYPES (CASTING)

In version 2025, you can force conversion from one simple type to another (e.g. `Integer` to `String`) without using a local variable.

Code example:

```
product_ref is string = (string) 378 + (string) 578
// -> Returns 378578 instead of 956
```

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*No need to create intermediate variables*

**131** New feature WD WB WM

### 4X FASTER COMPRESSION WITH THE ZIPADDFILE WLANGUAGE FUNCTION

The `ZipAddFile` compression function, which adds files to a Zip archive, is up to 4 times faster in version 2025.

The greater the number of files to be compressed, the greater the gain!

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Faster compression*

---

**132** New feature WD WB WM •

### IMAP: SEARCH WITH FILTER

When searching emails in an IMAP session, you can use the `EmailSeekFirst` WLanguage function to specify a search criterion. Some examples include: sender name, recipient name, subject, message body, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Simplified programming*

**133** New feature WD WB WM

### MANIPULATE LARGE JSON FILES PROGRAMMATICALLY

Developers are having to manipulate increasingly large JSON files, in some cases up to several GB in size.

For instance, the French government provides very large land registry files encoded in JSON format through the OpenData portal.

Version 2025 introduces a new way of accessing JSON content.

This mode allows you to manage content of unlimited size.

The usual mode loads the entire JSON content into memory, which could cause performance or memory usage issues depending on the size of the JSON file.

The new `jsonReader` type and the new `JSONOpenReader` function make it possible to read JSON content without having to load the whole content into memory.

This allows you to work with files of any size.

As an added benefit, all related processes are much faster.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Size is no longer an issue*

**134** New feature WD WB WM

### USE SQL QUERIES AS DATA SOURCES IN A SELECT FUNCTION

You can write SQL queries directly in the code.

In version 2025, the data source of these queries can itself be a query coming directly from the code.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Select the best data source*

## 135 New feature WD WB WM
### DOCUSIGN: MANAGE INITIALS AND SIGNATURE DATES IN WLANGUAGE

To make electronic signatures easier, the built-in Docusign internal component now includes 2 practical new features:
- management of initials, with positioning and repetitions.
- management of dates, with positioning and the ability to enter a date other than the current date.

You no longer need to program these features. A wizard will help you automatically implement them.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*More possibilities in Docusign*

## 136 New feature WD WB WM ●
### DEFAULT VALUE FOR UNTYPED PARAMETERS (=*)

In version 2025, you can make an untyped parameter optional. This makes it possible to use optional parameters in generic code.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*It's up to you!*

## 137 New feature WD WB WM ●
### WDSCRIPT: STANDALONE INSTALLATION PROVIDED

WDScript is a WLanguage script editor included with WINDEV, WEBDEV and WINDEV Mobile. WDScript allows you to :
- write scripts in WLanguage.
- execute existing WLanguage scripts.

WDSCRIPT is now supplied as a stand-alone program.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Easier installation*

## New feature WD WB WM

## 138 to 143 MISCELLANEOUS

- The **ArraySeek** and **ArraySort** WLanguage functions can now be used on UUID types
- The **SocketRead** function now accepts a new parameter to specify a timeout
- The **eMailAppGetArchitecture** function indicates the computer is using a 32 or 64-bit email client
- **InitRandom** returns the seed, and returns the same result
- **SSH** function family: Keep Alive feature available, to maintain connection even in the event of inactivity.
- HTTP request: Ability to add headers without values.

# WEB SERVICES & MICROSERVICES

## 144 New feature WD WB WM
### RUNTIME OPTIMIZATION

In some cases, large web services created with WINDEV or WEBDEV could have high response times.

In version 2025, calls to this type of web service have been drastically optimized. Response time is almost immediate, as with other web services, and CPU consumption has been greatly reduced.

See new feature 098

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Stunning performance*

## 145 New feature WD WB WM
### OPENAPI WEB SERVICES: REFERENCE ($REF) SUPPORT

Version 2025 supports OpenAPI descriptions containing local references ($ref).

This allows you to import the description of REST web services using this functionality into the WINDEV environment.

This features also makes it possible to natively call this type of web service in WLanguage.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Import descriptions into the environment*

## 146 New feature WD WB WM
### OPENAPI WEB SERVICES: AUTOMATED RESPONSE HANDLING

In version 2025, the return values of OpenAPI web services are handled automatically.

You no longer need to manually analyze the content of the response.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Security*

## 147 New feature WD WB WM
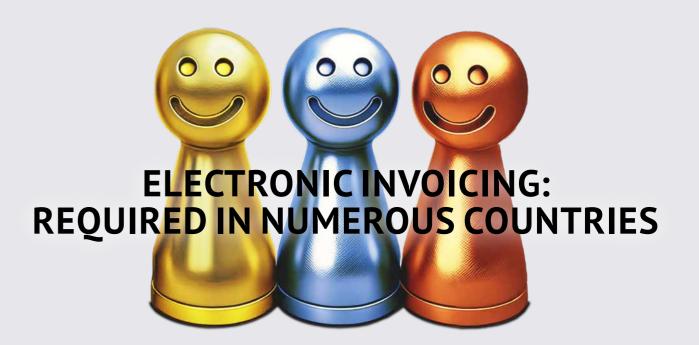### OPENAPI WEB SERVICES: VERSION 3 FORMAT GENERATION

REST web services now expose their description in OpenAPI 3 format.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Security*

# ELECTRONIC INVOICING: REQUIRED IN NUMEROUS COUNTRIES

# ELECTRONIC INVOICING

The European Union and other countries have decided to universalize secure electronic invoicing.

## 148 New feature WD WB WM
### ELECTRONIC INVOICE OPTIONS

An electronic invoice takes the form of an A/3 PDF document (human-readable) and an XML document (for applications) containing the invoice data.

WINDEV allows you to:
- generate PDF A/3 invoices
- generate the corresponding XML file
- integrate the XML file into the PDF
- sign the final PDF (with RGS and eIDAS digital signature certificates)

Version 2025 also allows you to describe the relationship between PDF and attachments (XML file in this case).

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**

*Easily create approved electronic invoices*

## 149 New feature WD WB WM
### SEND & RETRIEVE

WINDEV has all the functionalities that allow vendors to send invoices to a public portal and buyers to retrieve invoices from the portal:
- REST web service calls
- OpenAPI support
- retrieval and analysis of attached XML files
- PDF signature verification (when receiving an invoice)
- Windows service to query public portals.

Today, all these functions enable you to set up electronic invoicing that complies with the eIDAS regulation.
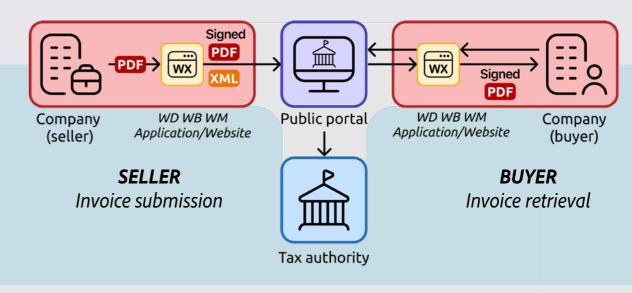
It was already possible to automate links with the French Chorus Pro portal (implemented for public procurement).

Now, it is also possible to create electronic invoices in Factur-X format.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Invoices are now easy to submit and retrieve!*

*You can also use and set up paid Partner Dematerialization Platform (PDP) solutions.*

**SELLER**
*Invoice submission*

**BUYER**
*Invoice retrieval*

Company (seller) — WD WB WM Application/Website — Public portal — WD WB WM Application/Website — Company (buyer)

Tax authority

## XML

### 150
New feature WD WB WM
**XML ARRAYS SERIALIZED AS A SEQUENCE OF ELEMENTS**

XML data exchanges often involve arrays serialized as sequences of elements.
Version 2025 automatically deserializes XML files in this format.
You can also serialize an array as a sequence of elements.
BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*More possibilities*

### 151
New feature WD WB WM •
**ABILITY TO CREATE EMPTY NODES**

Some web services expect an empty node in the XML document structure.
It is now possible to easily create this type of node in WLanguage.
BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Adapt to any web service*

### 152
New feature WD WB WM
**REFRESH XML DESCRIPTIONS DIRECTLY IN THE ENVIRONMENT**

You can now refresh an XML description that has already been loaded in the environment.
This is particularly useful if the description has been modified while the environment is being used.
BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Descriptions always up to date*

## OBJECT-ORIENTED PROGRAMMING

### 153
New feature WD WB WM
**DOWNCAST OPERATOR**

The cast operator can be used to convert a base class to a derived class without using a local variable.
Example:

```
my_vehicle is CVehicle
((CElectricCar)my_vehicle).get_range()
```

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Practicality*

### 154
New feature WD WB WM
**PASS A METHOD TO AN API CALLBACK**

It's now possible to pass a method from a class instance to an external API.
It's no longer necessary to use a global procedure and variable, which simplifies the code.
BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Cleaner code*

## COMPATIBILITY WITH THIRD-PARTY LANGUAGES

### 155
New feature WD WB WM
**CALLING WLANGUAGE CODE FROM C++**

You can call WLanguage code from many third-party languages, including C++. In version 2025, WLanguage functions that accept points or rectangles as parameters are now supported.
BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Higher compatibility*

---

## yousign
# ELECTRONIC SIGNATURE



| 1 Requirements | 2 Signature request | 3 Notification | 4 Approval | 5 Signature | 6 Notification | 7 Retrieval |
|---|---|---|---|---|---|---|
| Document to sign (pdf,docx, xlsx, html) + List of signers + List of approvers | The application sends the elements to the Yousign server (YSSignatureRequest function) | Recipients receive a notification from Yousign | Approvers approve the document(s) to be signed (Optional) | Signers sign the document(s) on Yousign | Yousign sends a notification to the application | The application retrieves the signed document(s) (YSGetDocuments function) |

### 156
New WD WB WM
**INTEGRATE YOUSIGN INTO YOUR APPLICATIONS**

With WINDEV 2025, your applications can easily integrate Yousign solutions.
These electronic signature functionalities comply with European regulations (eIDAS).
BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*An alternative to Docusign*

### 157
New WD WB WM
**THREE TYPES OF ELECTRONIC SIGNATURES**

All three types of electronic signature are supported:
• Simple Electronic Signature (SES)
• Advanced Electronic Signature (AES)
• Qualified Electronic Signature (QES)
BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Choose the most suitable level of security*

### 158
New WD WB WM
**APPROVER MODE**

Yousign includes a useful mode called "Approver". This mode enables one or more recipients, not necessarily signers, to approve a document before signing it. This can be a legal or technical approval, for example.
This feature is natively supported in version 2025.
BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Make the most of Yousign features*

### 159
New feature WD WB WM
**EASY-TO-USE FUNCTIONS**

WLanguage functions are available in the form of an Internal Component, with their source code.
The functions allow you to:
• Set the signature level

• Send one or more documents to Yousign, to n recipients (name, email, telephone number, etc.), for signature, notification or approval
• Define the location of the signature in the document
• Find out if a document is signed, and who hasn't signed it
• Get signing dates/times
• Retrieve signed documents
• Cancel operations.
All aspects of verification, emailing, ID verification and document storage are fully handled by the service provider (Yousign).
BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Streamline the signing process*

### 160
New feature WD WB WM
**CODE GENERATION WIZARD**

To simplify development, an intuitive wizard generates the necessary code.
BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Easier implementation*

### 161
New feature WD WB WM
**ACCESS TO ALL APIS**

To handle special cases, all the APIs provided by Yousign can be accessed via a WLanguage call.
All entry points are available directly in the code editor.
BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*No limits*

### 162
New feature WD WB WM
**BILLING**

Yousign offers several types of subscription, giving access to different types of signatures.
To access all the capabilities of APIs, you need to choose an API subscription.
BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Select the best option for you*

# HFSQL DATABASE

**HFSQL®**

## 163 New feature WD WB WM ●
### OPEN DATA FILES (TABLES) FASTER WHEN SERVER LOAD INCREASES

When an HFSQL server is very busy, a new cache management system improves the data file (table) opening times.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Precious time saved*

## 164 New feature WD WB WM
### ONE SINGLE PORT FOR SERVER REPLICATION

In version 2025, it is no longer necessary to open ports on each replication server.
You only need to open one communication port.
For example, for replication between LAN and an external address, it is no longer necessary to open the LAN port to allow incoming data.
This results in increased security.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Security*

## 165 New feature WD WB WM ●
### UNIVERSAL REPLICATION: 4 NEW FEATURES

Version 2025 introduces 4 new features for Universal Replication:
- Ability to add data files (tables) to an existing universal replication (without having to create a new universal replication)
- Automatically transform 4-byte to 8-byte IDs, with automatic propagation of changes to replicated files
- Unique keys can now be added and deleted automatically
- Ability to reorder unique keys in the data structure

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Even more power*

## 166 New feature WD WB WM
### COPY AND SAVE ANONYMIZED OR PSEUDONYMIZED FILES

HFSQL lets you automatically implement data file (table) anonymization and pseudonymization.
HFSQL 2025 makes it easy to make copies and backups of these anonymized or pseudonymized files, even if you do not have the rights to read the original data.
In this case, the copied file will contain anonymized or pseudonymized data.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*No sensitive data leaks during backups, statistics, etc.*

## 167 New feature WD WB WM
### AUTOMATIC BACKUP UPLOAD

HFSQL allows you to set up periodic automatic backups.
Version 2025 can be configured to automatically upload backups to a remote server.
Backup can be performed using a network path or SFTP.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Great feature in production environments*

## 168 New feature WD WB WM
### DATABASE BACKUP: UNLIMITED FILES

Older versions of HFSQL limited the number of files in a backup to 65,000.
This is no longer the case in version 2025. You can now include an unlimited number of files in your backups.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*To infinity and beyond*

## 169 New feature WD WB WM
### DOCKER HFSQL / PODMAN

Podman is a Docker-like container management tool.
Podman is highly compatible with Docker, and allows you to run certain Docker images.
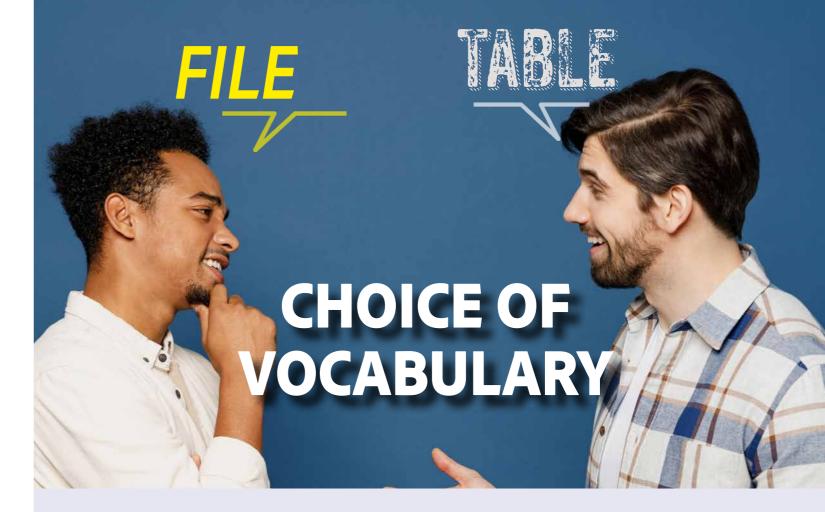In version 2025, Docker HFSQL images can be run in Podman.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*More possibilities*

---

# FILE / TABLE

# CHOICE OF VOCABULARY

## WHICH DO YOU PREFER: TABLE OR FILE?

Over time, WINDEV has developed its own vocabulary.
In version 2025, you can select the vocabulary you wish to use.
The most typical example in the context of databases is "data file", which is often referred to as "table".

## 170 New WD WB WM
### YOU CHOOSE

Some proprietary terms can now be replaced by more generic terms.
Here are a few examples:

| File | Table |
|---|---|
| Analysis | Data schema |
| Skin template | Theme |

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Pick your favorite!*

## 171 New WD WB WM
### HELP WITHIN THE ENVIRONMENT

The environment provides an option for selecting the preferred vocabulary.

