WIN**DEV**®

NEW VERSION

2024

929 NEW FEATURES

Guided Tour generator
Figma import
DocuSign electronic signature
Waffle chart
Favorite controls
7 New Smart controls
AI in the code editor
HFSQL: Data masking
HFSQL: Spatial data
Several analysis per project
Accessibility on mobile devices
Bottom sliding window
CSS grid
Tailwind
Multithreaded Native Connectors
Speed
Security
300 New WLanguage elements
for Windows, iOS, Android, Linux,
Web, Java, PHP, and more.

DEVELOP 10 TIMES FASTER

WINDEV.COM

DEVELOP 10 TIMES FASTER

New version

2024 brings you an incredible amount of useful new features.

Guided Tour generator, Figma import, DocuSign electronic signature, Favorite control, automatic data masking, spatial data in HFSQL, Tailwind CSS, CSS grid, multiple analyses per project, multithreaded Native Connectors, increased speed, and much more.

Version 2024 brings your teams 929 essential new features.

Capitalize on your experience while taking advantage of new technologies and new tools. This is one of the main advantages of version 2024.

These new features meet your needs, and are compatible with the elements you already have.

WINDEV 2024, WEBDEV 2024 and WINDEV Mobile 2024 are your working tools. Our main goal is to help you succeed, regardless of the environment and devices your projects are aimed at.

Version 2024 will instantly become your favorite version.

ORDER VERSION 2024 TODAY!

AVAILABLE FROM 2023

INTERACTIVE GUIDED TOUR GENERATOR
A MODERN WAY TO WALK USERS THROUGH NEW FEATURES OR KEY STEPS

001
New feature WD WB WM
NEW INTERACTIVE GUIDED TOUR GENERATOR

One of the major new features of version 2024 is the new "Guided Tour" generator, which lets you easily include a help feature for your users.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024:
Guide users through your app

002
New feature WD WB WM
WHAT IS A "GUIDED TOUR"?

A Guided Tour presents a series of features, displayed as tooltips in the current window or page.
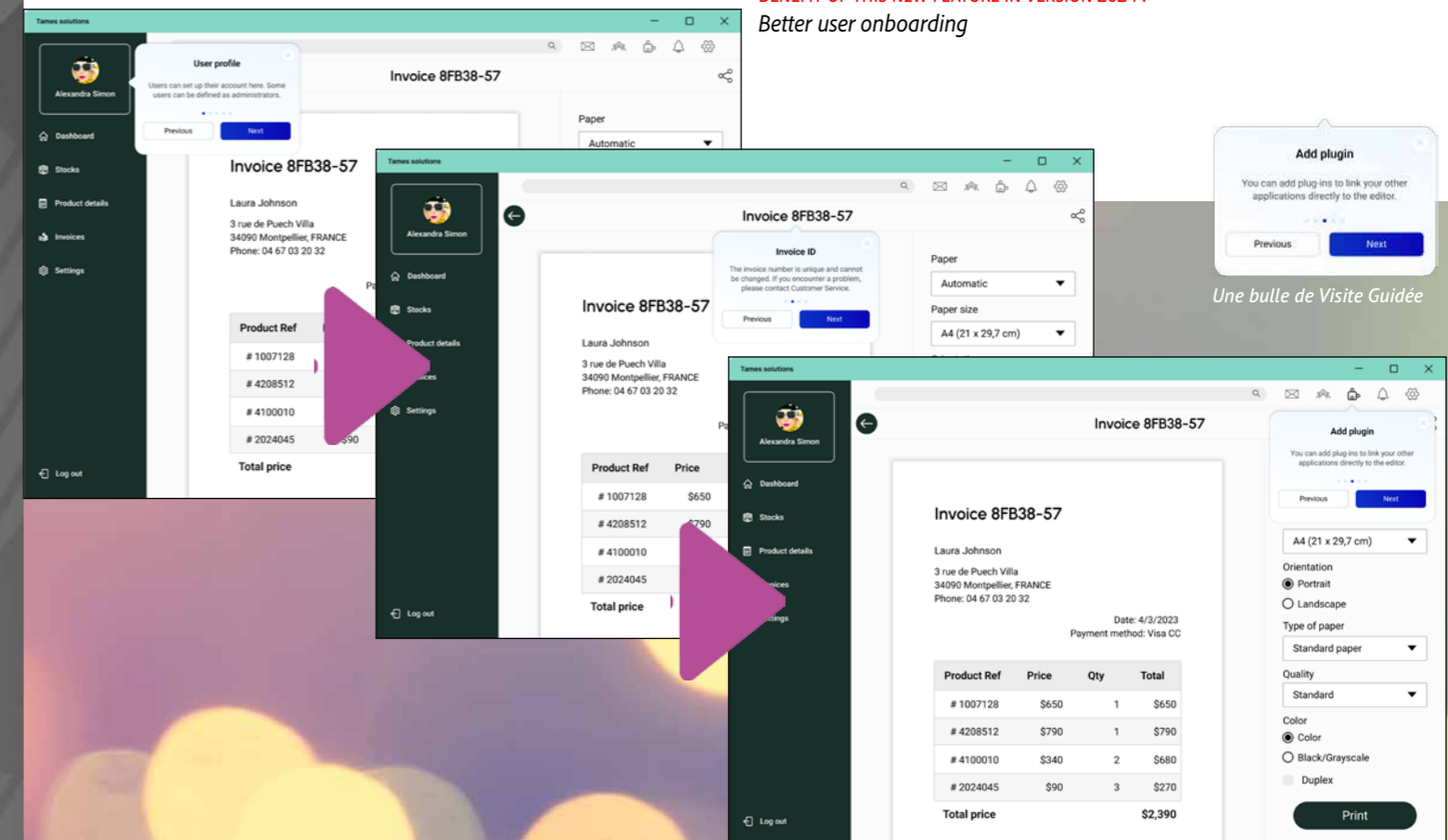A Guided Tour introduces the end user to new features in the version, or to specific functionalities, or guides the user through each step of the process.
A Guided Tour can also be used as a tutorial.
The display and navigation process is managed automatically.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better user onboarding

Une bulle de Visite Guidée

003 — New feature WD WB WM
A POWERFUL NEW WIZARD TO CREATE GUIDED TOURS

Creating a Guided Tour is an easy process.
Note that a Guided Tour is created in the same way in WINDEV, WEBDEV and WINDEV Mobile.
Simply follow these steps:
1. Open the window or page where you want the Guided Tour to start
2. Open the Guided Tour generation wizard
3. Define the general settings of the Guided Tour: behavior and appearance
4. Create a step for each feature you want to highlight:
   - Select the control
   - Define the title and text to display
   - Where necessary, define specific options for this step: custom color for halo effect, etc.
5. Click GO to test the Guided Tour
6. That's it!
Everything is automatically managed.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Generate a Guided Tour in a few clicks
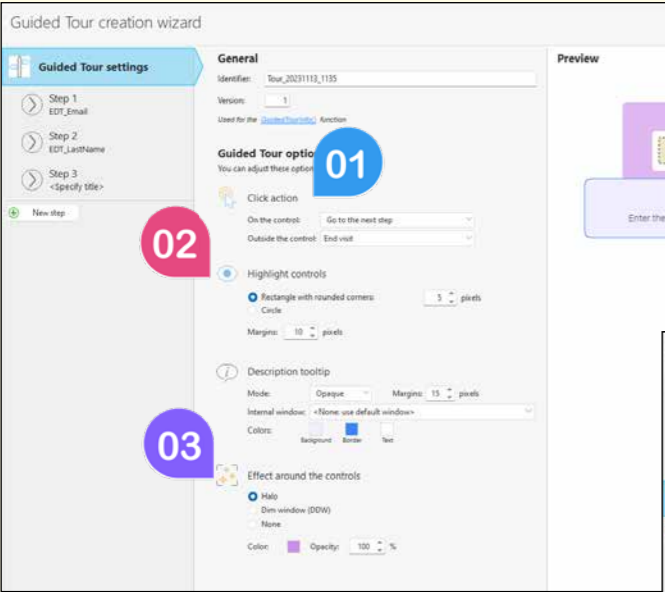
004 — New feature WD WB WM
A CLOSER LOOK AT THE WIZARD

The wizard makes it easy to create a Guided Tour.
Steps on the left; settings of each step in the center; preview on the right.
These are some of the settings available in the wizard:
General:
- Tooltip, color, margin, transparency

- Highlight mode: Rectangle or halo, dim disabled windows
- Action on click outside the highlighted control: End tour; go to next step; no action.

By steps:
- Ability to write the title and text of the tooltip.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Generate a Guided Tour in a few clicks

005 — New feature WD WB WM
THE 3 TYPES OF GUIDED TOUR

There are three Guided Tour modes:
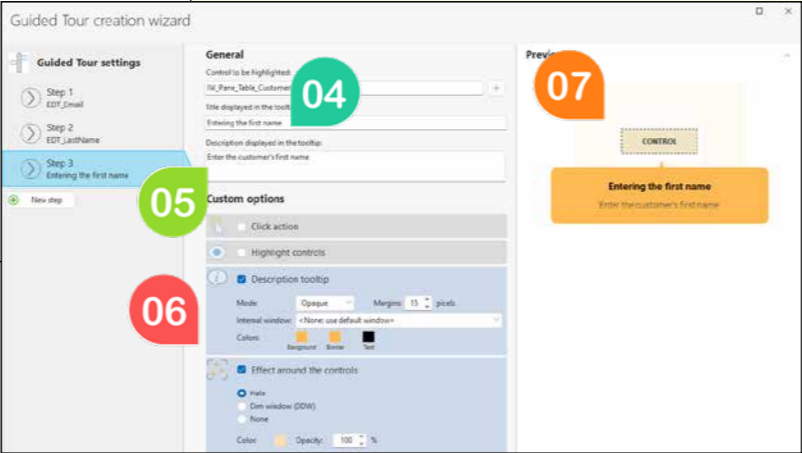- Standard Guided Tour
- Walkthrough
- Persistent tooltip.

The wizard allows you to create these 3 types of Guided Tour.
A standard Guided Tour is a series of tooltips that appear at pre-defined intervals or after a user action: click on a button, click on Next/Previous, Space key press, etc.
Features are presented one after the other.
A Walkthrough presents an action to be performed (entering the postal code, etc.). When this action is completed, the tooltip of the next step is displayed.
Here, the transition from one step to the next is triggered by the user's actions within the application.
A Persistent tooltip remains on the screen until the user closes it.
For example, this mode is useful to remind the user of safety instructions, a business rule, or to introduce an important new feature.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Generate a Guided Tour in a few clicks

GUIDED TOUR GENERATION WIZARD

General settings of the Guided Tour

Specific settings of each step

General	By step
1 • Action on click	*4 • Tooltip title*
2 • Effect around control	*5 • Tooltip text*
3 • Tooltip appearance	*6 • Step customization*
7 • Preview	*7 • Preview*

Three examples of Guided Tours
The same Guided Tour runs on Windows, iOS, Android and Web

006 — New feature WD WB WM
STANDARD GUIDED TOUR: NOTHING TO CODE

No need to write a single line of code to set up a standard Guided Tour.
The wizard generates the necessary source code and automatically pastes it into the Initialization process of the corresponding window or page.
This code can be edited.
It is therefore possible to develop specific processes.
New types and properties are introduced in version 2024 for this purpose.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Everything can be customized

007 — New feature WD WB WM
GUIDED TOUR: NEW WLANGUAGE FUNCTIONS

The new WLanguage functions:
InGuidedTourMode, **GuidedTourStart**, **GuidedTourStop**, **GuidedTourChangeStep**, **GuidedTourInfo**
allow you to manipulate Guided Tours.
For example, the **GuidedTourStart** function starts the first step in the array, and shows the first tooltip.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More and more features

008 — New feature WD WB WM
GUIDED TOUR: 2 NEW WLANGUAGE TYPE

There are many options to customize Guided Tours programmatically, powered by 2 new WLanguage types.
These types make it easy to program the different settings if a Guided Tour.
The **GuidedTour** type allows you to:
- define all the general and common properties of a guided tour
- define the array of steps.

The **GuidedTourStep** type allows you to define the specific properties of a step.
Steps can be added, modified or deleted programmatically.
Many new properties complement these functions.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
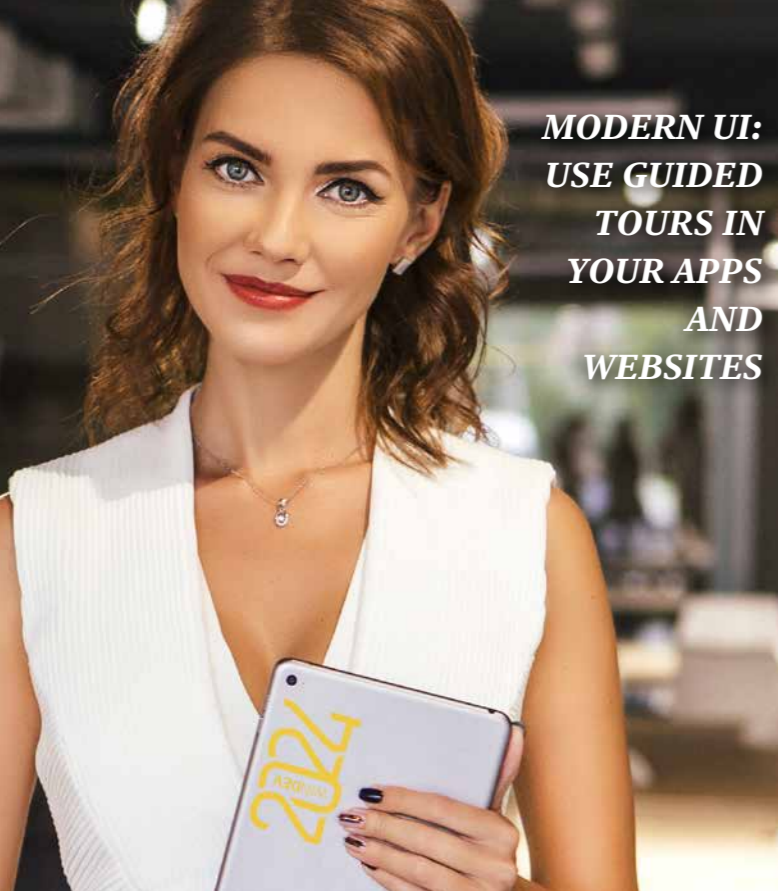*More and more features*

009 — New feature WD WB WM
GUIDED TOUR: NEW PROPERTIES

New properties for the types above allow you to finely tune the behavior of the Guided Tour.

ActionTarget	ActionOutsideTarget	Tooltip.ActionAllowed	Tooltip.BackgroundColor
Tooltip.InternalWindow	Tooltip.Margin	Tooltip.Markdown	Tooltip.Mode
Tooltip.InternalPage	Target	Description	AutomaticValidationDuration
Effect.Grow	Effect.Round	Effect.Color	Effect.AnimationDuration
Effect.Shape	Effect.Margin	Effect.Opacity	Effect.Type
Identifier	Index	Initialization	Termination
Title	Version	Step[ ]	

012 New feature WD WB WM
CODE SNIPPET

Example of code generated by the wizard: General settings of the Guided Tour and first step:

```
NewFeatures is GuidedTour
// Guided Tour settings
NewFeatures.Identifier = "ERP TOUR"
// Add steps to the Tour
AStep is GuidedTourStep
AStep.Target = BTN_Share..Name
AStep.Title = "Share button"
AStep.Description = "Quick action for sharing the document
across other platforms"
NewFeatures.Step.Add(AStep)
...
// Start the Guided Tour
NewFeatures.Start()
```

Example of custom code for setting effects:

```
NewFeatures.Effect.Type = gtHalo
NewFeatures.Effect.Shape = gtsCircle
NewFeatures.Effect.AnimationDuration = 1s
NewFeatures.Effect.Opacity = 80
```

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Many programming possibilities

010 New feature WD WB WM
GUIDED TOUR: NEW KEYWORD

The new **MyGuidedTour** type is used to access the current Guided Tour: access properties, add or delete steps, change steps.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More and more features

011 New feature WD WB WM
PROGRAMMATICALLY DEFINE MORE ACTIONS THAN THOSE AVAILABLE IN THE WIZARD

All the options in the Guided Tour wizard can be manipulated programmatically.
Many additional options are available:
- Show or hide Back/Next buttons and Close icon
- Highlight a group of controls
- How often the Guided Tour appears (version number, monthly, when the app is started a given number of times, etc.)
- Array of steps
- Code to be executed before/after each step
- The tooltip of a control can appear only when the user enters another control
- Ability to populate controls according to a user action in the tooltip
- Markdown support

Reminder: Guided Tours use the same WLanguage code in WINDEV, WEBDEV or WINDEV Mobile.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Powerful programming