The environment then adapts to the selected vocabulary and adjusts input suggestions, the terms used in the 7-tab windows, etc.
WLanguage allows you to code with the vocabulary of your choice (see new feature 172).
The help system also uses the chosen vocabulary.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Your preferred vocabulary across the environment*

## 172 New WD WB WM
### VOCABULARY IN WLANGUAGE

WLanguage functions also adapt to your chosen vocabulary!
Terms are interchangeable and can be mixed in the same project.
Examples of synonymous functions:

| | |
|---|---|
| HListFile | HListTable |
| ScreenToFile | WindowToTable |
| FileToScreen | TableToWindow |
| BuildBrowsingTable | TableBuildDataBinding |
| HOpenAnalysis | HOpenDataSchema |
| ChangeSkinTemplate | ChangeTheme |

Properties:

| | |
|---|---|
| ..FileLink | ..DataBinding |
| ..BrowsedFile | ..BrowsedTable |

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Your preferences are applied everywhere, even in WLanguage*

## 173 New feature WD WB WM
### STRUCTURE COMPATIBILITY CHECK DURING AUTOMATIC MODIFICATION

The automatic modification of data files now includes an additional check.

This process identifies and highlights compatibility issues that may affect applications, by comparing the data schema of the installed version and the version to be propagated. This issues include:

- deleted item
- item of a different type
- renamed item
- etc.

**Benefit of this new feature in version 2025:**
*Advanced security feature*

## New feature WD WB WM
### 174 to 177 MISCELLANEOUS

- `HImportCSV` function to import CSV files (clone function of `HImportText`)
- The `hTransactionList` function has been optimized
- The `hLSTSorted` constant used by the `hListFile` function is available in Client/Server mode
- `h.TriggerFunction` now also returns constants, not only strings.

## SQL FUNCTIONS

## 178 New feature WD WB WM
### USE FUNCTIONS WITH PARAMETERS IN ORDER BY CLAUSES

In version 2025, the SQL ORDER BY clause takes as parameters functions that take parameters themselves.

For example, you can use a spatial function to calculate distances, and then sort data passing these distances as parameters.

**Benefit of this new feature in version 2025:**
*Additional parameters*

## New feature WD WB WM
### 179 to 180 2 NEW SQL FUNCTIONS

2 new SQL functions are introduced in version 2025.

| | |
|---|---|
| ST_Centroid | Returns the center of mass of a geometry. |
| TIMEDIFF | Returns the differences between two times. |

**Benefit of this new feature in version 2025:**
*More SQL programming possibilities*

# HFSQL®

## HFSQLDRIVE: YOUR HFSQL DATABASES IN THE CLOUD IN 3 CLICKS

HFSQLDrive lets you easily and immediately host your databases (your tables) in the Cloud.

A mobile app that stores data in the cloud is also at your disposal.

Attractive flat rate subscription.

Host your databases for less.

To learn more, visit **www.hfsqldrive.com**

## HFSQL CLUSTER

## 181 New feature WD WB WM
### AUTOMATIC RESTART

Sometimes, clusters systems stop unexpectedly.

For example, this may be due to a network problem which results in a cluster node being disconnected from more than half of the other nodes.

Another example is a scenario where a complete cluster is shut down for hardware reasons, but after the shutdown, the cluster does not wait for a manual intervention to designate the master.

Now, in the event of an unexpected shutdown, the cluster is automatically restarted.

**Benefit of this new feature in version 2025:**
*Higher availability*

## 182 New feature WD WB WM
### CONNECTION OF CLIENT APPLICATIONS TO THE CLUSTER

In version 2025, client applications always connect to the cluster at the same speed, whatever the status of the cluster nodes.

**Benefit of this new feature in version 2025:**
*Consistency*

## 183 New feature WD WB WM •
### 5X FASTER RESYNCHRONIZATION AFTER NODE SHUTDOWN

In version 2025, resynchronization of a stopped node is on average 5 times faster.

**Benefit of this new feature in version 2025:**
*Precious time in production environments*

## 184 New feature WD WB WM
### COPY DATABASE TO CLUSTER

In version 2025, you can copy a database or data file (table) directly to a cluster from the HFSQL Control Center.

**Benefit of this new feature in version 2025:**
*Practicality*

## 185 New feature WD WB WM •
### WLANGUAGE FUNCTIONS

The `hDeleteFile` WLanguage function is now available for HFSQL cluster.

No need to stop the cluster to clean up unused files.

**Benefit of this new feature in version 2025:**
*More programming possibilities*

## New feature WD WB WM
### 186 to 188 MISCELLANEOUS

- Ability to enable notifications on each node.
- Improved synchronization of nodes with one or more transactions in progress.
- Improved troubleshooters.

## HFSQL SPARE

## 189 New feature WD WB WM
### NEW WLANGUAGE FUNCTION: HENABLESPARE

The new `hEnableSpare` WLanguage function can be used to transform a Spare server (slave) to a Master server.

**Benefit of this new feature in version 2025:**
*One function takes care of everything*

## HFSQL CONTROL CENTER

**190** New feature WD WB WM

**VIEW SCHEDULED TASK EXECUTION REPORTS & MORE IN THE CONTROL CENTER**

In version 2025, the HFSQL Control Center includes a highly anticipated feature.

Now, you can view status reports and execution history directly in the Control Center. This includes:
- scheduled tasks
- scheduled stored procedures
- scheduled backups
- scheduled update of materialized views.

No need to delve into log files!

Note that the `hListSchedulingHistory` WLanguage function can be used to retrieve these reports programmatically.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Essential information at a glance*

**191** New feature WD WB WM

**IMPORT DATABASES INTO A CLUSTER**

You can now import a database into a cluster directly from the Control Center.

No additional programming required.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Time savings*

New feature WD WB WM

**192** to **194** **MISCELLANEOUS**

- Improved user logout UI
- Ability to manually refresh a materialized view
- Ability to edit schedules of materialized view updates

## DATABASE NATIVE CONNECTORS

Numerous Native Connectors are available for third-party databases: Oracle, SQL Server, AS/400, DB2, MySQL, PostgreSQL, SQLite, xBase, MariaDB, Informix, Progress, Sybase, and more.
These Native Connectors facilitate programming (binding, etc.). They are even better in version 2025.

**195** New feature WD WB WM

**MYSQL: UTF8MB4 SUPPORT**

utf8mb4 is an extended version of UTF8 that uses 4 bytes to store each Unicode character.
This makes it possible to use characters such as emojis and certain Chinese ideograms.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Better for internationalization*

**196** New feature WD WB WM

**MYSQL 9.1.0**

MySQL 9.1.0 is now supported.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Even more compatibilty*

**197** New feature WD WB WM

**MISCELLANEOUS**

- You can query third-party databases without opening the connection programmatically. The connection will be

automatically opened. In version 2025, this connection remains open to save time on the next query executed on that database.

## VISUAL QUERY EDITOR

**198** New feature WD WB WM •

**SELECT INSERT COMMANDS**

The query editor now lets you insert a `SELECT` command into an `INSERT` query.
This makes possible to insert multiple records in a single operation.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Flexibility*

**199** New feature WD WB WM •

**EDIT SQL QUERIES WRITTEN IN THE CODE USING THE VISUAL QUERY EDITOR**

You can write SQL queries directly in the code editor.
In version 2025, you can view these queries in the visual query editor.
The code is reverse-engineered to visually represent the query.
You can modify the query in the query editor, and the code will be updated automatically.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Visually modify your queries and update your code*

## IOT

# 2025 THE SPICIEST VERSION!

**200** New feature WD WB WM •

**BLUETOOTH LE: BE NOTIFIED WHEN A DEVICE CHARACTERISTIC CHANGES**

The new `BTLECharacteristicChangeOfValue` WLanguage function enables or disables detection of changes in the value of a Bluetooth Low Energy (LE) feature. For example, when using a temperature sensor, you can choose whether or not to be notified when the temperature changes.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Notifications only when you need them*

## BLOCKCHAIN

**201** New feature WD WB WM

**4 NEW BITCOIN BLOCKCHAIN ACCESS FUNCTIONS**

In version 2025, the `Bitcoin` family is enriched with 4 new functions:
`BitcoinCoreDateLastLaunchTime` returns the date Bitcoin Core was last launched, to determine uptime.
`BitcoinCoreConnectionCount` returns the number of connected peers (generally 0 to 10).
`BitcoinCoreUsedDiskSpace` indicates the disk size of the blockchain.
`BitcoinCoreBlockHash` returns the hash of a block by index. The smallest is the oldest.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*More programming possibilities*

## TELEMETRY

Application usage metrics are a phenomenal tool.

Metrics enable you to collect and aggregate information on how your applications are actually used. This includes OS, hardware configuration, most used functionalities, processing times, menu options selected, buttons clicked, bugs, usage times, etc.

The metrics tool can be installed on your own servers, or via PCS-CLOUD.NET, which provides a telemetry server.

### 202 New feature WD WB WM
**AUTOMATIC VERSION CLEANUP**

Most applications have a long lifespan, and after several years, versions start to pile up in the version history.

If the metrics tool listed every version, it would be very hard to select the desired version.

Now, versions that are rarely used are no longer included in the version selection combo box.

This makes it easier to select exactly the version you want.

If an older version is used again, it will automatically reappear in the list.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Smarter, cleaner interface*

## AUTOMATED TESTS

### 203 New feature WD WB WM •
**CREATE ENTIRE APPLICATION TESTS**

WINDEV's standard test automation is a highly appreciated tool. In version 2025, it becomes an even more comprehensive tool.

In version 2025, in addition to creating unit tests, it is now possible to create tests for an entire application, or parts of applications.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*No need to run unit tests one after the other*

### 204 New feature WD WB WM •
**CREATE TESTS EVEN WITHOUT ACCESS TO SOURCE CODE**

You no longer need to own the source code of the application on which you are creating tests. Now, you can generate tests using only the application's executable file.

Automated test scripts are generated, but must be run by the owner of the source code.

This makes it possible to provide applications to a Quality Assurance team without having to distribute the source code.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Test automation for everyone*

## MONITORING ROBOT (WATCHDOG)

### 205 New feature WD WB WM
**MEASURE RESPONSE TIMES & IDENTIFY SLOWDOWNS**

In version 2025, it is possible to specify a maximum test execution time.

If this time is exceeded, an error is generated.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Advanced monitoring*

### 206 New feature WD WB WM
**ONE-TIME OR REGULAR ALERTS**

You may receive notifications when a test fails to complete.

Depending on the volume of tests, you may receive a large number of notifications, making them difficult to read.

In version 2025, for each test, you can choose to be notified:

- each time the test fails
- only the first time the test fails. Then, you will receive a notification when the test completes successfully.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Avoid information overload*

### 207 New feature WD WB WM
**MISCELLANEOUS**

- WLanguage code written in the monitoring robot now uses syntax highlighting

## BIG DATA

### 208 New feature WD WB WM
**VALKEY SUPPORT**

Valkey big data databases are supported in version 2025.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Additional database format supported*

## AND MORE IN WINDEV

### 209 New feature WD
**THE 208 COMMON NEW FEATURES OF VERSION 2025 ARE AVAILABLE IN WINDEV**

## WINDEV 2025

gets the 208 common new features of version 2025, including the improved editors, AI coding assistant, palettes, the new Segmented Button control, faster web services, code editor improvements, password vault, the new Pictorial Percentage chart, SCM improvements, new WLanguage and OOP features, and more.

# FASTER GRAPHICS ENGINE REDUCED CPU CONSUMPTION

## 210 New feature WD WB WM
### USE THE GPU INSTEAD OF THE CPU

In version 2025, the framework's graphics engine adopts new technologies.

As a reminder, the framework's graphics engine handles all aspects of application display and end-user interaction.

It's an important element of the framework and determines both performance and display quality.

Version 2025 now uses the processing power of the graphics card. Today, this type of processing is far more powerful than the main CPU. It also frees up valuable CPU resources.

This technology is based on Direct2D.

All the windows of your applications now load faster.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Task sharing*

## 211 New feature WD WB WM
### NO MORE GDI HANDLES: FREE UP WINDOWS RESOURCES

Another major new feature of the graphics engine version 2025 is the ability to no longer use handles to manage controls.

Now, the greater the number of controls, the greater the performance gains.

Another advantage of this new feature is that the absence of handles frees up Windows resources.

You can choose whether or not to use this technology. The `handle` WLanguage function remains available.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Free up Windows resources*

## 212 New feature WD WB WM
### INTERNAL GRAPHICS ENGINE LEGACY OR MODERN

You can set your preferences either at project level or window by window.

3 graphics engine modes are now available:
- legacy mode
- legacy mode without handles
- Direct2D mode without handles

Note that the legacy mode is enabled by default.

You can change the mode for the entire project, in the project description, or window by window, using the new `WinOptimize` WLanguage function.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*More possibilities*

---

## NEW CONTROL: SEGMENTED BUTTON

### 214 New feature WD WB WM
### NEW SEGMENTED BUTTON CONTROL

The new Segmented Button control allows you to present single or multiple options using a modern design language, and to easily handle user choices.

See new features 242 to 246

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Modern, user-friendly UI*

## NEW SMART CONTROLS IN WINDEV 2025

Smart controls save valuable time during the UI creation process, and immediately make your applications more sophisticated.

Version 2025 of WINDEV introduces two new Smart controls:
- QR code with a centered logo.
- Page range input.

### 215 New feature WD WB WM
### QR CODE WITH A CENTERED LOGO

To generate a QR Code with an embedded logo, simply specify the QR code content, the image to be embedded and its size in the QR Code.

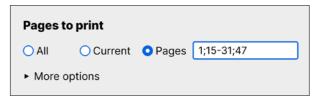Reminder: Smart controls are provided with their source code, and can therefore be fully modified and customized.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Custom QR codes*

### 216 New feature WD WB WM
### PAGE RANGE INPUT

The new "Page range input" Smart control lets you enter a range of pages in an Edit control.

The most common use case is to enter a range of pages to be printed.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*A ready-to-use, popular input mode*

---

## PALETTES

### 213 New feature WD WB WM
### STREAMLINE UI DESIGN WITH PALETTES

By using palettes in your applications, you allow end users to switch from light to dark mode, to the dominant Windows color or any other color you allow.

It's a feature much appreciated by end users.

You can programmatically set the background of an administration window to red, to visually separate it from standard windows.

See new features 007 to 023

*Example of a real-time palette selection window*

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Let the user decide*

## ENVIRONMENTAL POLICY

Preserving our environment is essential. When PC SOFT prints physical documents, PC SOFT, the paper supplier or the printer. (FSC - Forest Stewardship Council - certified and PEFC - Program for the Endorsement of Forest Certification - certified) replants as many trees as the ones that were used to print. The FSC label was created by the FSC, an NGO that includes, among others, Greenpeace, Friends of the Earth and the WWF. For example, it takes 50 trees with a 6-inch trunk diameter to print 100,000 copies of a 92-page document on glossy paper. PC SOFT or the printer has 50 trees replanted immediately. Additionally, we mainly use paper pulp coming from wood waste (e.g. sawmills) and forest thinning. Software is also available for download and subscription.

# TABLE CONTROL: NEW FEATURES

## 217 New feature WD WB WM
**SORT AND FILTER ALL COLUMNS OF A TABLE BOUND TO A DATA FILE**

In version 2025, the Table control enables users to sort and filter all columns, including non-indexed columns.
See new feature 026

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*An even more powerful control*
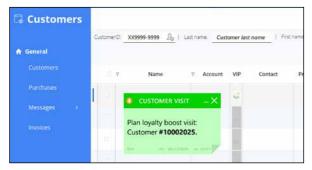
## 218 New feature WD WB WM
**MISCELLANEOUS**

- The new `BuildBrowsingTable` WLanguage function offers a new feature that lets you specify whether text memos will be displayed in single-line or multiline format.

# NEW FEATURES FOR CONTROLS

## 219 New feature WD WB WM
**REDESIGNED REPOSITIONABLE NOTES**

Repositionable notes have undergone a major UI overhaul.
They now use a much more modern design language.


*New repositionable note*

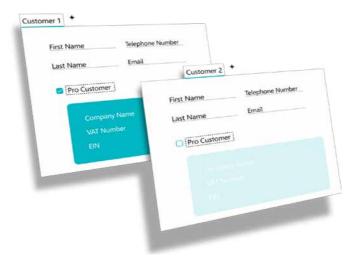BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Effortless modern UI*

## 220 New feature WD WB WM
**PROGRAMMATICALLY CUSTOMIZE A GROUP OF CONTROLS IN EACH TAB PANE**

As you know, it's possible to programmatically add tab panes.
The content of the pane is an Internal Window.
This Internal Window can contain groups of controls.

And the same Internal Window is often used in several different tabs.
Now, when modifying a group of controls programmatically (making the group of controls invisible, for example), you can specify in which pane you want to apply changes, so as not to impact other panes.


*Differentiated group of controls*

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
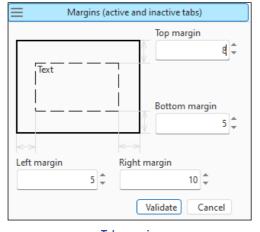*Simplified code*

## 221 New feature WD WB WM
**TAB CUSTOMIZATION: VECTOR IMAGE + MARGIN**

In previous versions, you could customize tabs using an image.
In version 2025, you can also customize tabs via the 7-tab window.
Regardless of the mode used, tabs are displayed as vector images.


*Example of tab images (enlarged image)*

You can also define the margins between the different elements in the 7-tab window.


*Tab margins*

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*More customization options, better UI*

## 222 New feature WD WB WM
**NEW SKIN TEMPLATE FOR WINDEV**

The new "Apollo" skin template is introduced in version 2025.
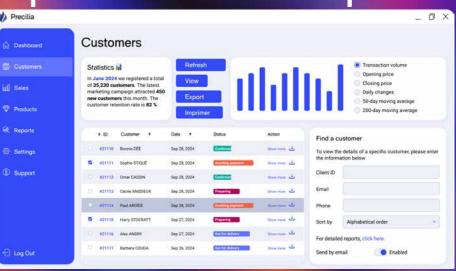Benefit from new customization possibilities.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Instant new look*

You can freely use all the skin templates provided with WINDEV in your applications and software packages.

Don't forget you can apply a palette to change colors, and also create your own skin templates.

WINDEV includes everything you need to create superb UIs.


*Apollo skin template*

## 223 New feature WD WB WM
**POPULATE LOOPERS FROM THE TOP**

Now, you can load data from the top of Looper controls.
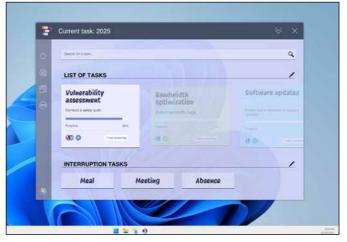For best performance, the control is populated as the end-user scrolls.
See new feature 432

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*A control that evolves along with user needs*

## 224 New feature WD WB WM
**COLOR WITH OPACITY: ALPHA CHANNEL**


*Transparent effect*

You can now set the opacity of windows and window controls.
This can be useful for applying certain style book guidelines.

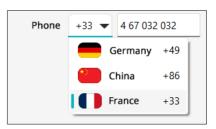BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Adapt to any design language*

## 225 New feature WD WB WM
**DISPLAY DIFFERENT VALUES ON AN EXPANDED/COLLAPSED COMBO BOX**

In some cases, it may be useful to show different a different value, depending on whether the Combo Box control is expanded or collapsed.
The new `DisplayedValueComboBox` property allows you to do just that.
In version 2025, programming is no longer required to use this feature.


*Here, the field at the top shows the area code, while the list shows the flag and country name.*

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Different values? Now, that's a good combo!*

## 226 New feature WD WB WM
**HIDE TABLES WITHIN LOOPER CONTROLS**

In a Looper control containing a table, it is now possible to make a single-line table invisible.

# LIGHT/DARK MODE
# IN 1 LINE OF CODE
# IN YOUR APPLICATIONS

## 227 — New feature WD WB WM
### TRANSFORM THE LOOK OF YOUR APPS WITH PALETTES

All new skin templates, and most of the old ones now use palettes.
Numerous palettes are available by default, including:
- clear mode
- dark mode
and much more.
To change palettes programmatically, simply use the new `PaletteChange` WLanguage function.
Changes are reflected in real time.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Instant makeover.*

## 228 — New feature WD WB WM
### CUSTOM COLORS & LIGHT/DARK THEMES

Sometimes, you need to use your own colors, in addition to the ones available in the palette.

In version 2025, you can define a new color for each theme (light or dark).
For example, for a warning text, you can define a color named "Warning", and make it red in light theme, and pink in dark theme.
Thus, you can ensure good readability in either theme.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Precise color definition*

## 229 — New feature WD WB WM
### BUTTONS, ICONS AND CHARTS AUTOMATICALLY UPDATED

The contents of the icons and buttons are automatically updated to adapt to the current theme.
This also applies to charts.
There is also a new option to switch buttons and icons monochrome mode when changing between light and dark themes.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Everything is taken into account*

---

# DUPLEX REPORTS
# 2 DIFFERENT REPORTS
## DIFFERENT CONTENT ON THE BACK OF PAGES

## 230 — New feature WD WB WM •
### EXAMPLE: GENERAL SALES CONDITIONS ON THE BACK OF AN INVOICE

A printed report may contain different types of content on the front and back of the page.
A typical example is an invoice, printed on one side of a sheet, with general terms and conditions of sale printed on the reverse.
In version 2025, it becomes possible to use two different reports to print documents.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Include everything you need in your reports*

## 231 — New feature WD WB WM •
### HOW IT WORKS

The new `iInitReportVerso` WLanguage function is used to specify the name of the report to be printed on the reverse side.
This report can be printed on a single page, or on several pages.
If there are more pages on the reverse side than on the front side, you can use "blank" pages on the front.
You can also use a PDF document on the back of each page.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Can't be any easier than that*

## 232 — New feature WD WB WM •
### CODE EXAMPLE

The code is simple:

```
// Print the General Terms and Conditions on the back of the invoice
iInitReportVerso(RPT_GTC)
iPrintReport(RPT_Invoice, Invoice_Number)
```
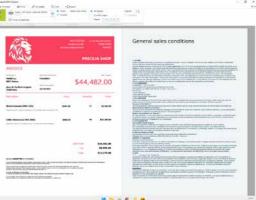
BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
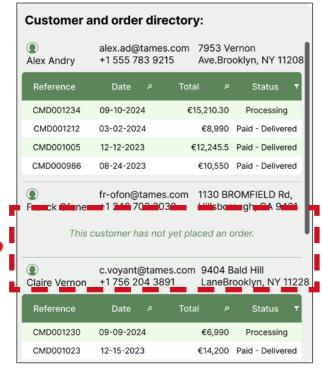*Clean code, complete reports*

## 233 — New WD WB WM •
### PRINT PREVIEW

The preview of a report containing a different front and back side shows the pages side by side.



BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Both sides of the report at a glance*

*In the middle of this list, the order details have been hidden and an explanation text (in red) has been added*
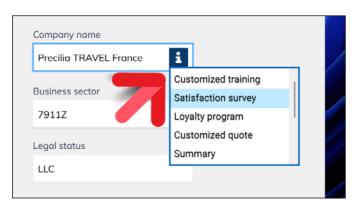
**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Fully customizable Looper controls*

## 234
**New feature** WD WB WM •

### GET THE COORDINATES OF ELEMENTS IN A CONTROL

A control is composed of different elements: label, input area, integrated buttons, combo button, table headers, scrollbar, etc.
In particular cases (e.g., aligning popups programmatically), it may be necessary to get the coordinates of the various elements.
The `ControlRectangle` WLanguage function gets these coordinates as a rectangle, including the coordinates and the width and height.



*The popup is displayed exactly below the icon*

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Perfect alignment*

## 235
**New feature** WD WB WM

### APPLY COLOR TO A BLACK & WHITE ICON

You can change the color of a black & white icon by selecting the new "Force monochrome mode" option in the Style tab of the 7-tab window.



*Different icon color*

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Life is full of colors*

## 236 to 239
**New feature** WD WB WM

### MISCELLANEOUS

- Optimized `gItalic` function
- New `Loading error` process for `HTML` controls
- You can now specify a callback for adding images to a `List-View` control
- New `OptimalHeight` function to get the height a control needs to display its full dynamic content

---

# HELP IN YOUR APPLICATIONS

## 240
**New feature** WD WB WM

### HELP EDITOR

In version 2025, it is now possible to insert diagrams created using the Diagram control in help pages.
This facilitates visual representations.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*A more user-friendly help system*
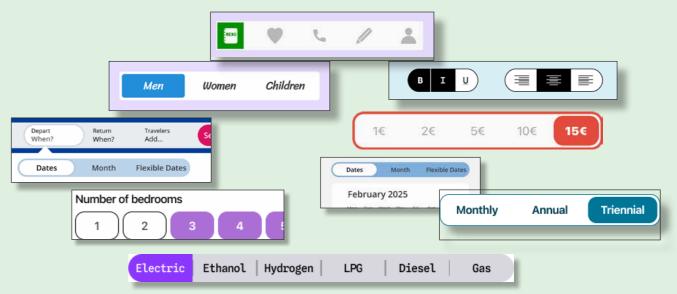
---

# WINDEV ENVIRONMENT

## 241
**New feature** WD WB WM

### COMMON NEW FEATURES

WINDEV's environment benefits from the common new features in version 2025 (see new features 048 to 058).

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# NEW CONTROL: SEGMENTED BUTTON



## 242
**New feature** WD WB WM

### NEW SEGMENTED BUTTON CONTROL: OVERVIEW

The new Segmented Button control can be understood as a set of ON/OFF buttons grouped together in a single control.
By default, this control uses a cohesive design language.
As users expect, the control supports single or multiple choices.
The content of each choice can be a text or an image.
Programming is much simpler.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Perfectly aligned options every time*

## 243
**New feature** WD WB WM

### NEW SEGMENTED BUTTON CONTROL: CREATION

These are some of the main control settings:
- number of options
- content of each option
- single or multiple choice
- automatic anchor and width options
- separators
- separator style
- outer borders and button borders
- etc.

You can transform a Check Box control into a multiple-choice Segmented Button control, or a Radio Button control into a single-choice Segmented Button control.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Numerous possibilities*

## 244
**New feature** WD WB WM

### SIMPLE PROGRAMMING

Programming a Segmented Button is much simpler than programming a set of Radio Button, Check Box or Switch controls.

In the code of a Segmented Button control, you can:
- get the state of one of the buttons
- gray out or hide a button
- change the label or the tooltip
- add options dynamically
- define multilingual labels
- define persistent settings
- use images, Markdown text
- etc.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Simpler programming, compared to a set of buttons*

## 245
**New feature** WD WB WM

### OTHER USES

One use for Segmented Buttons that you might not think of is a selection UI with many choices.



*Select one or more choices, with simple programming*

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Powerful controls, WINDEV's strength*

## 246
**New feature** WD WB WM

### MISCELLANEOUS

- Single-choice Segmented Button animation: Selection moves to new choice when state changes

# REACTIVE PROCEDURE
## OBSERVER DESIGN PATTERN

## REACTIVE PROCEDURE AUTOMATICALLY EXECUTED WHEN A CONTROL OR VARIABLE IS MODIFIED

### 247 New feature WD WB WM
### A POWERFUL CONCEPT

Reactive Procedures are used to automatically trigger the execution of processes.

A Reactive Procedure is executed when a variable or the value or content of a control used in the procedure is modified, either by the end user or programmatically.

The Reactive Procedure constantly "observes" the variables and controls to detect value changes, and in this case, it is automatically executed.

Key takeaway: The procedure is automatically executed when a variable or a control changes.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*You'll love it*

### 248 New feature WD WB WM
### WHERE TO USE IT? HERE'S A SIMPLE EXAMPLE

Why create a Reactive Procedure?
Because it's really practical.
Here's a simple example: Entering an amount before and after tax.

| Subtotal | €214,475 |
|----------|----------|
| VAT | 20 % |
| Total | €257,370 |

When an amount is entered in a control, the other controls update automatically.

Of course, you could write this operation in WLanguage, directly in each control.

In that case, you would need to create a procedure that performs the calculation, and include a call to this procedure in the Modification process of each of the 3 controls.

With a Reactive Procedure, you can simply write the calculation process... and that's all there is to it.

It's a simple comparison, but with 5 or more controls, code is significantly simplified and modification errors are eliminated.

Now, how to handle a change of value in one of the Edit controls programmatically?

With a Reactive Procedure, there's nothing to program. The procedure will be automatically executed. There's no risk of forgetting.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Avoids code sprawl*

### 249 New feature WD WB WM
### UNIQUE AND CENTRALIZED CODE

The main advantage of this method is that the framework takes care of "observing" for changes in control values.

There's no need to write the calls in every control where changes can be made.

This results in minimal resource consumption, because the framework takes care of everything in an optimized way. The control (or variable) automatically signals its change of value to the Reactive Procedure.

This simple and clear code of Reactive Procedures makes it possible to "observe" and update several different controls and variables.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Code in one place*

### 250 New feature WD WB WM
### HOW TO DECLARE A REACTIVE PROCEDURE

The `Reactive` keyword indicates that the procedure must observe the variables and controls used in its code.

The keyword also tells the procedure to execute if any change is detected.

```
REACTIVE PROCEDURE CalculateTotal()
```

A Reactive Procedure can be global (and therefore permanently reactive), local to a window or local to a control.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*You decide the scope*

### 251 New feature WD WB WM
### REACTIVE PROCEDURE OPTIONS

Reactive Procedures offer 2 options:
- Delay: This option defines a time period after which the procedure must be executed. For example, 100 milliseconds after a value change:

```
REACTIVE PROCEDURE CalculateTotal() <delay = 100ms>
EDT_TOTAL = EDT_SUBTOTAL + EDT_SUBTOTAL * (EDT_VAT+1) /100
```

- Execution: This option triggers the execution of a Reactive Procedure programmatically.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Powerful programming*

### 252 New feature WD WB WM
### CASCADING

A Reactive Procedure can modify a variable or a control used by another Reactive Procedure.

In this case, the other Reactive Procedure will be executed.

The framework implements the necessary security mechanisms to avoid calls in a loop, for example.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Code once, and let the framework take care of the rest*

### 253 New feature WD WB WM
### DETERMINE IF A CONTROL IS OBSERVED OR MODIFIED BY A REACTIVE PROCEDURE

To find out whether a control can be modified by a Reactive Procedure, simply look at the lower-left corner of the 7-tab window of the control.



- "23" indicates the number of uses of the control in the code
- "7" indicates the number of uses of Reactive Procedures.
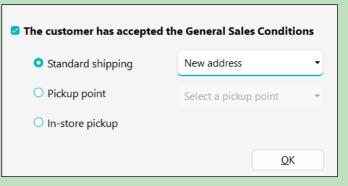Simply click an icon to view the list of uses (cross-references).

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Knowledge is everything*

### 254 New feature WD WB WM
### PRACTICAL EXAMPLE



#### DESIRED PROCESSES IN THIS WINDOW:
- Disable the three radio button options, the two combo boxes and the OK button, until the check box is selected.
- Once the user selects the check box, enable all the options.
- When the user selects the first radio button option, enable the first combo box and disable the second one.
- When the user selects the second radio button option, enable the second combo box and disable the first one.
- Same process for the third option.

With a Reactive Procedure, all of these processes come down to 11 simple lines of code!