013 New feature WD WB WM
GUIDED TOUR: TOOLTIP CUSTOMIZATION

The tooltip displayed by the Guided Tour is fully customizable. Simply use an Internal Window or an Internal Page. Several templates are provided. You can add controls, etc.
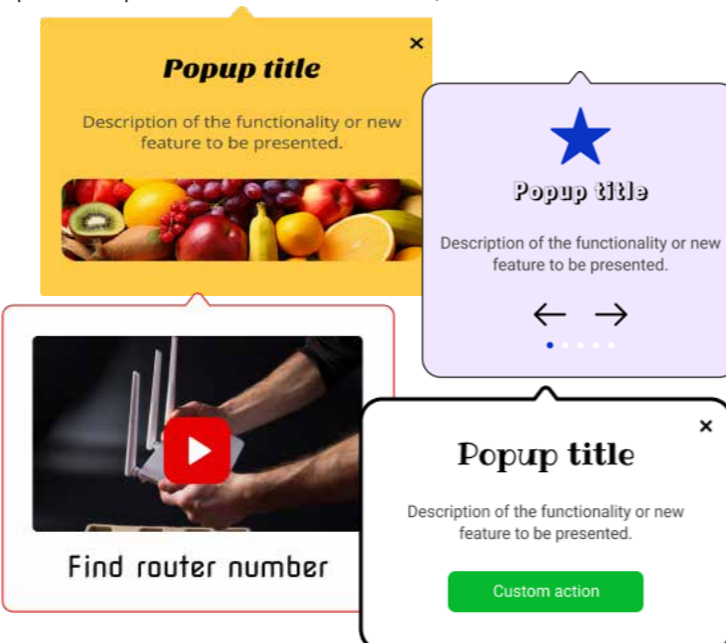
BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Modern, powerful tooltips

CUSTOMIZE YOUR APPS: CREATE YOUR OWN SKIN TEMPLATES OR YOUR OWN SKINS USING THE AVAILABLE TEMPLATES

DIRECT MODIFICATIONS: NO OVERRIDES NEEDED

014 New feature WD WB WM
SKIN TEMPLATES AND SKINS

Skins and skin templates allow you to choose and apply a UI template to a project.
Skin templates apply to applications, skins apply to websites.
To change the appearance of a control using an skin template or skin, simply override the style of the control, or disassociate the control from the skin template or skin.

In version 2024, it is no longer necessary to override styles.
A new method consists in duplicating an existing Skin template or Skin, renaming it, and then directly modifying the styles, natively, without overriding them.
This simplifies the style description.
Note that once duplicated, the Skin template or Skin no longer benefits from any updates provided by PC SOFT.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Your own skin templates in one click
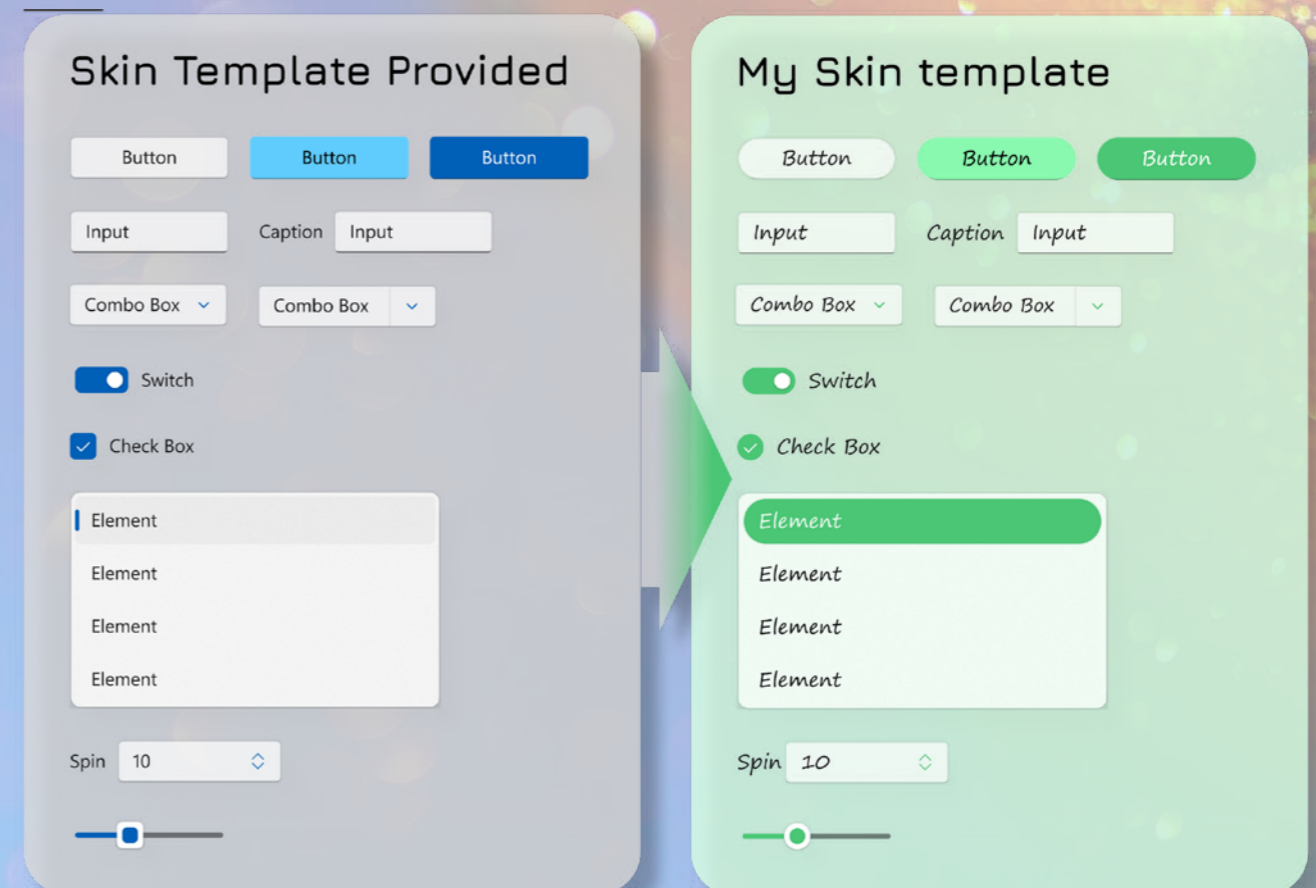
7 NEW SMART CONTROLS

015

New feature WD WB WM

7 NEW SMART CONTROLS

Version 2024 includes 7 new Smart controls:
- Markdown documents
- FAQ
- Sliding cards
- Editable static control
- Non-blocking Upload control
- Handwritten signature
- Input of numeric values with slider

Find these Smart controls in their corresponding sections: new features 220 to 221 for WINDEV 2024, 488 to 490 for WINDEV Mobile 2024, and 763 to 772 for WEBDEV 2024.

Benefit of this new feature in version 2024 :
Massive time savings

NEW FEATURES OF WORD PROCESSING AND SPREADSHEET CONTROLS

016

New feature WD WB WM

WORD PROCESSING CONTROL: CHECKBOXES

In version 2024, the Word Processing control supports checkboxes. You can handle these checkboxes and get their state (checked or unchecked) programmatically.
Unicode characters used to represent checkboxes can also be programmed.

Benefit of this new feature in version 2024 :
Advanced elements in your documents

017

New feature WD WB WM

WORD PROCESSING CONTROL: WRITING DIRECTION

In version 2024, the Word Processing control lets you choose the writing direction: left to right, or right to left.

Benefit of this new feature in version 2024 :
Essential feature in numerous countries

018

New feature WD WB WM

WORD PROCESSING CONTROL: NEW MINI TOOLBAR

In version 2024, you can choose between a feature-rich standard bar, or the less intrusive mini toolbar.
See new feature 228.

Benefit of this new feature in version 2024 :
Optimize screen real estate

019

New feature WD WB WM

SPREADSHEET CONTROL: DETECT LINKS

Web links in cells of a spreadsheet are now clickable.

Benefit of this new feature in version 2024 :
Practicality

020

New feature WD WB WM

SPREADSHEET CONTROL: ACCESS CELL NOTES

In version 2024, cell notes can be accessed programmatically, in read and write mode.

Benefit of this new feature in version 2024 :
More and more features

NEW FEATURES OF PDF CONTROLS

021

New feature WD WB WM

### PDF CONTROL: VIEW ATTACHMENTS AND BOOKMARKS

In version 2024, the PDF Reader control shows the list of attachments by default.
The list of bookmarks is also displayed.