In this example, you can simply create a Local Procedure in the window, and declare it as a Reactive Procedure. That's it.

```
REACTIVE PROCEDURE Shipping_modes()<delay=1s>

GR_SHIPPING..Grayed = True // Default
IF CBOX_GTC[1] = True THEN
        RADIO_SHIPPING_MODE..Grayed = False

    SWITCH RADIO_SHIPPING_MODE
        CASE 1 // Delivery to one address
            COMBO_ADDRESS..Grayed = False
        CASE 2 // Delivery to a relay point
            COMBO_RELAY_POINT..Grayed = False
        CASE 3 // Store pickup
    END
END
```

This procedure will be executed automatically when CBOX_GTC or RADIO_SHIPPING_MODE changes value, e.g. when a user selects an option

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Magic!*

Some of the main features include higher speeds, choice of vocabulary, new shortcuts, new panes, improved project explorer, and code editor improvements.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*An ever richer environment*

## WINDOW EDITOR

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

WINDEV's window editor benefits from common new features: palettes, new controls, blurring, faster template updates, etc.
See new features 007 to 042

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Powerful new features*

### 256 FASTER 7-TAB WINDOWS
New feature WD WB WM •

In version 2025, 7-tab windows load and respond faster than ever, allowing for a better workflow.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Better user experience*

### 257 NEW MODIFIER
New feature WD WB WM

The new modifier in version 2025 allows you to easily edit every aspect of your controls.
See new feature 062

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*You'll love it*

### 258 NEW CREATION PANE
New feature WD WB WM

Version 2025 introduces a new control creation.
Now you can instantly find the control you are looking for.
See new feature 065

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Seamless workflow*

### 259 FLEXBOX: VIEW NESTED ITEMS
New feature WD WB WM •

Version 2025 makes Flexbox easier than ever. Now you can view the different levels of nested items within a Flexbox container.
See new feature 790

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Understand the different levels at a glance*

### 260 FLEXBOX: REPOSITION CONTROLS ON DEMAND
New feature WD WB WM

When you create or edit a Flexbox control, you integrate different items into the flexbox container.
To easily handle these items in the editor, the repositioning algorithm is automatically disabled.
In version 2025, you can manually run the positioning algorithm from the window editor.
The items will then be correctly positioned, and this positioning will be preserved.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Easier, faster actions*

### 261 MISCELLANEOUS
New feature WD WB WM •

• UI error when combo content is empty in one of the languages of the application

## RAD

### 262 MVP RAD: PROVIDE YOUR MODEL MODEL
New feature WD WB WM

You can now provide a model class that will be used to generate MVP models (hence the "M" in "MVP").
This approach automatically implements the code that must be present in all models.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*How about a model of a model of a model?*

## USER GROUPWARE

### 263 USER GROUPWARE: COMMON FEATURES
New feature WD WB WM

In WINDEV, the User Groupware benefits from all the common new User Groupware features: OAuth, SSO, etc.
See new features 076 and 777

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Everything is in the title*

### 264 NEW OPTION: REMEMBER ME
New feature WD WB WM •

In all applications compiled with version 2025, login windows now include a "Remember me" option.
For security reasons, it is possible to disable this feature.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
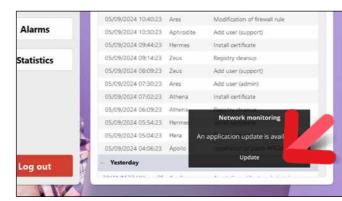*Let end users log in without effort*

## INSTALL

### 265 UPDATE NOTIFICATION INTEGRATED INTO THE APPLICATION
New feature WD WB WM

When a new version of an application is available, the end user can be notified either when the application is launched, or via a Windows notification.
In version 2025, end-users can also be notified directly from the application.
This option can be found in the installation wizard, and can be disabled.



*Available update notification in the application*

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
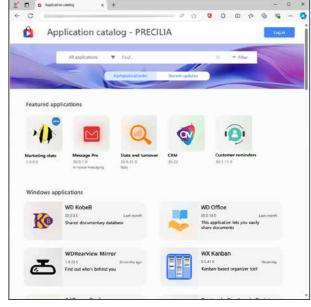*Practicality*



## WD, WB & WM PRIVATE STORE

### 266 FEATURE THE MOST POPULAR APPLICATIONS OVER LAST 7 DAYS
New feature WD WB WM

As you know, the Private Store provided as standard lets you host your Windows, iOS and Android applications and links to your websites in a store hosted and managed by your company.
Now, you can feature the most downloaded applications at the top of the list.



*Most popular applications at the top of the Private Store*

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Better organization of your applications*

### 267 STORE ACCESS AUTHENTICATION VIA OAUTH SERVER
New feature WD WB WM

Access to the Store can be configured from the OAuth Server available in the WEBDEV Application Server.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Centralize your authentication processes*

### 268 MISCELLANEOUS
New feature WD WB WM

• The installation UX of apps from the Store has been improved
• "iOS + Android" apps in the Store can now be installed either as a cross-platform app, or as 2 separate apps.
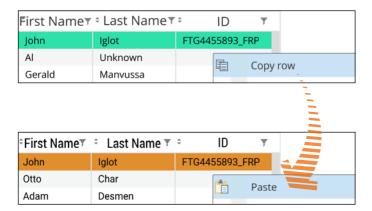
# AAF: AUTOMATIC APPLICATION FEATURES

## 269 — COPY & PASTE ENTIRE TABLE ROWS

In version 2025, a new AAF allows end users to copy and paste an entire row into a table.



*One single option to copy and paste an entire row*

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*By simply recompiling your application, you give users practical new features*

## 270 — SEARCH THE INTERNET FROM HTML EDITOR CONTROLS

*Search the selected text on the Internet*

The HTML Editor control now allows end users to search for the selected word(s) on the Internet.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Practical search option for end users*

# JAVA



## 271 — THREAD TYPE NOW AVAILABLE IN JAVA

In version 2025, the `Thread` type is available in Java.
This makes it easier to manage threads in Java.
Secure threads are also managed.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*More programming possibilities*

---

## 272 to 274 — MISCELLANEOUS

- Cast operator available
- `..Extra` property now available on advanced types
- Copy of class properties has been optimized

## 275 to 284 — 10 NEW JAVA FUNCTIONS

WLanguage offers 10 new functions for Java.

| | | | |
|---|---|---|---|
| AJAXCallInProgress | InPageWithinWindowMode | InRecycleMode | HExportCSV |
| HExportXLS | HImportCSV | HImportXLS | DayOfYearToDate |
| TableAddBeginning | LooperAddBeginning | | |

# LINUX



## 285 — LINUX: SPIN CONTROL

In version 2025, the Spin control is supported in Linux applications.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Better cross-platform*

## 286 to 314 — 29 NEW FUNCTIONS 46 NEW CONSTANTS FOR LINUX

WLanguage offers 29 new functions and 46 new constants for Linux. To learn more, see the online help.

| | | | |
|---|---|---|---|
| ControlRectangle | CmdAddArgument | CmdAddOption | CmdWriteStandardInput |
| CmdExecute | CmdReadErrorOutput | CmdReadStandardOutput | CmdGetExitCode |
| DocClearFormatting | DocToHTML | PaletteGet | InRecycleMode |
| ExecuteReactiveProcedure | grPPCAddData | grPPCImage | grPPCMaximumValue |
| grCategoryThumbnail | HEnableSpare | HImportCSV | HListSchedulingHistory |
| HRplAddFile | HDeleteSchedulingHistory | HClearSchedulingHistory | iAddBookmark |
| iInitReportVerso | DayOfYearToDate | JSONOpenReader | PDFExtract |
| GetVariableDefinition | | | |

# .NET

## 315 — ARRAY: IENUMERABLE PARAMETER

You can now pass arrays as parameters to .NET functions that expect a parameter of type `iEnumerable`.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*More programming possibilities*

---

# WLANGUAGE

## 316 — COMMON NEW FEATURES

Language remains the cornerstone of development.

In version 2025, WLanguage in WINDEV is further enriched.
It benefits from common new features and many useful improvements: Reactive Procedures, OAuth, faster web services, encryption, explicit type conversion, unlimited JSON size, etc.
See new features 123 to 143

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Ever-increasing power in WLanguage*

## 317 — READ FROM AND WRITE TO STANDARD INPUT/OUTPUT STREAMS

A WINDEV application can launch another application (another process) written in WINDEV or another language.
This mainly involves applications in console mode (launched from a command line).
In version 2025, it is possible to read data from the standard output (stdout) and standard error output (stderr).
It is also possible to write data to the standard input (stdin).
This allows you to control the process launched, and retrieve the process report.

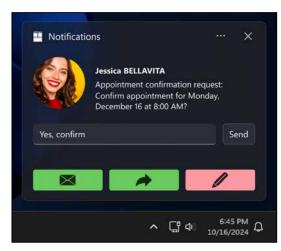BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Ever-increasing power in WLanguage*

## 318 — CUSTOMIZE WINDOWS NOTIFICATIONS

WINDEV applications can generate notifications to be displayed as standard Windows notifications.
You can now set button colors or add buttons to the input area.



*Custom notification*

BENEFIT OF THIS NEW FEATURE IN VERSION 2025
*Beautiful notifications*

## 319 to 369 51 NEW CONSTANTS

51 new WLanguage constants are available in version 2025:

| | | | |
|---|---|---|---|
| archi32 | archi64 | cmdStandardInput | cmdErrorOutput |
| cmdStandardOutput | crControl | crScreen | crWindow |
| cryptAES192 | DisableOptimizedAnsiUnicodeConversion | docFormatPainterModeDisabled | docFormatPainterModeMultiple |
| docFormatPainterModeOnce | foWithHandle | foDirect2D | foWithoutHandle |
| ftpIgnoreDeprecated | ftpIgnoreUnsafeLegacyRenegotiation | grPictorialPercentage | hCPTelemetryEnabled |
| hExecSchedulingCanceled | hExecSchedulingInProgress | hExecSchedulingError | hExecSchedulingCompleted |
| hlpFullBackup | hlpDifferentialBackup | hNullIndexed | hNullIndexedCompoundKey |
| hNullNonIndexed | htrgHAdd | htrgHWrite | htrgHModify |
| htrgHCross | htrgHDelete | piVersion | rectHorizontalScrollbar |
| rectVerticalScrollbar | rectExternal | rectInternal | rectEditButtonLeft |
| relationshipAlternative | relationshipData | relationshipUnspecified | relationshipSource |
| relationshipSupplement | invalidInputPreventExit | invalidInputNonBlocking | invalidInputNone |
| taRefreshIndicatorDown | taRefreshIndicatorUp | gtPassword | |

## 370 to 374 5 NEW TYPES

5 new types of variables are available in WLanguage:

| | | | |
|---|---|---|---|
| Command | hSchedulingHistory | jsonReader | pdfControl |
| pdfControlOption | | | |

## 375 to 377 3 NEW CONTROL PROPERTIES

3 new WLanguage properties are available for WINDEV.

| | | |
|---|---|---|
| InvalidInput | DisplayedValueComboBox | PaneVisibleByDefault |

## 378 to 426 49 NEW WLANGUAGE FUNCTIONS FOR WINDEV

49 new WLanguage functions are available for WINDEV in version 2025:

| AuthLogout | Logs out a user previously authenticated via the OAuth 2.0, OpenID or a JWT token. |
|---|---|
| AuthRevokeToken | Revokes a JSON Web Token (JWT). |
| AuthVerifyAuthentication | Returns the token of the current user in the case of SSO authentication |
| BitcoinCoreConnectionCount | Returns the number of connected peers. |
| BitcoinCoreDateTimeLastLaunched | Returns the date Bitcoin Core wast last launched. |
| BitcoinCoreDiskSpaceUsed | Indicates the size of the blockchain on disk. |
| BitcoinCoreBlockHash | Returns the hash of a block by index. |
| BTLECharacteristicChangeOfValue | Enables or disables detection of changes in the value of a Bluetooth Low Energy characteristic. |
| CertificateExport | Exports a certificate from a certificate store to a «pfx» or «cert» file. |
| CertificatePEMToPFX | Converts a certificate file in "pem" format into a certificate file in "PFX" format including the private key. |
| ControlRectangle | Returns a rectangle corresponding to the specified area of a control. |
| PaletteChange | Modifies the palette used by the project or by a window. |
| CmdAddArgument | Adds an argument to a command to be executed in console mode. |

| CmdAddOption | Adds an option to the command to be executed in console mode. |
|---|---|
| CmdWriteStandardInput | Writes data to the standard input of the command executed in console mode. |
| CmdExecute | Executes a command in console mode. |
| CmdReadErrorOutput | Reads error output data, for the command executed in console mode. |
| CmdReadStandardOutput | Reads standard output data, for the command executed in console mode. |
| CmdGetExitCode | Gets the exit code of the command executed in console mode, i.e. the value returned when the command finishes executing. |
| DocClearFormatting | Replaces the current formatting of a selection with the default formatting. |
| DocFormatPainterMode | Enables the format painter mode in the Word Processing control or determines if this mode is enabled. |
| PaletteGet | Displays the current project or window palette. |
| EmailAppGetArchitecture | Gets the architecture (32 or 64-bit) of a computer's default email client. |
| InRecycleMode | Indicates whether recycling mode for pre-launched (web service) sessions is enabled |
| ExecuteReactiveProcedure | Forces immediate execution of a reactive procedure. |
| WinOptimize | Changes the mode used to create and draw windows. All windows opened after calling this function will use the new mode. |
| PaletteGenerate | Generates a palette from one or more base colors. |
| gImagePalette | Builds a character sequence containing a monochrome image whose color follows palette changes |
| grPPCAddData | Adds values to a Pictorial Percentage chart. |
| grPPCImage | Defines the SVG image used for a Pictorial Percentage chart. |
| grPPCMaximumValue | Allows you to specify the maximum value for the chart used to calculate percentages automatically (Pictorial Percentage chart). |
| grCategoryThumbnail | Allows you to specify the thumbnail to be used in graphs to replace the category label. |
| HEnableSpare | Transforms a Spare server into an HFSQL server. |
| HImportCSV | Imports a CSV file into a data file in HFSQL Classic or Client/Server format. |
| HListSchedulingHistory | Lists a task's scheduling history. |
| HRplAddFile | Adds a file to a universal replication. |
| HDeleteSchedulingHistory | Delete task execution history. |
| HClearSchedulingHistory | Purge entire job schedule execution history file. |
| iInitReportVerso | Initializes the parameters of a report to be printed on the verso side of another report. |
| DayOfYearToDate | Returns the date in YYYYMMDD format corresponding to a day number in the year. |
| JSONOpenReader | Opens a JSON reader. |
| LoadImageProcedureList | Specifies the procedure to be called when displaying a row in a List Box control. |
| PaletteLoad | Loads a palette from a file. |
| PaletteSave | Saves a palette to a file. |
| PDFExtract | Creates a new PDF document from individual pages extracted from an existing PDF file. |
| GetVariableDefinition | Retrieves the description of a variable. |
| TableAddBeginning | Adds a row at the top of an Infinite Table control. |
| LooperAddBeginning | Adds a row at the beginning of an Infinite Looper control. |
| LooperAddIWBeginning | Adds a row consisting of an internal window to the first row of a Looper control. |

# WINDEV® Mobile

## AND MORE IN WINDEV MOBILE

## 427 THE 208 COMMON NEW FEATURES OF VERSION 2025 ARE AVAILABLE IN WINDEV MOBILE

# WINDEV Mobile 2025

gets the 208 common new features of version 2025, including the improved editors, AI coding assistant, palettes, the new Segmented Button control, faster web services, code editor improvements, password vault, the new Pictorial Percentage chart, SCM improvements, new WLanguage and OOP features, and more.

WINDEV Mobile 2025 also boasts many new features specific to mobile development.

Learn more in the following pages.

WINDEV Mobile

POWERFUL IDE & ALM SUITE

2025

DEVELOP 10 TIMES FASTER

PC SOFT

i love WINDEV ANDTACOS

# NEW, MIND-BLOWING MOBILE RAD
## MODERN UI

### 428
New feature WD WB WM

**MODERN UI BY DEFAULT**

WINDEV Mobile version 2025 features a new RAD tool.
This new version helps you effortlessly achieve a modern look and a better user experience

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Apps with a modern design language*

### 429
New feature WD WB WM
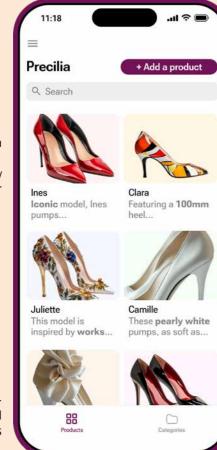
**DEFAULT MODELS FOR SIMPLIFIED UI GENERATION**

The RAD creation method has been simplified. Now, a default layout is selected according to the content of the data files (tables).
You no longer have to answer a series of questions.
For example, if a data file contains only a label, a description and an image item, the corresponding window is automatically generated.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Simpler, better*

### 430
New feature WD WB WM

**8 DIFFERENT MODELS TO SUIT EVERY NEED**

In version 2025, 8 different window models are used:

• gallery
• looper
• looper with selection
• table
• table with selection
• details
• addition
• modification

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Create a great UI in seconds*
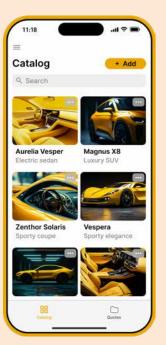
### 431
New feature WD WB WM
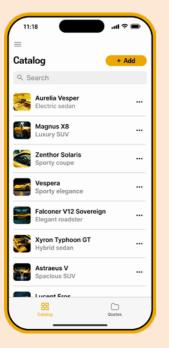
**READY-TO-USE, YET FULLY EDITABLE**

The generated WLanguage code is fully editable.
By default, the skin template of the current application is used.
You can also edit the generated windows.

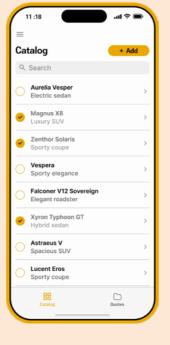BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Your application, exactly the way you want it*

*Windows generated with the RAD tool*

---

## NEW CONTROLS

WINDEV Mobile 2025 offers improved and new controls to create even better UIs.

### 432
New feature WD WB WM •

**CONTENT ORDERED CHRONOLOGICALLY IN A LOOPER CONTROL: HOW TO GO BACK IN TIME**

Many applications display elements in chronological order. The position is usually set at the end of the control, which means you only see the latest elements.
Well-known examples include WhatsApp, Messenger and Telegram.
For obvious performance reasons, content is dynamically loaded as the user scrolls through the control.

In version 2025, this functionality can be automatically implemented, using an Infinite Looper control populated at the top.
To do so, use the new "Populate at the top" WLanguage process.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Better, more efficient controls*

### 433
New feature WD WB WM

**LARGE CONTENT IN A TABLE**

The functionality used to populate controls at the top described in the above feature is also available for Table controls.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Better, more efficient tables*

### 434
New feature WD WB WM

**TAP & HOLD A ROW TO REORDER A LOOPER CONTROL**

Looper controls enable end users to reorder rows with a simple drag & drop.
Now, users can simply tap and hold a row to enable the reorder mode. No additional programming required.
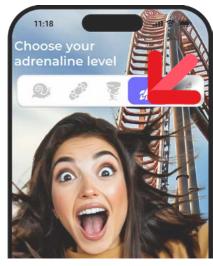This feature can be disabled.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Effortlessly implement an intuitive functionality*

### 435
New feature WD WB WM

**SEGMENTED BUTTON CONTROL**

The new Segmented Button control is now available for mobile applications as well.
See new feature 242

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Interoperability*

### 436
New feature WD WB WM •

**PREFILLED CONTROLS**

Mobile devices can store personal data and then prefill certain controls with this data.
For each control in each window of a mobile app, you can indicate the type of data that should appear in the suggestions, in particular passwords managed by the mobile device.
In the 7-tab windows, you will find a list of the available data types: Last name, First name, Address, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Big time saver for end users*

### 437
New feature WD WB WM

**ADD APPOINTMENTS TO THE PHONE CALENDAR WITHOUT REQUESTING A PASSWORD**

A mobile device generally has 2 calendar applications. One that comes with the device, and another that is linked to the Android or iOS account.
WINDEV Mobile 2025 can now automatically add an appointment to the phone's default calendar.
This action does not require any type of authentication.
To manage this action programmatically, simply use the new `AppointmentAdd` WLanguage function.

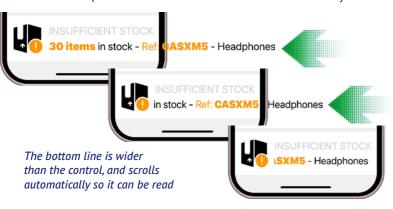BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Direct access to the calendar*

## 438 — AUTO SCROLL OVERFLOW TEXT

New feature  WD  WB  WM  •

The text present in a Static Text or in a Button control may be lon-



*The bottom line is wider than the control, and scrolls automatically so it can be read*

ger that what the control allows. Some examples include: dynamic text from a database, text defined programmatically, warning message, action validation, German translations, etc.

Simply check the "Scrolling text" option in the Details tab of the 7-tab window, and indicate whether or not the text should scroll automatically.

To avoid creating a visual fixation point, text scroll n times, and then stops.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Make long text easy to read*

## 439 — NEW CHART

New feature  WD  WB  WM



The new Pictorial Percentage chart is now available for mobile applications.
See new features 033, 037 and 040

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*User-friendly data representation*

## 440 — AUTOMATICALLY STRAIGHTEN AND CLEAN UP A PHOTO TAKEN WITH A MOBILE DEVICE

New feature  WD  WB  WM

The Image Editor control allows users to take photos.
In version 2025, the Image Editor control can also straighten photos and remove unwanted elements.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Clear images, no effort*

## 441 — MISCELLANEOUS

New feature  WD  WB  WM

• Ability to adjust the opacity of controls.

---

# NEW SMART CONTROLS IN WINDEV MOBILE 2025

## 442 — NEW SMART CONTROL: ONE-TIME VERIFICATION CODE RECEIVED BY SMS

New feature  WD  WB  WM

Many two-factor authentication methods send a one-time verification code by SMS.
The "One-time code authentication" Smart control makes it possible to automatically retrieve this code from the application.
See new feature 444

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Ready to use*

## 443 — NEW SMART CONTROL: HANDWRITTEN SIGNATURE ON PDF
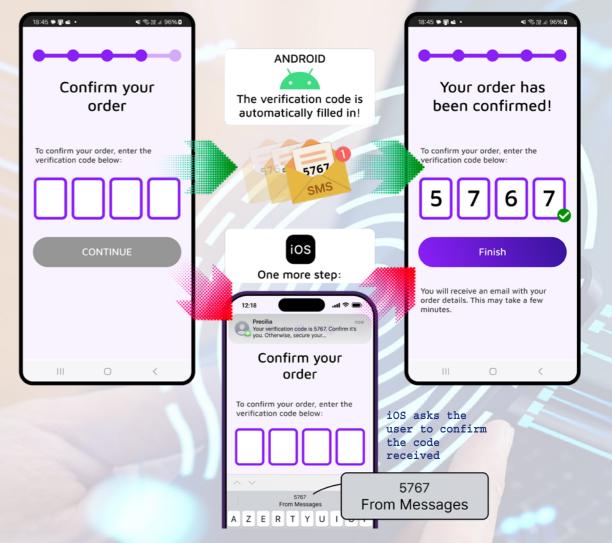
New feature  WD  WB  WM

This new Smart control allows users to add their handwritten signature to a PDF document directly from their mobile devices.
See new feature 458

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Ready to use*

---

# TWO-FACTOR AUTHENTICATION BY SMS
## THE APP RETRIEVES THE SMS
## AND AUTOMATICALLY PROCESSES THE CODE



*iOS asks the user to confirm the code received*

## 444 — RETRIEVE ONE-TIME CODES TO HELP USERS CONFIRM ACTIONS

New feature  WD  WB  WM

A common way to confirm an action within an app is to request a code received by SMS. This method is commonly used to complete a payment or authentication step.

For most users, this is a cumbersome process, as it implies navigating between several apps.

The "One-time code authentication" Smart control enables your application to automatically retrieve and use this code.

This Smart control uses the new `SMSDetectOneTimeCode` WLanguage function.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*4Less handling, less errors*

## 445 — A USER EXPERIENCE THAT ADAPTS TO THE OS OF THE DEVICE

New feature  WD  WB  WM

This Smart control takes into account small differences between Android and iOS.
On Android, the whole process is straightforward, while iOS adds an extra layer of security by requiring a confirmation from the end user.

Simply use this Smart control in your application, and let it handle these aspects automatically.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Suitable for all devices*

## 446 — TOTAL CUSTOMIZATION

New feature  WD  WB  WM

Of course, this Smart control is fully customizable, just like all other Smart controls. You can edit the control, code, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*A control that suits your needs*

2025
60
*New features in WINDEV 2025 WEBDEV 2025 WINDEV Mobile 2025 & WINDEV Suite SaaS*
61
2025
*New features in WINDEV 2025 WEBDEV 2025 WINDEV Mobile 2025 & WINDEV Suite SaaS*

# OTHER COMMON NEW FEATURES FOR IOS/ANDROID

## 447
New feature WD WB **WM** •

### XLSX SHEETS & XLSX WLANGUAGE FUNCTIONS FOR MOBILE APPS

WINDEV Mobile 2025 offers WLanguage functions for manipulating XLSX documents.
You can:
- load and save a document
- add and delete sheets
- add, format and edit cells
- trigger recalculation
- ...

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Calculate on your mobile*

## 448
New feature WD WB WM

### SAFE

The new password vault for code editors is now also available on mobile.
See new feature 116

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Code security*

## 449
New feature WD WB **WM**

### USE GOOGLE FONTS IN YOUR ANDROID & IOS APPS



Google Fonts is a font service owned by Google. It includes a large number of free fonts.
These fonts can be used on both Android and iOS, making it easy to create applications with the same look and feel on both OSes.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Beautiful iOS/Android-compatible fonts*

# EASILY TRANSFORM YOUR WINDEV APPLICATIONS INTO IOS & ANDROID APPLICATIONS

## TRANSITION TO MOBILE DEVICES MADE EASIER

Transforming your existing WINDEV applications (or parts of applications) into iOS and Android applications is easier than ever before.
The integration of the WINDEV and WINDEV Mobile environments allows developers to easily share project elements.
The conversion wizard has been improved and is even more precise.

*Easily transform your WINDEV applications into mobile applications*



## 450
New feature WD WB WM

### NEW SKIN TEMPLATE FOR MOBILE APPS

Version 2025 includes the new "Emerald" skin template. Feel free to use it to customize your apps!

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*New looks for your apps*

Feel free to use these templates for your apps, as well as all the templates provided4 with WINDEV Mobile.

Remember you can also apply a palette and create your own skin templates.

WINDEV Mobile gives you the help you need to create superb UIs.

*Gabarit Émeraude*



## 451
New feature WD WB WM

### YOUSIGN: ELECTRONIC SIGNATURES

Yousign integration is also available for mobile applications.
See new feature 156

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Docusign or Yousign integration: the choice is yours*

## 452
New feature WD WB WM •

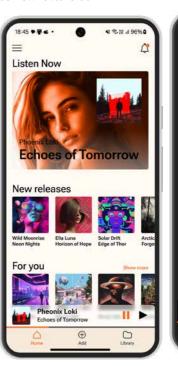### DROPBOX WLANGUAGE FUNCTIONS AVAILABLE ON MOBILE

In version 2025, you can use **Dropbox** WLanguage functions, in addition to **GoogleDrive** and **OneDrive**.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Integrate your preferred drive service*

## 453
New feature WD WB WM

### PALETTES

The new palettes are also available for mobile applications.
These palettes are essential to allow end users to switch to dark mode (or any other mode) with a single tap within your application.
See new feature 007



*One tap and your app switches to dark mode*

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Can't be any easier than that*

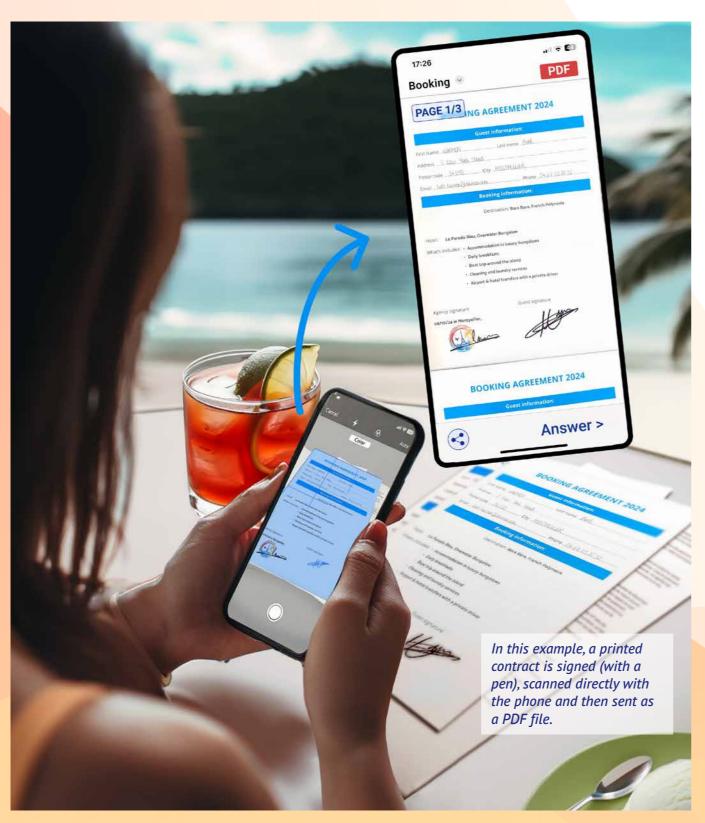# GOT A PHONE?
## SCAN ANY DOCUMENT TO PDF!



*In this example, a printed contract is signed (with a pen), scanned directly with the phone and then sent as a PDF file.*

# SCAN & ENHANCE DOCUMENTS
## TRANSFORM A SERIES OF PHOTOS INTO A PDF FILE

### 454 New feature WD WB WM •
**CREATE A PDF DOCUMENT FROM PHOTOS TAKEN WITH A SMARTPHONE**

The new `ScanFromCameraToImage` and `ScanFromCameraToPDF` WLanguage functions are used to take photos with a smartphone, and transform them into a ready-to-use document.
All unwanted elements are removed, and perspective distortion is fixed, if necessary.
One common case scenario is scanning a hand-signed document.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Create PDF documents with a few taps*

### 455 New feature WD WB WM •
**TOTAL AUTOMATION**

The WLanguage function captures the image, detects the document and creates a representation within a parallelogram.
The user can adjust the document area.
Once the user confirms changes, any perspective distortion is corrected.
Users can scan several pages in a single series.
A single PDF document containing all the pages will be generated.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*WLanguage takes care of everything*

### 456 New feature WD WB WM
**ADVANCED OPTIONS**

The new scan capabilities include some advanced options.
In this mode, the result returned is an array of variables of type `Image`.
This allows you to program any process you may need.
For example, OCR can be applied to scanned images by calling the `OCRDetectTextArea` and `OCRExtractTextBlock` WLanguage functions.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Fine programming*

### 457 New feature WD WB WM
**MISCELLANEOUS**

In Android, end users benefit from additional image editing features:
• filter
• erase
• crop
• etc.

# PDF OR SCAN: HAND-WRITTEN SIGNATURE ON THE DEVICE

### 458 New feature WD WB WM
**HAND-WRITTEN SIGNATURE DIRECTLY ON THE DEVICE**

Apply your handwritten signature to a PDF document directly from your smartphone.
This PDF document may be a scan made with the device.
Simply take a photo of your signature and initials (feature included in the Smart control) and position them at the desired location.
The new "Handwritten signature in PDF" Smart control is included in version 2025.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Essential functionality in many fields*

# AND MORE FOR IOS

## 459 — ALL THE COMMON NEW FEATURES FOR MOBILE APPS
New feature WD WB **WM**

iOS development has never been as powerful as with WINDEV Mobile 2025. You benefit from awesome new features in addition to those already available.
iOS evolves, and so does WINDEV Mobile 2025.
WINDEV Mobile 2025 for iOS benefits from:
- the common new features in version 2025
- *plus* the common new features for mobile devices
- *plus* new features specific to iOS.
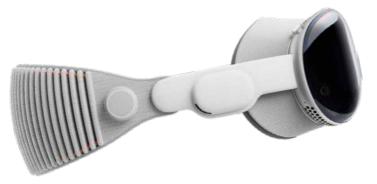
## 460 — IOS 18,
New feature WD WB **WM**

### NEW IPHONE 16, WATCH SERIES 10

*iPhone 16 and Apple Watch Series 10*

WINDEV Mobile 2025 supports both iOS 18 and WatchOS 10.
All iPhone 16 and Apple Watch Series 10 models are supported.
**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Enjoy all the features of iOS 18*

## 461 — APPLE VISION PRO MIXED-REALITY HEADSET: HOVER STATE
New feature WD WB **WM**

With Apple's Vision Pro headset, simply glancing at a control triggers the "Hover" state.
The code written in the "Hover" event, if any, will be executed.
**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Intuitive interaction with controls*

## 462 — EXTRACT PAGES FROM A PDF DOCUMENT PROGRAMMATICALLY
New feature WD WB WM

Various PDF manipulation features were already available on iOS. Among the 81 new features specific to iOS, developers will surely appreciate the `PDFExtractPage` function, which extracts one or more pages from a PDF document to create a new PDF document.
**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Practical functionality on iPhone*

## 463 — INTERNAL WINDOW: INFINITE SWIPE EFFECT.
New feature WD WB WM •

You can use Internal Window controls to display a series of elements that the user can navigate through by swiping.
In version 2025, when the user reaches the last element, the first element appears again, creating an infinite swipe effect.
To enable this feature simply select the corresponding option in the 7-tab window.
**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Power*

## 464 — USE HANDLES TO MOVE LOOPER CONTROL ROWS
New feature WD WB **WM**

In a Looper control, you can add handles at the beginning or end of a row.
These handles will allow users to move the row.