Benefit of this new feature in version 2024 :
Practicality

NEW CHART CONTROL

022

New feature WD WB WM

NEW CHART CONTROL: WAFFLE CHART

A new type of chart appears in version 2024: the Waffle chart.
This type of chart shows progress towards a goal or percentage of completion.
It consists of a grid of small cells, where colored cells represent the data.
A chart can have one or more categories.
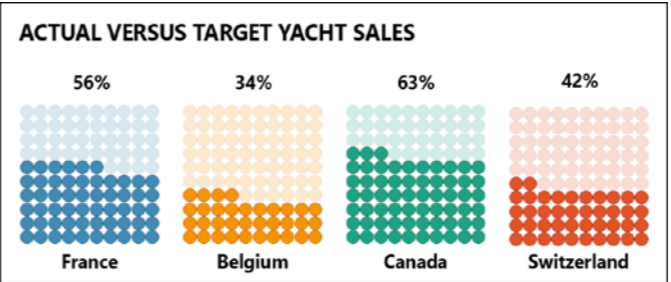
Comparison of sales targets in 4 countries

The new Waffle chart

Multiple charts can be assembled to compare different data series.

Benefit of this new feature in version 2024
A new type of chart

023

New feature WD WB WM

NEW WAFFLE CHART: PROGRAMMING

The new Waffle chart can be programmed and populated
just like any other chart.
You can manipulate this type of chart using gr functions.

Benefit of this new feature in version 2024 :
Standard programming

024

New feature WD WB WM

COLUMN CHART: MODERN APPEARANCE

The default appearance of column charts has been revamped. New parameters have been added for finer customization: rounded bar corners, etc.

Column charts

Benefit of this new feature in version 2024 :
Familiar coding

025

New feature WD WB WM

CHART: THE USER CAN CUSTOMIZE AXES

A new AAF allows end users to modify the boundaries and scale of charts.
This allows users to adjust the chart to the actual data, thus avoiding empty areas.

Menu available to the end user

Benefit of this new feature in version 2024 :
End user customization

ELECTRONIC SIGNATURES IN YOUR APPLICATIONS AND WEBSITES

026   New feature WD WB WM
INTEGRATE ELECTRONIC SIGNATURE FUNCTIONALITIES IN YOUR APPS AND WEBSITES

The electronic signature of contracts with individuals or professionals is now widespread.
To comply with regulations, an electronic signature must be validated by a trusted site.
In Europe, this regulation is known as eIDAS.
Version 2024 makes it easy to include this functionality in all your applications and websites.

Benefit of this new feature in version 2024 :
An increasingly common signature method

027   New feature WD WB WM
THE 3 TYPES OF ELECTRONIC SIGNATURES

There are three types of electronic signatures:
• Simple Electronic Signature (SES)
• Advanced Electronic Signature (AES)
• Qualified Electronic Signature (QES)
To sum up, the simple signature does not have a strong verification mechanism and should be used with trusted individuals. The advanced signature sends a verification code by SMS, and the qualified signature verifies the identity of the signatory.
The only electronic signature with the same legal validity as a handwritten signature is the qualified signature.

Benefit of this new feature in version 2024 :
One type for each case

028   New feature WD WB WM
STEPS OF AN ELECTRONIC SIGNATURE

Here's how the electronic signature process works:
• Create the document to be signed: PDF, HTML, Docx
• Send/Upload the document
• Send the list of signatories: name, email address, phone, etc.
• Each party receives and signs the document
• The sender retrieves the signed document and can send a copy
There are many possible cases:
• recipient for information purposes only
• authentication: none, SMS, proof of ID, etc.

• number of documents
• deadline

Benefit of this new feature in version 2024 :
Standard steps

029   New feature WD WB WM
INTUITIVE FUNCTIONS

WLanguage functions are provided as an internal component, along with their source code.
These functions allow you to:
• Set the signature level
• Send one or more documents to DocuSign, to n recipients (name, email address, phone, etc.), for signature or for information purposes.
• Define the location of the signature in the document
• Find out if a document is signed, and who hasn't signed it
• Get the signature date and time
• Retrieve signed documents
• Cancel the operation.
All aspects of verification, emails, text messaging, ID verification and document storage are entirely managed by the service provider (DocuSign in this case).

Benefit of this new feature in version 2024 :
Control processes from your application

030   New feature WD WB WM
A WIZARD TO GENERATE THE CODE

To simplify development, an intuitive wizard generates the necessary code.

Benefit of this new feature in version 2024 :
Easier implementation via an intuitive wizard

031   New feature WD WB WM
ACCESS TO ALL APIS

To handle special cases, all the APIs provided by DocuSign can be accessed via a WLanguage call.

Benefit of this new feature in version 2024 :
No limits

032   New feature WD WB WM
BILLING

DocuSign offers several types of subscriptions, giving access to different types of signature.
The recommended solution is an "API subscription".
Contracts include a fixed number of signatures per month. SMS validation implies an additional cost.
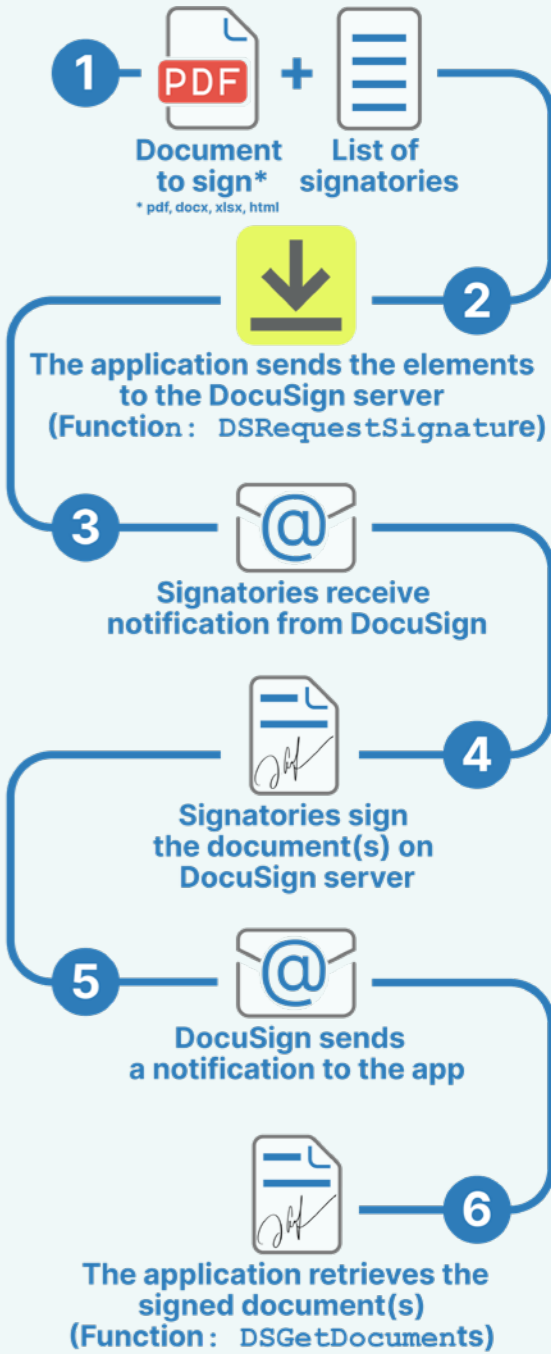
This information is accurate at the time of printing, but may change depending on DocuSign policies.

Benefit of this new feature in version 2024 :
Choose the options you really need

033   New feature WD WB WM
ALL PROVIDERS SUPPORTED: YOUSIGN, ETC.

DocuSign is the solution supported by default, but all other solutions (YouSign, Certeurope, etc.) can also be used by calling a REST or SOAP API in WLanguage.
There are no limits.