*Handle on the left of the row*

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Additional built-in functionality*

## 465 to 472 — 8 NEW TYPES
New feature WD WB **WM**

8 new types of variables are available for iOS:

| | | | |
|---|---|---|---|
| hSchedulingHistory | jsonReader | xlsCell | xlsColumn |
| xlsComment | xlsDocument | xlsRow | xlsLayout |

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*More and more power in WLanguage*

## 473 to 536 — 64 NEW FUNCTIONS & 94 CONSTANTS FOR IOS
New feature WD WB **WM**

WLanguage is enriched with 64 new functions for iOS, as well as 94 new constants and 22 new functions for iOS Widgets (visit WINDEV.COM for the full list).

| | | | |
|---|---|---|---|
| AnimationSetMode | AuthRevokeToken | AuthVerifyAuthentication | ControlRectangle |
| PaletteGet | InRecycleMode | ExecuteReactiveProcedure | WinOutHeight |
| WinOutWidth | WinOutXPos | WinOutYPos | WinInHeight |
| WinInWidth | WinInXPos | WinInYPos | fTempFile |
| fOpenTempFile | grPPCAddData | grPPCImage | grPPCMaximumValue |
| grCategoryThumbnail | HImportCSV | HListSchedulingHistory | HRplAddFile |
| HDeleteSchedulingHistory | HClearSchedulingHistory | iAddBookmark | iInitReportVerso |
| DayOfYearToDate | JSONOpenReader | PDFExtractPage | PDFNumberOfPages |
| GetVariableDefinition | AppointmentCreate | ScanFromCameraToImage | ScanFromCameraToPDF |
| TableAddBeginning | xlsAddWorksheet | xlsCoordinatesToName | xlsUnmergeCell |
| xlsData | xlsClose | xlsCurrentWorksheet | xlsMergeCell |
| xlsMsgError | xlsNbColumn | xlsNbWorksheet | xlsNbRow |
| xlsNameToCoordinates | xlsOpen | xlsRecalculateAll | xlsGetMerge |
| xlsSave | xlsDeleteWorksheet | xlsColumnTitle | xlsColumnType |
| xlsVersion | zipOpenRAR | LooperAddBeginning | LooperAddIWBeginning |
| LooperRestorePositionAndSelection | LooperSavePositionAndSelection | | |

## 537 to 541 — 5 NEW FUNCTIONS & 12 CONSTANTS FOR APPLE WATCH
New feature WD WB **WM**

5 new WLanguage functions are available for Apple Watch and 12 new constants (visit WINDEV.COM for the full list).

| | | | |
|---|---|---|---|
| InRecycleMode | ExecuteReactiveProcedure | HImportCSV | JSONOpenReader |
| GetVariableDefinition | | | |

# AND MORE FOR ANDROID

## 542 — ALL THE COMMON NEW FEATURES FOR MOBILE APPS
New feature WD WB **WM**

Android development has never been as powerful as with WINDEV Mobile 2025.
The amount of powerful features at your disposal keeps growing.
Android evolves, and so does WINDEV Mobile. This particular version features **Android 15** support.
WINDEV Mobile 2025 for Android benefits from:
- the common new features in version 2025
- *plus* the common new features for mobile devices
- *plus* new features specific to Android.

## 543 — ANDROID 15 SUPPORT
New feature WD WB **WM** •

WINDEV Mobile 2025 supports the latest version of Android.
**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Stay up to date*

## 544 — GET THE PHONE NUMBER OF THE CURRENT DEVICE
New feature WD WB **WM**

The new `tapiGetNumber` WLanguage function gets the phone number(s) associated with the device on which the application is running.
Bear in mind Android requires user authorization before allowing this operation.
If several SIM cards are present on the phone, the user must select the number they want to share.
**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Easier user identification*

## 545 — PDF MANIPULATION IN WLANGUAGE
New feature WD WB **WM**

Now, you can easily manipulate PDF files in your Android applications, using `pdf` WLanguage functions.
**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Feature-rich Android apps*

## 546 New feature WD WB **WM**
### NEARBY CONNECTIONS BETWEEN 2 OR MORE DEVICES: EVEN WITHOUT MOBILE DATA, EVEN IN AIRPLANE MODE

It is now possible to establish nearby connections between multiple Android devices.

This feature makes it possible for 2 or more devices to exchange data, even in airplane mode, with all networks disconnected.

The devices don't need to be in contact or very close to each other, which makes this feature useful in many areas.

Device detection uses Bluetooth, so only devices within Bluetooth radio range will be detected. The connection is then made via Bluetooth, Bluetooth Low Energy or WiFi direct.

In Android, there are 3 nearby share modes, also known as "strategies":
* point-to-point
* star: 1 advertiser and N discoverers
* cluster: every device is both an advertiser and a discoverer

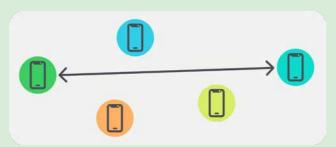WINDEV Mobile 2025 supports these 3 modes.

The connection mode is automatically optimized by your app.

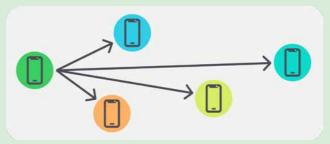A new set of 11 `NearbyShare` WLanguage functions allows you to easily implement this functionality.

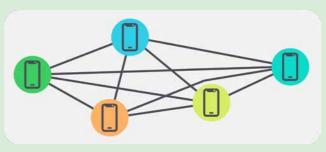See new feature 673

Examples of use:
* photo or video sharing
* commercial information sharing
* business meeting quiz
* sports coach shares session program with attendants
* collaborative whiteboard
* ...

*Point-to-point strategy*

*Star strategy*

*Cluster strategy*

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Powerful data sharing capabilities*

## 547 New feature WD WB **WM**
### GET OPENID INFORMATION OF USERS LOGGED IN VIA OAUTH

An application may need to retrieve information about a logged-in user. These details may include name, postal address, email address, phone number, etc.

The `OpenIDReadIdentity` function retrieves these details. Accessible information is determined by the permissions (scopes) sent at the time the request is made.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*A widely used standard*

## 548 New feature WD WB **WM**
### THREAD PROGRAMMING: EXECUTION PARAMETERS

The `Thread` advanced type, as well as secure thread programming are now available for Android applications.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Improved code security*

### *INDUSTRIAL DEVICES*

*WINDEV Mobile supports industrial devices (e.g., Zebra) used in all professional fields*

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*The common new features in version 2025 are also available for Android and iOS projects*

## 549 New feature WD WB **WM**
### REST WEB SERVICES: OPENAPI NOW AVAILABLE

Web services are widely used in mobile applications.
In version 2025, you can natively call REST web services with OPENAPI documentation in the code editor.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*A widespread standard*

## 550 New feature WD WB **WM**
### WLANGUAGE: TYPE YAML

YAML is an exchange format designed to be human-readable.
The `YAML` type is now available for Android applications.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*A new native exchange format for Android*

## 551 New feature WD WB **WM**
### REGULAR EXPRESSIONS ALSO AVAILABLE IN ANDROID

A regular expression is a character string that defines a very precise search pattern.
Search, modification and verification regular expressions are now available in Android.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*The power of WLanguage*

### New feature WD WB **WM**
## 552 to 558 MISCELLANEOUS

* OAuth: JWT tokens supported
* Android Control Center: ability to select multiple files
* Ability to lock screen rotation at 180°
* `Enums` supported in external components
* OOP: Ability to copy class properties
* OOP: Multisyntax constructors supported
* Local procedures for internal windows can be called from the host window.

### New feature WD WB **WM**
## 559 to 655 97 NEW WLANGUAGE CONSTANTS

97 new constants available for Android:

| | | | |
|---|---|---|---|
| crControl | crScreen | crWindow | cryptAES192 |
| hExpNoLineItemName | iFontAngle | iAutomatic | iFontSize |
| nsCanceled | nsBuffer | nsCluster | nsConnected |
| nsDisconnected | nsConnectionFailed | nsInProgress | nsError |
| nsStar | nsFile | nsPointToPoint | nsConnectionRejected |
| nsCompleted | afAddressPostalCode | afAddressCountry | afAddressRegion |
| afAddressStreet | afAddressCity | afNone | afAutomatic |
| afCreditCardSecurityCode | afCreditCardExpirationYear | afCreditCardExpirationDate | afCreditCardExpirationMonth |
| afCreditCardNumber | afBirthDate | afBirthDateYear | afBirthDateDay |
| afBirthDateMonth | afMiddleName | afEmail | afPassword |
| afName | afFamilyName | afUsername | afNewPassword |
| afNewUser | afPhoneNumber | afFlightNumber | afNamePrefix |
| afGivenName | afSMSOneTimeCode | afNameSuffix | aptCanceled |
| aptFailed | aptSuccess | rectExternal | rectInternal |
| rectEditButtonRight | rectEditButtonLeft | invalidInputNonBlocking | invalidInputNone |
| sdcCanceled | sdcFailed | sdcSuccess | taRefreshIndicatorDown |
| taRefreshIndicatorUp | gtPassword | thpConnectedDevice | thpCamera |
| thpLocation | thpMediaPlayback | thpMicrophone | thpHealth |
| thpShortService | thpDataSync | thpSpecialUse | ThreadStopRequested |
| threadSecure | xlsCompatible | xlsDataError | xlsWrite |
| xlsMergeAndCenter | xlsMergeSimple | xlsColumnNum | xlsRowNum |
| xlsTitleError | xlsTypeString | xlsTypeDate | xlsTypeDateTime |
| xlsTypeDouble | xlsTypeDuration | xlsTypeError | xlsTypeTime |
| xlsTypeCurrency | xlsTypeEmpty | xlsVersionUndefined | xlsVersionXls |
| xlsVersionXlsx | | | |

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# ANDROID DEBUGGER



## 656 New feature WD WB **WM**
### IMPROVED DEBUGGER

In version 2025, WINDEV Mobile's Android debugger introduces several features to further help developers:
* Breakpoints in internal procedures
* Breakpoint in procedures with automations
* Traces, errors and exceptions directly visible in the dedicated debugger pane
* Better display of advanced types in the debugger
* Run to cursor functionality.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Testing made easy*

## 657 to 672  WLANGUAGE 16 NEW TYPES

16 new types of variables are available for Android:

| | | | |
|---|---|---|---|
| apiClient | apiRequest | Watermark | JWTParameters |
| OpenIDIdentity | OpenIDParameters | Palette | pdfControl |
| pdfControlOption | Thread | tsCell | xlsColumn |
| xlsComment | xlsDocument | xlsRow | YAML |

## 673 to 761  89 NEW WLANGUAGE FUNCTIONS FOR ANDROID

Version 2025 introduces 89 new functions for Android, 89 new functions for Android widgets and 12 new constants.

| | | | |
|---|---|---|---|
| Germany.CheckTaxNumber | AnimationSetMode | AJAXCallInProgress | AuthLogout |
| AuthRevokeToken | AuthVerifyAuthentication | Belgium.CheckTaxNumber | Brazil.CheckTaxNumber |
| Canada.CheckTaxNumber | ControlRectangle | PaletteChange | ComboClose |
| PaletteGet | dpDriveConnect | InPageWithinWindowMode | Spain.CheckTaxNumber |
| UnitedStates.CheckTaxNumber | WinOutHeight | WinOutWidth | WinOutXPos |
| WinOutYPos | WinInHeight | WinInWidth | WinInXPos |
| WinInYPos | fTempFile | fOpenTempFile | PaletteGenerate |
| gImagePalette | grGetData | grCategoryThumbnail | HExportJSONString |
| HExportCSV | HExportXLS | HImportCSV | HImportXLS |
| HRplAddFile | Italy.CheckTaxNumber | OpenIDReadIdentity | PaletteLoad |
| PaletteSave | NearbyShareAcceptConnection | NearbyShareStopWaiting | NearbyShareStopDiscovery |

| | | | |
|---|---|---|---|
| NearbyShareStopAll | ShareProximityAttendConnexion | NearbyShareDisconnect | NearbyShareRequestConnection |
| NearbyShareSend | NearbyShareSendFile | NearbyShareDiscoverDevice | NearbyShareRejectConnection |
| PDFAddWatermark | PDFAddImage | PDFExtract | PDFNbSignatures |
| PDFGetSignatureDate | PDFGetSignature | RegexSearch | RegexReplace |
| RegexMatch | ScanFromCameraToImage | ScanFromCameraToPDF | SMSDetectOneTimeCode |
| Switzerland.CheckTaxNumber | TableAddBeginning | tapiGetNumber | xlsAddWorksheet |
| xlsCoordinatesToName | xlsUnmergeCell | xlsData | xlsClose |
| xlsCurrentWorksheet | xlsMergeCell | xlsMsgError | xlsNbColumn |
| xlsNbWorksheet | xlsNbRow | xlsNameToCoordinates | xlsOpen |
| xlsRecalculateAll | xlsGetMerge | xlsSave | xlsDeleteWorksheet |
| xlsColumnTitle | xlsColumnType | xlsVersion | LooperAddBeginning |
| LooperAddIWBeginning | | | |

## WINDOWS MOBILE, EMBEDDED & CE, UWP

Windows Mobile, Windows CE and Windows Embedded applications are still used in the industrial field. UWP is still used for a few projects.

Applications for Windows Mobile, Windows CE and Windows Embedded can be developed with WINDEV Mobile 26. If you need to use these features, you can access WINDEV Mobile 26 from version 2025. To develop features for UWP, use WINDEV Mobile 2024, which is available with a license for version 2025.

## *I LOVE MY WINDEV MOBILE APP*

# WEBDEV®

## AND MORE IN WEBDEV

## 762  THE 208 COMMON NEW FEATURES OF VERSION 2025 ARE AVAILABLE IN WEBDEV

# WEBDEV 2025

gets the 208 common new features of version 2025, including the improved editors, AI coding assistant, palettes, faster web services, code editor improvements, password vault, the new Pictorial Percentage chart, SCM improvements, new WLanguage and OOP, features, and more.

**WEBDEV®**
POWERFUL IDE & ALM SUITE

WEBDEV 2025

DEVELOP 10 TIMES FASTER

# CREATE SECURE REST WEB SERVICES

## SECURE WEB SERVICE

### 763 — New feature WD WB WM
**SECURE ACCESS TO WEB SERVICES**

WEBDEV enables you to easily create REST web services.
In version 2025, you can also create REST web services that require an OAuth access token.
WEBDEV 2025 takes care of everything!

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*A widely used type of web service*

### 764 — New feature WD WB WM
**HOW IT WORKS**

To access certain web services, an access token is required.
Users must therefore obtain the token to call those web services.
OAuth is a standard protocol that allows them to obtain this token.
Reminder: OAuth lets you manage access authorizations.
This token is provided by an authentication server, using the OAuth protocol.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Standard protocol*

### 765 — New feature WD WB WM
**HOW TO CREATE A SECURE WEB SERVICE**

Simply create a web service as usual.
In the web service description, specify the address of the desired authentication server.
With WEBDEV 2025, that's all you need to do.

*Initial authentication*

```
oauth_parameters is OAuth2Parameters
...
// Authentication request
MyToken is AuthToken = AuthIdentify(oauth_parametres)
```

### Secure web service call

```
// Retrieve number of invoices for the logged-in user
req is httpRequest
req.AuthToken    = MyToken
req.URL = "http://serv.mycompany.com/V1/Billing/
Invoice?num_invoice=" + num
req.Send()
```
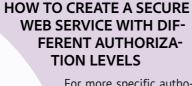
BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Easy definition*

### 766 — New feature WD WB WM
**HOW TO CREATE A SECURE WEB SERVICE WITH DIFFERENT AUTHORIZATION LEVELS**

For more specific authorizations, you can use detailed permissions, known as "scopes".
This type of authorization is defined through a specific interface in the authentication server.
Some examples include: write access, access to a specific resource, etc.
You can specify the scopes required for each web service entry point.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*WLanguage makes it easy*

### 767 — New feature WD WB WM
**USE THE OAUTH SERVER OF YOUR CHOICE**

A secure web service requires an OAuth server.
WEBDEV 2025 lets you choose between:
• a third-party server
• the OAuth server provided as standard with WEBDEV Application Server (see new feature 769).
If you are using a third-party authentication server, simply check that it has the necessary services.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Yes, an OAuth server is provided as standard*

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# OAUTH SERVER INCLUDED IN WEBDEV APPLICATION SERVER

## OAUTH

### 768 — New feature WD WB WM ●
**WHY USE AN OAUTH AUTHENTICATION SERVER?**

The OAuth protocol is an open standard used to issue secure authorizations.
An OAuth authentication server manages the following aspects:
• Secure authentication
• Authorizations
• Access tokens and refresh tokens
• Rights associated with tokens ("scopes")
An OAuth authentication server can be hosted on a physical server of any type: local network ("on premise"), hosting provider, cloud, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Advanced technology as standard*

### 769 — New feature WD WB WM ●
**OAUTH AUTHENTICATION SERVER: PROVIDED IN VERSION 2025**

WEBDEV Application Server 2025 includes an OAuth authentication server by default.
To use this authentication server, simply activate the OAuth authentication server option when installing WEBDEV Application Server in version 2025.
This authentication server greatly simplifies installation, administration and programming, at no extra cost.
This authentication server can also be used for SSO authentication (see new features 773 to 780).