Benefit of this new feature in version 2024 :
Compatibility with all providers

1 Document to sign* + List of signatories
* pdf, docx, xlsx, html

2 The application sends the elements to the DocuSign server
(Function: `DSRequestSignature`)

3 Signatories receive notification from DocuSign

4 Signatories sign the document(s) on DocuSign server

5 DocuSign sends a notification to the app

6 The application retrieves the signed document(s)
(Function: `DSGetDocuments`)

NEW FEATURES OF THE IMAGE EDITOR CONTROL

034 New feature WD WB WM

IMAGE EDITOR: RULERS AND GUIDES

In version 2024, the Image Editor control can display horizontal and vertical rulers.
You can also set guides on this rulers.
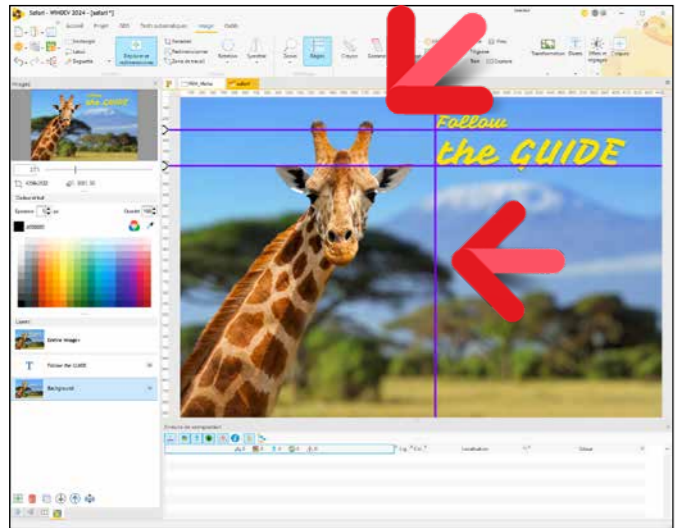
Rulers enabled,
with one vertical and two horizontal guides

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Essential image editing tools

035 New feature WD WB WM

IMAGE EDITOR : MISCELLANEOUS

• Ability to move layers using the keyboard
• Sizing handles in work area
• Better text input functionalities

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Even more power

EDIT WEBSITES AND MOBILE APPS IN WINDEV

036 WD WB WM

DON'T DUPLICATE YOUR PROJECTS: ONE SINGLE ENVIRONMENT

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.
In version 2024, several changes were made to the environment to improve daily workflow.

Reminder: A license of the corresponding software products is required.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
One for all, all for WINDEV

TRANSFORM WINDEV APPLICATIONS INTO SAAS

037 New feature WD WB WM

TRANSFORM EXISTING WINDEV ELEMENTS INTO A SAAS APPLICATION

A growing need is to transform Windows applications (or parts of applications) into SaaS applications.
Simply call the WLanguage **SaaS** functions to manage licenses, etc.
WINDEV 2024 lets you use the default SaaS administration site to manage applications in SaaS mode.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Improve your SaaS solutions

DATA MODEL EDITOR DATA SCHEMA

038 New feature WD WB WM

MULTIPLE ANALYSES IN THE SAME PROJECT

In version 2024, you can use multiple analyses in a single project. See new feature 236.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Easily share elements between projects

039 New feature WD WB WM

EFFORTLESSLY OPTIMIZE YOUR STRUCTURES

The Analysis Editor detects potential description optimizations. For example, when an item is defined with a large size but is not an index, the data model editor suggests changing its type to Memo. This will reduce disk usage on the server and increase reading speed.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better database performance

040 New feature WD WB WM

TABLE AND ITEM CAPITALIZATION

In version 2024, the data model editor lets you change the case of all data file (table) and item (column) names to lowercase, uppercase or capitalize each word.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
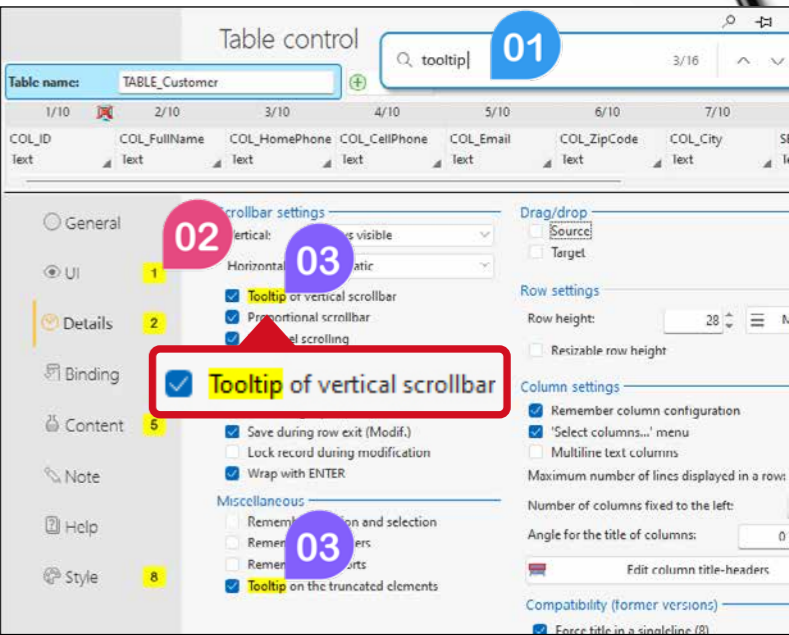*Compatibility with external databases*

041 New feature WD WB WM

ITEM EDITING WINDOW

You can now right-click items (columns) to cut, copy or paste them in the item editing window.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Less and less actions

ENVIRONMENT

042 New feature WD WB WM

7-TAB WINDOW: SEARCH NOW INCLUDES TEXT FROM THE TABS

1 • Search text
2 • Number of occurrences in the tab
3 • Matches highlighted in the current tab

Easily find any type of content in one of the 7 tabs

A universal search mode now appears in all 7 tabs.
The search bar allows you to find attributes everywhere in each of the 7 tabs: labels, captions of buttons used in the 7 tabs, contents of expanded combo boxes, contents of Edit controls, etc.
With this new mode, searches are more comprehensive.
No need to open tabs one by one to find an option you rarely use.
The number of occurrences is displayed, and any tab that contains one or more matches is highlighted, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
A truly powerful search mode

FIGMA IMPORT

TRANSFORM FIGMA DOCUMENTS INTO WINDOWS OR PAGES

043
New feature WD WB WM
FIGMA: A POPULAR TOOL AMONG GRAPHIC DESIGNERS

FIGMA is a software package for creating mock-ups and prototypes in various fields, particularly for websites and applications.
WINDEV, WEBDEV and WINDEV Mobile 2024 enable you to transform FIGMA documents into windows and pages, and generate the corresponding controls while preserving their appearance.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Open to all technologies

044
New feature WD WB WM
HOW FIGMA WORKS

FIGMA is a vector drawing tool.
The designer creates rectangles, circles, lines, text, etc., and applies numerous style settings to them.
Everything is static and can be overlapped.
Everything is nested in frames.
Documents can be accessed via a URL that requires authentication.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
In version 2024, you can retrieve Figma documents

045
New feature WD WB WM
ESSENTIAL STEPS

To create windows or pages in WINDEV or WEBDEV, simply:
- create a FIGMA account (no license required*)
- ask the graphic designer to share the desired document
- select the import option in WINDEV or WEBDEV
- specify the page and frame to import
- WINDEV/WEBDEV create a new window or page
- WINDEV/WEBDEV shows the content and analyzes the structure of the document
- the developer selects the graphic elements that make up a control created by the designer

- controls are created in real time in the window or page

* Conditions of use may change and depend on the FIGMA license on the day you use the feature.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Straightforward import process

046
New feature WD WB WM
GENERATION OF CONTROLS

For each selected shape or set of shapes, the editor suggests a type of control.
The developer then specifies each element that makes up the control: caption, input area, decorative elements (if any), etc.
You can decide not to import a control, or part of a control (e.g., Lorem ipsum text).
If necessary, a Figma image of the control can be imported into the window or page.
All the required styles are automatically created.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Transform shapes into controls

047
New feature WD WB WM
LAYOUT PRESERVED

Newly created controls preserve the layout defined by the Figma document.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Time saved

048
New feature WD WB WM
"GRAPHIC ELEMENTS" > "CONTROLS" ASSOCIATION PRESERVED

The association between graphic elements and created controls is preserved.
If the Figma layout is modified, simply edit the new objects.
Existing objects already associated are preserved.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Easy editing