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Effortless authentication processes, out of the box!*

### 770 — New feature WD WB WM ●
**LET THE OAUTH AUTHENTICATION SERVER TAKE CARE OF EVERYTHING**

The OAuth authentication server provided with WEBDEV 2025 includes every functionality you might need.
In particular, the server manages an account database, as well as an account administration website, where you can create and edit accounts, import accounts from an LDAP directory, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Risk-free account administration*

### 771 — New WD WB WM ●
**AUTOMATICALLY MANAGED SECURE WEBSITE LOGIN**

Once OAuth authentication is implemented in a website or application, users must provide login credentials.
This step is managed by the authentication server.
You can customize the login page.
If a user forgets their password, this page allows them to get a new one.
You can create new accounts from the login page.
2FA (via email and Authenticator) is supported.
The `AuthIdentify` WLanguage function manages authentication and opens the login page.
A third-party language can use the WEBDEV authentication server via HTTP requests.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Standard processes*

### 772 — New feature WD WB WM
**TOKENS, SCOPE & CONSENT**

Tokens are generated by the server and identify a given user.
When creating OAuth credentials ("Client ID/Secret" pair), you can define scopes, which determine the authorizations of the token.
The OAuth server automatically handles the user's request to use one or more available scopes.
Tokens are automatically refreshed.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Easy user authentication*

The ● icon indicates that the new feature is already available in the SaaS version released in June.

## LOG IN ONCE. ACCESS EVERY TIME.

### 773   New feature WD WB WM
### SSO: INTEROPERABILITY

Single Sign On (SSO) offers a practical approach to user authentication processes.

Users enter their login credentials once, and these credentials are then automatically recognized by all the other websites they access, whether developed with WEBDEV or not.

This means users no longer need to enter their login credentials on every site they try to access.

Of course, these sites must support SSO.

The login/password pair is known and stored only on the authentication server.

Sites don't see or store the password directly.

Everything is managed automatically for sites developed with WEBDEV 2025.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Simplified login process*

### 774   New WD WB WM
### SSO: AUTHENTICATION SERVER INCLUDED

Each site that uses SSO must call an authentication server.
The authentication server:
- manages the database of accounts and their passwords: create accounts, delete accounts, etc.
- displays the login window for the first login attempt
- returns the information requested by the site: last name, first name, email, etc., but not the password.
- manages logout
- allows you to set the authorized connection time (in hours, days, etc.)

This authentication server comes as standard with WEBDEV Application Server 2025. See new feature 769.

WEBDEV 2025 uses the OpenID Connect protocol, which allows other websites (not developed with WEBDEV) to use this authentication server.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*A robust, yet flexible authentication server*

### 775   New feature WD WB WM
### TOKENS

To implement SSO, websites must know a secret key issued by the authentication server.

To authenticate a user, the website must call the `AuthIdentify` WLanguage function, one of whose parameters is this secret key.

The first time a user tries to log in, a login page defined by the authentication server is displayed. The server issues a token (stored in a cookie).

The following authentications will automatically detect this cookie, and validate access to the site.

There's no additional programming. The `AuthIdentify` WLanguage function takes care of everything.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Security*

### 776   New feature WD WB WM
### SSO INTEGRATION METHODS

Two methods are available to implement SSO in a WEBDEV site:
1. User Groupware
2. programmatically

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Choose the method that best suits your needs*

### 777   New feature WD WB WM
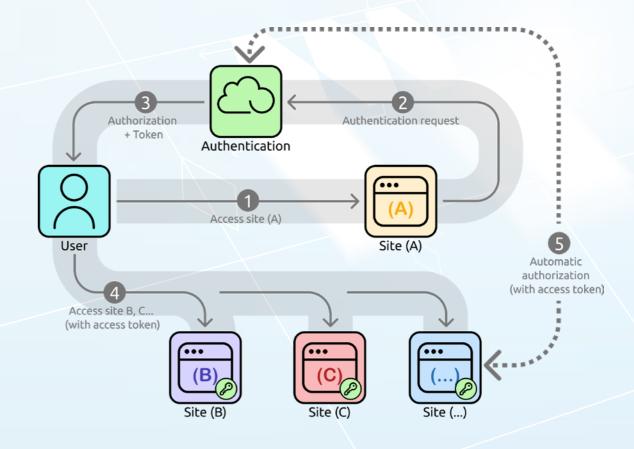### SSO INTEGRATION: USER GROUPWARE (GPU)

The easiest way to use SSO in a WEBDEV site is to use the integrated User Groupware.

With this method, all you need to do is specify the authentication server access parameters in the GPU settings window.

Can't be any easier than that.

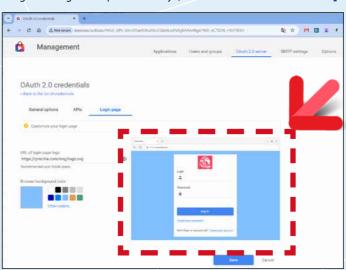**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Easy to install*



### 778   New feature WD WB WM
### SSO INTEGRATION: PROGRAMMATICALLY

This method is best for sites that don't use the User Groupware. Programming is simple as always, thanks to the `AuthIdentify`



and `OpenIDIdentify` WLanguage functions.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*The power of a 5GL*

### 779   New feature WD WB WM
### EASY LOGIN PAGE CUSTOMIZATION

The login page can be customized directly from the authentication server administration site.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Customization options*

### 780   New feature WD WB WM
### INTEGRATED TWO-FACTOR AUTHENTICATION

The authentication server also offers a two-factor authentication mechanism. This method can be implemented by sending an email or using a third-party authenticator (Google, Microsoft, etc.).

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Total security*

## NEW SMART CONTROLS

### 781 New feature WD WB WM
**NEW SMART CONTROL: LIGHT COLOR PICKER**


*Simplified color picker*

The "Light Color Picker" Smart control is a color picker with essential features, but with a lighter UI than a standard color picker. This control includes a button to open the standard color picker, if necessary.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Sometimes, simplicity is the way to go*

## PAGE EDITOR

### 782 New feature WD WB WM ●
**FASTER ENVIRONMENT**

In WEBDEV 2025, all 7-tab windows are smoother and more responsive. This results in a much better workflow.
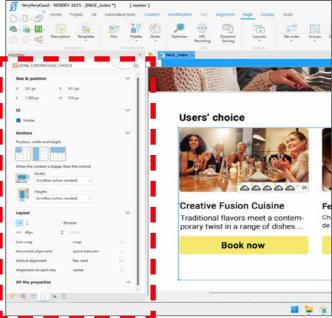See new feature 256.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Smoother, faster, better*

### 783 New feature WD WB WM
**NEW MODIFIER PANE**

In version 2025, the modifier boasts a new, even more practical layout (see New features 062 to 064).
Now, you can edit page and control properties more efficiently than ever before.


*Modifier pane for a Flexbox control*

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Useful information at a glance*

### 784 New feature WD WB WM
**CONTROL CREATION PANE**

In version 2025, the environment includes a new pane to find the desired control within seconds (see new features 065 to 067).
Creating and editing pages and controls has never been easier!


*The new field creation panel*

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Think it. Find it. Sorted.*

# NEW FEATURES IN SCHEDULER & ORGANIZER CONTROLS

### 785 New feature WD WB WM
**SCHEDULER CONTROL & AGENDA: 2 FREQUENTLY USED FIELDS**

Both Scheduler and Organizer controls are exceptionally powerful. These two controls are widely used in applications and websites. Version 2025 offers even more customization options in web mode.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Do more, program less*

### 786 New feature WD WB WM
**FULLY CUSTOMIZABLE APPOINTMENT GRANULARITY**


*Fully customizable granularity: 10 minutes*

In version 2025, you can choose the desired granularity, down to one minute!

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Precision*

### 787 New WD WB WM ●
**PROGRAMMATICALLY CHANGE THE BACKGROUND COLOR OF A RESOURCE OR TIME RANGE**

Let's say you want to change the background color of an element to indicate it is not available. Here are some examples:
- resource: Jean
- time range: April 18
- range for a resource: Marc, on May 15 from 8 AM to noon.

This can be done with the **SchedulerBackgroundColor** function.


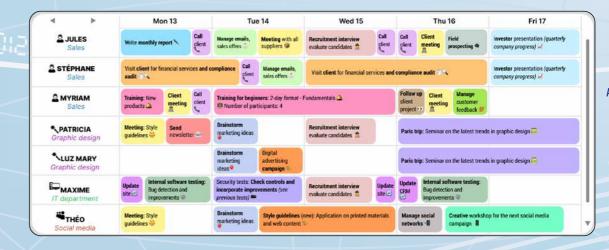*Here, the light blue background indicates the duration of a commercial campaign*

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Better visibility*

### 788 New feature WD WB WM
**IMAGES & HTML FORMATTING IN RESOURCE LABELS**

You can use images and HTML attributes in cells.
This allows you to unleash your creativity.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*A control optimized for the web*


*Up-to-the-minute planning and scheduling made easy*

# FLEXBOX CONTROL

## 789 New feature WD WB WM
### FLEXBOX: VIEW ALL CONTROLS IN EDIT MODE

Flexbox controls have a fixed size in edit mode.
In a Flexbox container, certain items can be programmed to be invisible. The Flexbox can therefore contain more items than what it can show in edit mode.
In version 2025, a new editing mode shows all the items.
This new mode lets you see how all the items are laid out.
To switch between modes, simply right-click the control.


*Here, the Flexbox has the minimum size used at runtime*


*Here, the Flexbox control shows all its items*

## 790 New feature WD WB WM •
### FLEXBOX: BACKGROUND COLOR TO SEE HOW ITEMS ARE NESTED

In version 2025, the environment includes a practical feature to edit Flexbox controls. Now, you can see how items are nested within containers.
This smart feature represents nesting levels using a different color for each level. The color scheme can be changed at any time so that the colors are visible regardless of the background.


*Different colors help you understand nesting levels*

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Understand levels at a glance*

## 791 New WD WB WM
### FLEXBOX: OVERFLOW OPTION AVAILABLE

The "overflow" option allows a control to grow and adapt to the size of its content when necessary.
In version 2025, this option is also available for Flexbox controls.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Total adaptation*

## 792 New feature WD WB WM
### VALIDATION BUTTON: 1 CLICK IN THE 7-TAB WINDOW

In the WEBDEV editor, to set a button to validation mode, i.e., to execute the action of the button when the Enter key is pressed, you had to manually edit the shortcut of the button.
In version 2025, simply select the "Validate button" option in the UI tab of the 7-tab window.
In the page editor, when a button contains a label such as "OK", "Confirm", etc., the dynamic UI audit prompts you to set the button to validation mode.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*One click is all it takes*

## 793 New feature WD WB WM
### LOCK CONTROLS WITHIN A CELL

In version 2025, the page editor allows you to lock the controls contained in a cell.
This makes it easier to move the cell and the controls it contains.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Manipulate cells with ease*

## 794 New feature WD WB WM
### DELETE A CELL (CONTAINER) WITHOUT DELETING ITS CHILDREN

It is now possible to delete a container (Cell, Flexbox, Tab, etc.) without deleting its contents.
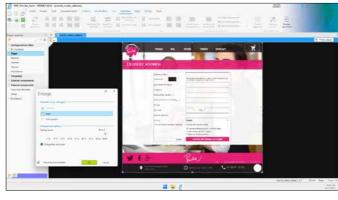
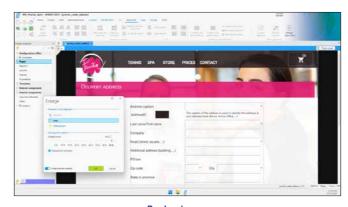BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Practicality*

## 795 New feature WD WB WM •
### UI ENLARGER

In previous versions, you may have created pages using small fonts. Now, the page editor lets you proportionally enlarge the content of the page. This action enlarges fonts and controls and repositions elements where necessary.


*Page with old values*


*Resized page*

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Modern, more readable pages with one click*

## 796 New feature WD WB WM •
### NEW CONTROL TRANSFORM OPTIONS

The ability to transform controls into other types of controls is a very popular feature.
Version 2025 offers the following transform options:
- Cell to Flexbox
- Flexbox to Cell
- Rich Text Area to Static Text
- Static Text to Rich Text Area
- Static Text to Link
- Link to Static Text

Additionally, this feature has become much more user-friendly.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*Less actions in the editor*

## 797 New feature WD WB WM
### INVALID DRAG & DROP: LOOPER ONTO ANOTHER LOOPER

WEBDEV lets you insert a Looper control into another Looper.
This is achieved by placing the Looper to be inserted in an Internal Page, then using this Internal Page in the other Looper control.
A common mistake is to drag one Looper and drop it directly onto the other, which will not produce the expected result.
When this action is detected, WEBDEV 2025's page editor prompts you to use an Internal Page.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*No worries, we've got your back*

## New feature WD WB WM
## 798 to 802 MISCELLANEOUS

- Ability to enter the plane (layer) number in the status bar
- Anchors are preserved when resizing a selection of controls
- Skins are stored in a subdirectory of the project
- New UI error to indicate if a control is wrongly set as stackable
- Static Text control: Internal margins represented in the page editor.

# NEW CODE EDITOR CONTROL

## 803 New feature WD WB WM •
### NEW CODE EDITOR CONTROL

WEBDEV 2025 offers a control for writing or displaying WLanguage code.
For security reasons, to be executed, this code must be dynamically compiled by the site or application.

BENEFIT OF THIS NEW FEATURE IN VERSION 2025:
*New control for advanced use cases*

The ● icon indicates that the new feature is already available in the SaaS version released in June.

# NEW FEATURES FOR CONTROLS

## 804 New feature WD WB WM
### AAF: XLSX EXPORT IN LOOPER CONTROLS



*Export menu available by default in your websites*

The AAF menu now includes popular export functionalities. Users can access all these options with a simple right-click. This menu can be disabled with the **AAFDisable** function.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Trust us, users will love it*

## 805 New feature WD WB WM
### ANCHORS OF MULTIPLE COLUMNS IN A TABLE

You can now specify the anchoring percentage for several columns simultaneously.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Less actions in the editor*

## 806 New feature WD WB WM •
### CONTEXT MENU FOR TABLE, TREEVIEW TABLE AND TREEVIEW CONTROLS

In version 2025, a context menu is now available for Table, TreeView and TreeView Table controls.
This opens up new functional possibilities, especially for web applications.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Practicality*

## 807 New feature WD WB WM
### SELECTABLE TREEVIEW CONTROL

It is now possible to switch a TreeView control to selection mode.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Selection options*

## 808 New feature WD WB WM
### AAF: XLSX EXPORT AVAILABLE BY DEFAULT FOR TABLE CONTROLS

A table displayed in a WEBDEV site can be exported to many popular formats such as XLSX, XML, Text, etc.
In version 2025, this option is also available by default.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*More options available to end users*

## 809 New feature WD WB WM
### MISCELLANEOUS

• PopUps in Internal Pages contained in Looper controls have been optimized.