COLLABORATE WITH GRAPHIC DESIGNERS
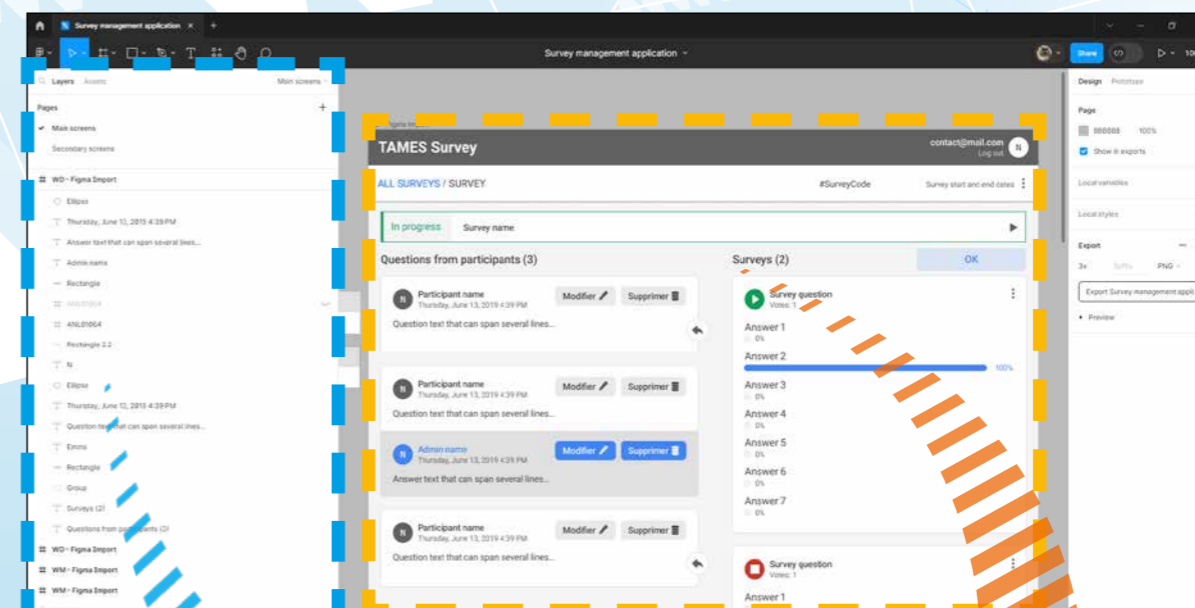
FIGMA design

The original Figma design is imported with its tree structure into WINDEV, WEBDEV or WINDEV Mobile
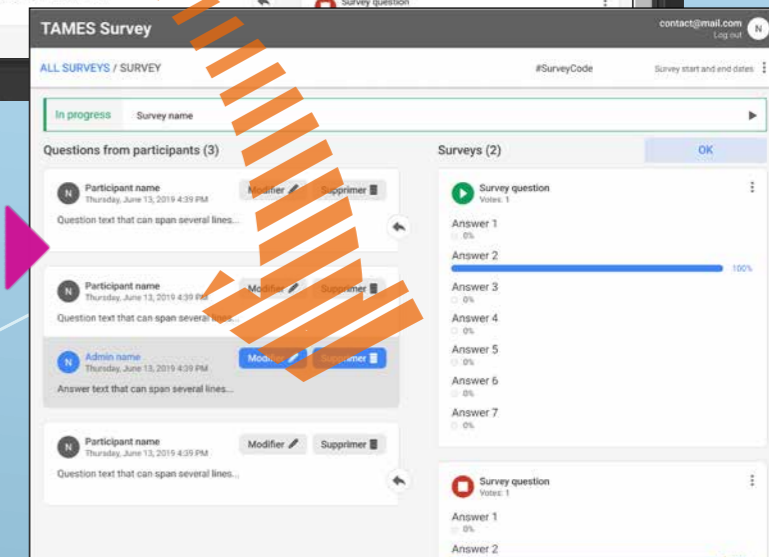
Import in WINDEV
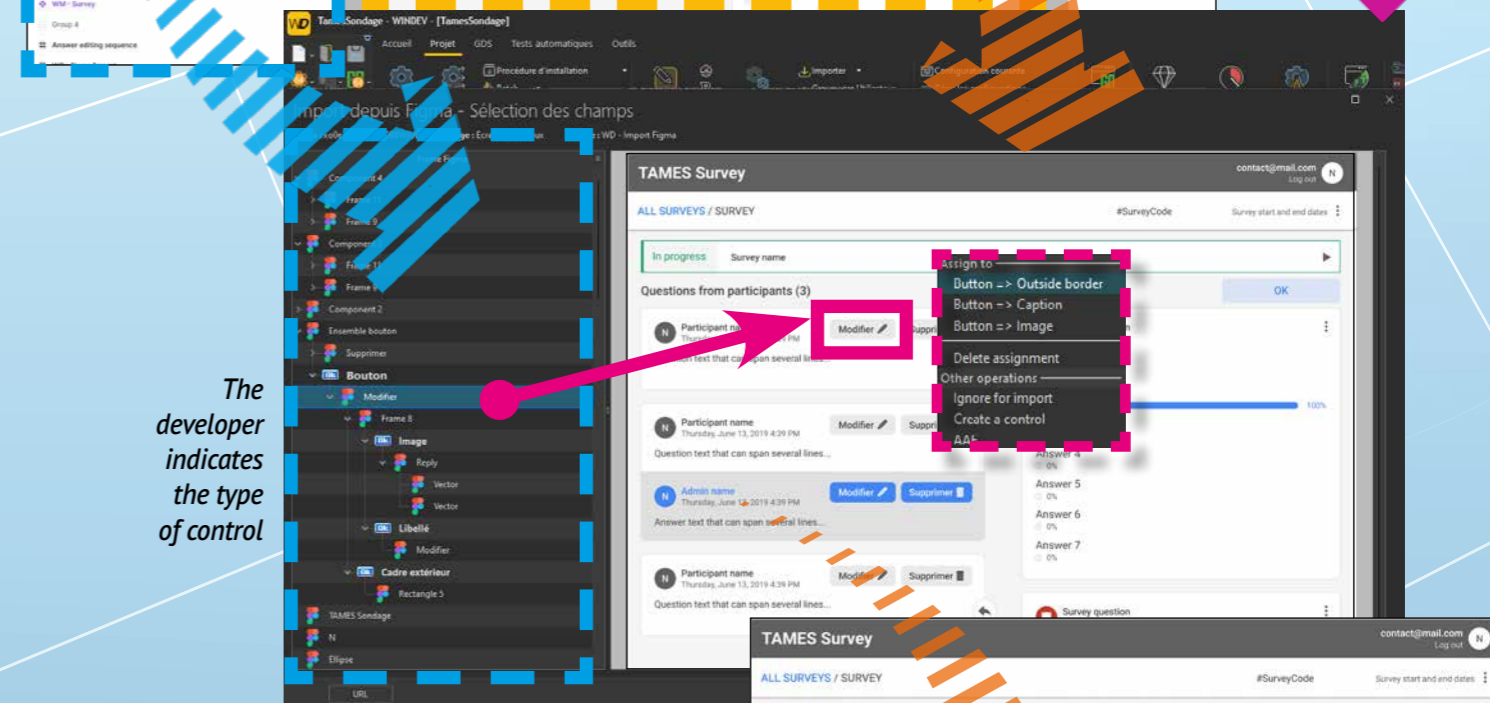
The developer indicates the type of control

Result : WINDEV window

The WINDEV window or WEBDEV page is created. Styles have been created, images have been imported. The layout is preserved, development can start.

049 New feature WD WB WM
REORDER OPEN DOCUMENT TABS

You can now reorder the open document tabs in the environment

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Your environment, your order

050 New feature WD WB WM
MANAGEMENT OF WINDOWS RESOURCES

Windows, even in version 11, has resource limits. For example, processes can have no more than a certain number of handles.
Depending on the resources available in Windows, the oldest project elements opened in the editor will be closed, if necessary.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Optimization of resources

051 New feature WD WB WM
FASTER COMPILATION OF MULTILINGUAL PROJECTS

Compilation of multilingual projects is faster than ever in version 2024.
Speed has increased by 75%.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Easily migrate your projects to version 2024

052 New feature WD WB WM
TEMPLATES: MULTIPLE INHERITANCE

In version 2024, a page or window template can inherit from multiple templates.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Share even more templates

053 New feature WD WB WM
SHARE INTERNAL COMPONENTS BETWEEN PROJECTS WITH DIFFERENT COMPILATION OPTIONS

In version 2024, each Internal Component has its own compilation options.
This makes it easy to share Internal Components with projects that use different options.
This is particularly useful when a recent Internal Component has specific compilation options.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Easier and more secure sharing

054 New feature WD WB WM
ALIGNMENT: SPACE OUT A GROUP OF CONTROLS BY A GIVEN AMOUNT OF PIXELS

A new alignment option lets you space out a selection of controls horizontally or vertically in a single operation, by specifying a value in pixels.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Precise positioning

055 New feature WD WB WM
PROJECT CREATION: SIMPLIFIED UI

The project creation UI has been revamped in version 2024.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More intuitive UI

056 New feature WD WB WM
PROJECT STYLES: CROSS-REFERENCES

The project style window now features badges that indicate the number of times each style has been used.
You can click the badge to see where the style is used.
This allows you to delete unused styles or standardize little-used styles.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Essential feature in your daily workflow

057 New feature WD WB WM
FORGOT THE OK BUTTON? : THE ENVIRONMENT ADDS IT FOR YOU

Validation buttons react when the end user presses the Enter key.
Some windows or pages may have no validation button.
This is usually an oversight.
In version 2024, a UI warning is generated when the editor detects that no validation button has been defined, but that there are buttons with the "OK", "Validate", or "Log in" words.
You can simply assign the validation action to that button by clicking the warning icon (emoji).
The same process is applied to "Cancel" buttons.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Automatically improve your UI

058 New feature WD WB WM
MISCELLANEOUS

- The environment automatically uses the language of the operating system: English, Spanish or French.

STATIC PROJECT AUDIT

059 New feature WD WB WM
OPTIMIZE IMAGES IN YOUR WEBSITES

WEBDEV now features an "Automatic" image mode. This type of image uses an algorithm that optimizes website speed.
In version 2024, the Static Audit detects images that are not in Automatic mode: Static, Dynamic, Generated, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Optimized images, faster websites

DYNAMIC PROJECT AUDIT

060 New feature WD WB WM
DETECTION OF 2 DATA SOURCES WITH THE SAME NAME

In previous versions, it was possible to use data source names as identifiers.
Developers were able to use two data sources with the same name. In some cases, this can lead to unexpected behavior.
Version 2024 highlights the use of two data sources with the same name.

The Dynamic Audit then indicates that there is a compiler option that prevents the use of the data source name as an identifier.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better data consistency

PROJECT MANAGEMENT HUB

061 New feature WD WB WM
SEARCH THE DATABASE OF THE PROJECT MANAGEMENT HUB

In version 2024, a new search mode allows you to search the entire Control Center database: tasks, incidents, requirements, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More powerful search mode

062 New feature WD WB WM
MISCELLANEOUS

- Ability to set tags on requirements
- In every requirement, a developer is designated as manager. The Control Center prompts the manager to create an integration task when they set their last task to "Completed", but there are still tasks to be completed by other developers.
- The list of requirements now loads more quickly.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better project management tools

COMPATIBLE WITH PREVIOUS VERSIONS

Your existing projects are compatible with WINDEV 2024.
Recompile and go.
You don't need to migrate projects from previous versions to version 2024. Simply recompile the application and it will run in version 2024.
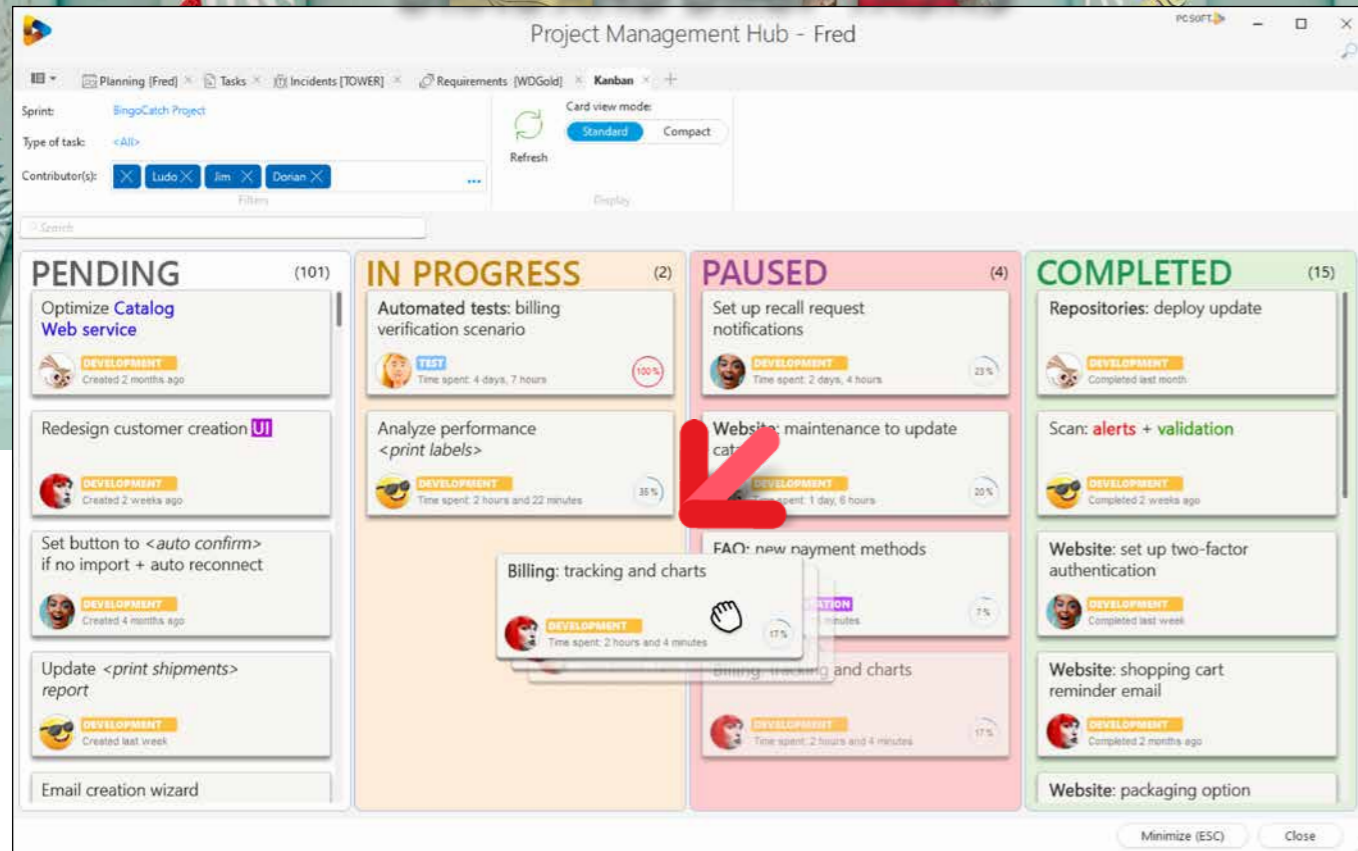This also applies to WEBDEV and WINDEV Mobile.
You can use components from previous versions with applications in version 2024.
IDEs in version 2024 directly open projects from previous versions.
You can have different versions of your environments on your PC. With a license for version 2024, you can also launch previous versions.

DRAG AND DROP TASKS

In version 2024, you can manage development tasks in a Kanban board. Determine task progress at a glance.

063 New feature WD WB WM **MANAGE TASKS IN A KANBAN BOARD**

The Project Management Hub offers now offers a new way to view and manage a developer's tasks via a Kanban board.
This allows project managers to determine the progress of tasks at a glance, and to change the statos of tasks with a simple drag & drop.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
See the progress status of sprints

TECHNICAL AND FUNCTIONAL DOCUMENTATION

064 New feature WD WB WM **DOCUMENTATION: NEW COVER PAGES AVAILABLE**

The presentation of the technical documentation has been improved and now includes a larger number of cover page options.

CONTINUOUS INTEGRATION SOFTWARE FACTORY

065 New feature WD WB WM **ACTION PLAN ADMINISTRATOR: ENVIRONMENT VARIABLE**

Now, you can directly see the values of environment variables in the action plan settings.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Less actions required

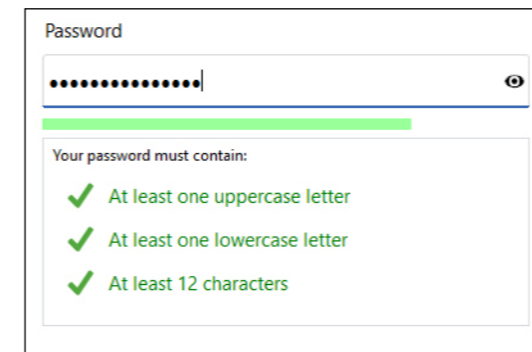**066** New feature WD WB WM **ACTION PLAN EDITOR**

The action plan editor now supports copy/paste functionalities.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Always useful!