# LAYOUTS

## 810 New feature WD WB WM
### EASILY EDIT PAGES CONTAINING LAYOUTS

In version 2025, you can edit pages containing layouts in a much smoother way.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Easily make the most of the page editor*



# CHART CONTROL

## 811 New feature WD WB WM
### NEW PICTORIAL PERCENTAGE CHART

The new Pictorial Percentage chart is also available in WEBDEV. See new feature 037



*Data represented in a fun way*

# PAGE EDITOR PERFORMANCE IN WEBDEV 2025
## OVERALL RESPONSIVENESS, TEMPLATE UPDATES

## 812 New feature WD WB WM
### IMPROVED OVERALL PERFORMANCE

In version 2025, WEBDEV's development environment evolves and becomes faster and more responsive.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Open the editor and see the difference*

## 813 New feature WD WB WM •
### 7-TABS WINDOWS OPEN INSTANTLY

In version 2025, 7-tab windows open instantly.
There's no more latency for some windows.
Sequences of actions are smoother than ever.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Better workflow*

## 814 New feature WD WB WM •
### MORE RESPONSIVE CODE EDITOR

The WEBDEV 2025 code editor also benefits from a major improvement.
In addition to all the new functions in version 2025 (see new features 088 to 107), day-to-day use is much smoother.
Combined with the speed of the 7-tab windows, this makes for a very pleasant user experience.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*The faster, the better*

## 815 New feature WD WB WM •
### 5X TO 20X FASTER CONTROL TEMPLATE UPDATES

Templates are very often used in WEBDEV, as they make it easy to structure pages.
These templates update much faster in WEBDEV 2025.
The larger the project, the greater the difference.
For example: Updating templates for a 100-page site is 5 times faster, and 20 times faster for a 500-page site.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Sorry, you'll have less time to drink coffee*

## 816 New feature WD WB WM
### LAYOUTS LOAD IMMEDIATELY IN EDIT MODE

In previous versions of WEBDEV, pages containing layouts could load more slowly.
In version 2025, the use of layouts no longer affects the responsiveness of the page editor.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Faster environment, happier developers*

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*A user-friendly chart*

## SAAS FUNCTIONS FOR YOUR SITES

### 817    New feature   WD  WB  WM
**MANAGE ACCOUNTS, LICENSES AND PRICING IN YOUR SAAS SITES**

WEBDEV allows you to publish your websites in SaaS mode.
To use this mode, simply use the **SaaS** WLanguage functions available in WEBDEV, as well as the SaaS administration site provided with WEBDEV Application Server.
The new **SaaSAdminListSubscriptions** WLanguage function can be used to directly get the list of licenses for a given user.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Even more power*

## SINGLE-PAGE APPLICATION (SPA)

### 818    New feature   WD  WB  WM
**OPTIMIZED ASYNCHRONOUS AJAX**

SPA (Single Page Application) applications benefit from AJAX processing enhancements, as well as all the new features in WLanguage.

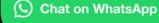**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*WEBDEV 2025 is open to all architectures*

## SOCIAL NETWORKS, COMMUNICATION TOOLS

### 819    New feature   WD  WB  WM
**WHATSAPP BUTTON**

Contact our co-director now through WhatsApp to customize this model!

Chat on WhatsApp

## EASILY TRANSFORM WINDEV APPLICATIONS INTO WEBDEV SITES

### SEAMLESS WEBIFICATION

Transforming your existing WINDEV applications (or parts of applications) into websites is easier than ever before.
The split view in the environment allows you to edit windows and pages at the same time, which makes everything easier.
The migration wizard simplifies the webification process.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Transform your WINDEV applications into websites*

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In version 2025, a ready-to-use WhatsApp button enables a mobile site to:
• start a chat with the contact via WhatsApp
• prefill a message.
End users can simply confirm the preset action, or write their own message.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Practicality*

## SERVER WLANGUAGE

### 820    New feature   WD  WB  WM
**ALL THE NEW WLANGUAGE FUNCTIONS IN VERSION 2025 ARE AVAILABLE IN WEBDEV**

WEBDEV Server code benefits from all the new WLanguage functions and features in version 2025.
See new features 123 to 143

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Easy cross-platform coding*

### 821    New feature   WD  WB  WM
**2 NEW FUNCTIONS: FILEDOWNLOAD & FILEVIEW**

The new **FileDownload** and **FileView** functions let you download and view one or more files.
Note: The **FileDisplay** function is still available.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Essential functions for better programming*

---

### New feature   WD  WB  WM
### 822 to 848   **SERVER CODE: 27 NEW WLANGUAGE FUNCTIONS**

WLanguage is enriched by 27 new functions in Server code, as well as 47 new constants (visit WINDEV.COM for the full list).

| | | | |
|---|---|---|---|
| OrganizerBackgroundColor | AuthLogout | AuthRevokeToken | AuthVerifyAuthentication |
| CertificateExport | CertificatePEMToPFX | DocClearFormatting | InRecycleMode |
| ExecuteReactiveProcedure | gpwAddUserToGroup | grPPCAddData | grPPCImage |
| grPPCMaximumValue | grCategoryThumbnail | HEnableSpare | HImportCSV |
| HListSchedulingHistory | HRplAddFile | HDataSourceKnown | HDeleteSchedulingHistory |
| HClearSchedulingHistory | iInitReportVerso | DayOfYearToDate | JSONOpenReader |
| PDFExtract | SchedulerBackgroundColor | GetVariableDefinition | |

## AWP (STATELESS)

### 849    New feature   WD  WB  WM
**STATELESS AWP MODE**

Active WEBDEV Pages are "stateless". This means there are no sessions or automations on the server.
If a session is required in this mode, it must be managed programmatically using the **DeclareAWPContext** WLanguage function
This function now accepts JSON content.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Useful in special cases*

*The 2025 is available!*

## AJAX

### 850    New feature   WD  WB  WM
**ASYNCHRONOUS AJAX**

Version 2025 optimizes the use of asynchronous Ajax.
See new feature 859

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Optimized algorithm*

## JSON

### 851 — New feature WD WB WM
**LARGE JSON FILES**

JSON is a commonly used format in websites, particularly for REST web services.
Version 2025 automatically handles large JSON files.
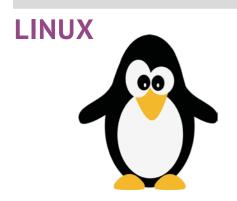See new feature 133

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Power*

### 852 — New feature WD WB WM
**MISCELLANEOUS**

- // and /* comment format supported

## LINUX

### 853 — New feature WD WB WM
**INTERESTING NEW FEATURES**

These are some of the main new features for Linux:
- Let's Encrypt certificates available on Linux servers
- Apache version 2.4.62 support
- `DocToHTML` function now available
- etc.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*More options, more advantages*

### 854 — New feature WD WB WM
**27 NEW WLANGUAGE FUNCTIONS FOR LINUX**

27 new functions are available on Linux:

| | | | |
|---|---|---|---|
| OrganizerBackgroundColor | AuthLogout | AuthRevokeToken | AuthVerifyAuthentication |
| DocClearFormatting | DocToHTML | InRecycleMode | ExecuteReactiveProcedure |
| grPPCAddData | grPPCImage | grPPCMaximumValue | HClusterMasterNode |
| HImportCSV | HListSchedulingHistory | HQueryExecuted | HRplAddFile |
| HRSIgnoreError | HDataSourceKnown | HDeleteSchedulingHistory | HClearSchedulingHistory |
| iAddBookmark | iInitReportVerso | DayOfYearToDate | JSONOpenReader |
| PDFExtract | PlanningBackgroundColor | GetVariableDefinition | |

## PHP

### 855 — New feature WD WB WM
**PHP : 8.3.11**

PHP version 8.3.11 is supported.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Greater interoperability*

## REST WEB SERVICES

### 856 — New feature WD WB WM
**INCREASED SPEED**

SOAP and REST web services created with WEBDEV 2025 are much faster.
See new feature 098

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*A truly enormous gain*

### 857 — New feature WD WB WM
**SECURE WEB SERVICE**

REST web services created with WEBDEV 2025 can now be automatically secured using OAuth technology.
See new feature 763

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*You decide who can access what*

### 858 — New feature WD WB WM
**DEBUG A WEB SERVICE CONFIGURED WITH PRE-LAUNCHED SESSIONS**

Version 2025 makes it easy to debug web services configured in "pre-launched session" mode from within the environment.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Useful for optimization tasks*

# NEW WLANGUAGE FEATURES IN BROWSER CODE

## BROWSER WLANGUAGE

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*More programming possibilities*

### 859 — New feature WB
**ASYNCHRONOUS AJAX**

Version 2025 optimizes the operation of asynchronous Ajax calls.
The `<asynchronous>` attribute that activates the new algorithm has been optimized.
Your web sites and applications are now more responsive, which will result in a better user experience.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Discrete, yet powerful improvements*

### 860 — New WB
**REGULAR EXPRESSIONS**

In version 2025, `RegEx` WLanguage functions are available in browser code.
This makes it possible to create control masks for content entered in browser code, before sending it to the server.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Source control*

### 861 — New feature WB
**MULTIPLE REPLACEMENT**

The syntax used to replace multiple elements using an array of strings is now available in Browser code.
This replaces all the strings in the array with a single line of code.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Structure code directly in the control*

### 862 — New feature WB
**THE MenuAddOption FUNCTION ACCEPTS BROWSER PROCEDURES**

Menu options can be added by programmatically.
It is now possible to specify a Browser Procedure as the code to be executed when an option is selected.

### 863 to 865 — New feature WB
**MISCELLANEOUS**

- `..Chrono` type now available
- Luhn algorithm verification functions now available
- `ISO8601` constant now available.

### 866 to 868 — New WB
**3 NEW PROPERTIES**

| Cursor | Enables you to view and modify the position of the mouse cursor in a Code Editor control. |
|---|---|
| LineCursor | Gets and sets the number of the line where the cursor is located in a Code Editor control. |
| CursorEnd | Enables you to find out and modify the selection end position of the mouse cursor in a Code Editor control. |

### 869 to 916 — New WD WB
**48 NEW BROWSER WLANGUAGE FUNCTIONS**

| | | | |
|---|---|---|---|
| AnsiToOem | RoundToMultiple | BufferToInteger | BufferToPhrase |
| BufferToReal | StringDeleteDuplicate | CompleteDir | DateToDayOfYear |
| UncompleteDir | Dequeue | Pop | LastDayOfYear |
| CodeEditorComment | CodeEditorUncomment | CodeEditorDuplicateLine | CodeEditorInsert |
| CodeEditorSearch | CodeEditorReplace | CodeEditorDeleteAll | EmailCheckAddress |
| Push | Enqueue | In64bitMode | InAWPMode |
| InComponentMode | InRecycleMode | IntToHexa | fContentType |
| QueueInfo | GenerateLorem | TimeValid | HexaToInt |
| IBANValid | DayOfYearToDate | CurrentDay | LineToPosition |
| LuhnCalculate | LuhnCheck | OemToAnsi | PageCurrentLayout |
| PhraseToBuffer | StackInfo | PositionToLine | CapitalizeEachWord |
| RegexSearch | RegexReplace | RegexMatch | WeekToDate |

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Enriched browser code*

# 3D VISUALIZATION OF UI LAYERS

*Simultaneous 2D and 3D page editing*

## 917
**New feature WD WB WM**

**NEW 3D EXPLODED PAGE EDITING MODE**

WEBDEV 2025's page editor introduces an incredible new feature: a sophisticated 3D view of page controls.
This 3D view will quickly become essential for managing container controls: Flexbox, cells, etc.
You can enable this 3D view either for the entire page, or for a given container.
You can open the description window of any control from this view.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Easily identify layers*

## 918
**New feature WD WB WM**

**3D VIEW MANIPULATION**

This 3D view includes some essential functionalities:

- rotation
- zoom
- control separation.

This makes it easy to visualize nested and stacked controls

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Advanced editing functionalities*

## 919
**New feature WD WB WM**

**SIMULTANEOUS 2D/3D EDITING**

You have the ability to work on 2D and 3D views simultaneously.
When a control is selected in one view, it is automatically selected in the other view.
It is therefore possible to select a control in the 3D view and immediately edit it in 2D.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Impressive... and useful*

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# WEBSITE CERTIFICATES WITH NO EFFORT

## AUTOMATICALLY USE LET'S ENCRYPT CERTIFICATES

## 920
**New feature WD WB WM**

**WHAT IS THE PURPOSE OF A CERTIFICATE?**

The presence of a certificate on an HTTPS Internet server guarantees that users are visiting the domain they searched for.
It makes it impossible to copy the domain name.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*More than essential*

## 921
**New feature WD WB WM**

**HTTPS CERTIFICATE REQUIRED**

Websites are accessible via HTTP.
HTTPS is the secure version of HTTP.
Basically, modern browsers no longer allow visiting websites that do not use HTTPS.
As a matter of fact, HTTP is not secure enough and allows, among other things, "man in the middle" attacks (theft of all data passing through the website by interfering with the connection).
Installing a website therefore requires implementing HTTPS, and therefore requires the presence of a certificate on the server.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*Websites that live up to moder security standards*

## 922
**New feature WD WB WM**

**GET A LET'S ENCRYPT® CERTIFICATE WITH WEBDEV 2025, BY DEFAULT**

Let's Encrypt certificates are widely used. These are free certificates generated automatically by the ISRG organization, which is mainly financially supported by Google.

WEBDEV Application Server 2025 automatically manages:
- certificate requests
- certificate installation
- certificate renewal

This drastically reduces the need to manage site certificates.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*All administration aspects are automated*

## 923
**New feature WD WB WM**

**EASY IMPLEMENTATION**

To use a Let's Encrypt certificate on a WEBDEV server, simply check the "Automatically generate a Let's Encrypt certificate" box in the account for which the certificate is to be activated.
You can specify the domain name(s) that will be protected by the certificate.
WEBDEV Application Server 2025 takes care of everything!

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*The simplicity of WEBDEV*

## 924
**New feature WD WB WM**

**USE OF OTHER CERTIFICATES**

It is of course possible to use certificates other than Let's Encrypt certificates.
In this case, all you have to do is install and manage the certificates manually.

**BENEFIT OF THIS NEW FEATURE IN VERSION 2025:**
*WEBDEV is open to all standards*

# ADMINISTRATION

## 925
New feature WD WB WM
**SEE WINDOWS EVENT ERRORS DIRECTLY IN THE ADMINISTRATOR**

When the WEBDEV Application Server encounters an error, it shows the error details directly in the Windows event log.
In version 2025, the WEBDEV Application Server Administrator displays the errors contained in the log, and allows you to view them directly in the Administrator.

*Benefit of this new feature in version 2025:*
*Higher security*

# APPLICATION SERVER

## 926
New feature WD WB WM
**LET'S ENCRYPT IS INTEGRATED**

Version 2025 makes it easy to manage Let's Encrypt certificates. Installation, operation, updates: everything is automated.
See new feature 920

*Benefit of this new feature in version 2025:*
*Less actions required*

## 927
New feature WD WB WM •
**DISK QUOTA PER ACCOUNT**

It is now possible to set a limit to the disk space occupied by a WEBDEV account.
This space contains the site itself and any data it may contain.
You can set this limit in the Hosting Control Center.

| | |
|---|---|
| Maximum number of REST web services: | 0 |
| Maximum number of WebSocket servers: | 0 |
| ☑ Set a quota on the disk space used | |
| Disk quota (GB): | 50 |

*Benefit of this new feature in version 2025:*
*Allocated space for everyone*

## 928
New feature WD WB WM •
**MISCELLANEOUS**

• WDScript has been integrated to run WLanguage scripts on the Application Sever.

# WEBDEV CLUSTER

## 929
New feature WD WB WM
**IMPROVED PROXY CONFIGURATION FILE**

To configure a WEBDEV Application Server cluster, you need to set up a proxy server.
This proxy is a third-party software.
An HAProxy configuration file is provided.
In version 2025, the configuration file generation offers additional options.

*Benefit of this new feature in version 2025:*
*Cleaner, easier configuration*

# DOCKER DEPLOYMENT

## 930
New feature WD WB WM
**DEBIAN 12**

The docker image is now based on Debian 12.

*Benefit of this new feature in version 2025:*
*Take advantage of Debian's new features*

# WEBSITE DEPLOYMENT

## 931
New feature WD WB WM
**NON-BLOCKING DEPLOYMENT**

Deployment may take long, depending on the size of the site to be deployed, and the number of servers on which it will be deployed.
To avoid blocking the environment, version 2025 supports deployments in the background.
A report is displayed at the end of the task.

*Benefit of this new feature in version 2025:*
*Higher performance*

## 932
New feature WD WB WM
**URL POINTING TO A SERVER: WHICH SITE TO LAUNCH?**

When a URL points directly to a server without specifying the site name, it is not possible to determine which site should be launched.
In version 2025, you can specify the site that should be launched by default, directly in the deployment wizard.
This avoids displaying the web server's default page.

*Benefit of this new feature in version 2025:*
*Improved security*

## 933
New feature WD WB WM
**MISCELLANEOUS**

• The Installation wizard is now available in 64-bit version. There is no longer a limit to the number of files.

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## 934
New feature WD WB WM
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Version 2025 includes many other new features that you will discover once you order and receive your software or subscription...

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