PASSWORD STRENGTH USER GROUPWARE

067 New feature WD WB WM **PASSWORD STRENGTH: VISUAL INDICATORS**

The new default login window

When a user creates a password, the User Groupware guides them and indicates the strength of this password.
The purpose of this window is to encourage end users to create safer, better passwords.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Stronger passwords, better security

068 New feature WD WB WM **MISCELLANEOUS**

• The new Wlanguage `gpuListUsers` function lists all the users in the User Groupware.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More programming possibilities

GIT / GITHUB / GITLAB

069 New feature WD WB WM **GIT: ADD A PROJECT TO GIT FROM THE ENVIRONMENT**

You can now create a GIT repository for a project, directly from the environment.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Fewer operations

070 New feature WD WB WM **GIT: REMEMBER PASSWORD AND PERSONAL ACCESS TOKEN**

The environment saves the GIT access password and personal access token and allows you to seamlessly go from one development session to the next.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Fewer operations

IMAGE EDITOR

071 New feature WD WB WM **TAKE ADVANTAGE OF ALL THE NEW FEATURES OF THE IMAGE EDITOR CONTROL**

The Image Editor integrated into the environment also benefits from the new features of the Image Editor control in version 2024: animated GIFs, scan capabilities, etc.
See new feature 034.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
A more powerful image editor for developers

WDMSG: AUTOMATIC TRANSLATION

072 New feature WD WB WM **IMPROVED LANGUAGE SELECTION UI**

WDMSG 2024 offers a much more intuitive language selection UI. The source language is clearly indicated, and you can enable multi-selection in the list of languages to be extracted with a simple right-click.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Fewer operations

SCM – COLLABORATIVE SOURCE CODE MANAGER

073 CHERRY-PICKING: SELECT THE COMMIT YOU WANT TO APPLY

Cherry-picking is supported in version 2024. You can now select one specific commit.
You no longer need to merge the entire branch.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better workflow

074 5X FASTER BRANCH CREATION

In version 2024, you can create branches much faster compared to previous versions, especially in the context of a remote SCM.
This operation can be up to 5 times faster.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
The faster, the better

075 OPTIMIZATION OF COMMON ACTIONS IN THE SCM

All actions in the SCM are faster in version 2024: check-in, file deletion, retrieval, administrator startup, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better workflow

076 MORE POSSIBILITIES TO CREATE BRANCHES

In version 2024, you can create branches on a directory that does not contain any projects.
This is particularly useful for directories containing resources such as images, sets of procedures, components, etc.
This makes it easier to share such resources between several projects.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Share resources more easily

077 SHARE DIRECTORIES BETWEEN PROJECTS

In version 2024, you can share entire directories.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
No need to share one file at a time

078 AUTOMATICALLY GENERATE SCM CHECK-IN COMMENTS USING AI

When checking elements into the SCM, each developer has to write a description of the changes made in all the checked-in elements.
In version 2024, the code editor can automatically generate these descriptions.
See new feature 135.
Note: This feature requires an OpenAI account

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Automatic comments

079 SCM: MISCELLANEOUS

• New option to compact the repository after purge

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Keep a fast, compact repository

CODE EDITOR

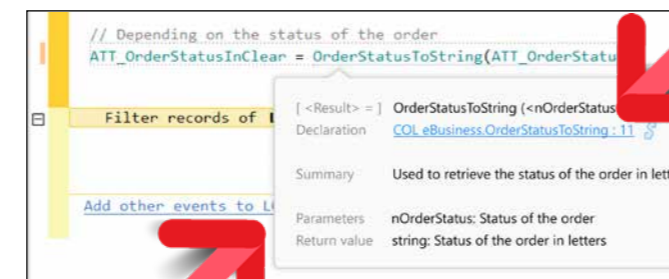## 080 AUTOMATIC CORRECTION OF TYPING ERRORS

S is strign
Becomes
S is string
The code editor automatically corrects these mistakes.
Code completion suggestions appear even if there are typing errors.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Easier coding

081 INTERACTIVE TOOLTIP

Note the clickable option and the additional details

A new type of tooltip is introduced in version 2024.
This tooltip appears when hovering over variables and procedures.
The tooltip displays the type of element and other useful information, and allows you to access the declaration of the element or to view other locations where the element is used.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
All the essential information in one tooltip

082 CUSTOM COLORS FOR VARIABLES, PROCEDURES OR METHODS

These custom colors allow you to highlight:
• calls to a given procedure
• output parameters of a procedure
• sensitive variables
• overridden functions.
Custom syntax highlighting can be defined using RGB components, or color constants in the code editor.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Your code, your colors

083 HASHTAGS: IMPROVEMENTS

In version 2024, you can insert metadata into code hashtags: developer name, date, etc.
This enables even more personalized searches and filters.
When a search is performed, a window opens with all the metadata used in the project. Simply select the elements and the type of search.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
For even finer searches

084 MULTILINGUAL STRING WIZARD
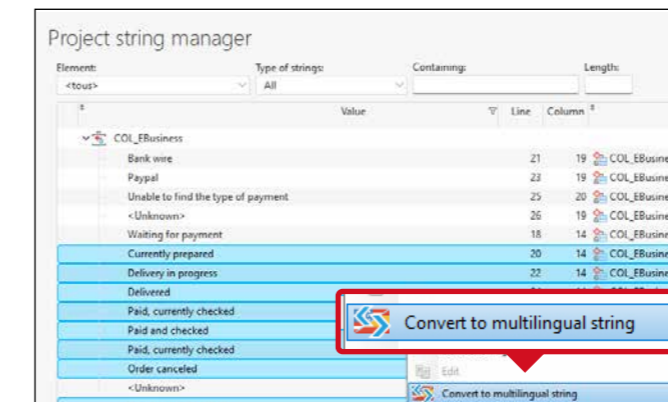
New multilingual string management window

A new wizard allows you to view and manage all the strings used in the project: single, multiline and multilingual.
Numerous filters are available.
This enables you, for example, to view all non-multilingual strings in a multilingual project, and check whether or not each string requires translation.
In this case, you can change a set of strings to multilingual with a simple right click.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Simplified actions

085 ERRORS SHOWN DIRECTLY IN THE CODE

In version 2024, you can view errors and warnings directly in the code.
A red banner appears, and the error description is shown next to the line of code.
No need to hover over the error to see the details, or spend time nodding your head up and down the screen to view the errors pane.
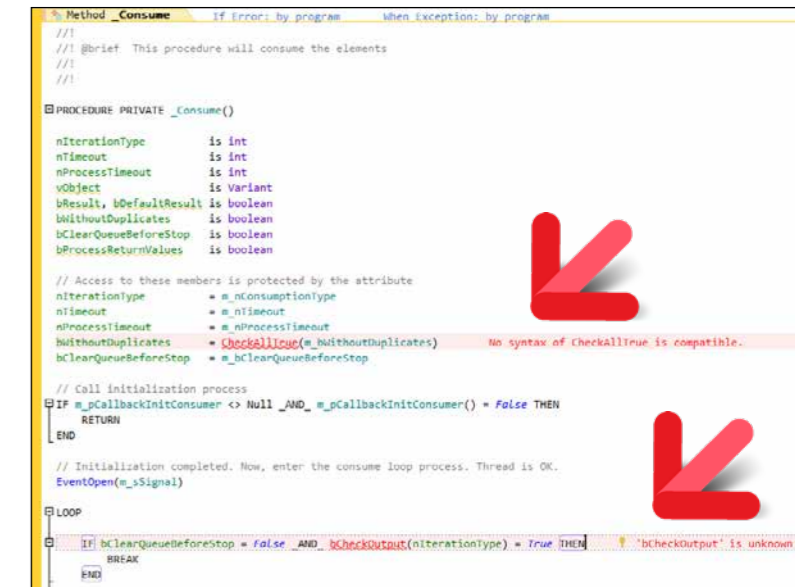
*Programming errors and warnings are detailed directly in the code.
Lines of code with errors are highlighted in red*

These elements significantly improve workflow in the code editor.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Essential information at a glance

086 DOXYGEN

The creation of a procedure automatically generates a comment: function description, parameters, return values.
In version 2024, this comment can be generated using Doxygen syntax.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Additional standard format supported

087

MISCELLANEOUS

- The search window can also use a vertical layout.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Additional layout for better readability

DEBUGGER

088

ANALYZE PERFORMANCE BETWEEN 2 BREAKPOINTS

In version 2024, the debugger can analyze performance between 2 "Performance breakpoints".

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More precision

089

MISCELLANEOUS

- The debugger indicates access attempts to non-existent JSON members.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Fix issues as you go

DEVOPS

090

INTEGRATED DEVOPS ENVIRONMENT

WINDEV, WEBDEV and WINDEV Mobile version 2024 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:

AVAILABLE FROM 2023

---

lifecycle management, sprints, testing, continuous integration, deployment, continuous delivery, production, user feedback, and more.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Integrated and open to all methodologies

REPORT EDITOR

091

LINE AND CHARACTER SPACING

In version 2024, the report editor allows you to specify line spacing and character spacingvalues for each control.
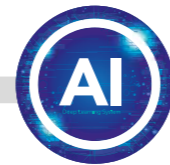This allows you to adjust the layout of your reports and meet new standards.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Advanced layout tools

092

REPORT EDITOR: MISCELLANEOUS

- Improved search in the report preview

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Useful additions

ARTIFICIAL INTELLIGENCE

093

ONNX MODELS

WLanguage's object recognition AI uses models.
In addition to the models provided as standard, you can use external models.
ONNX models are now supported, in addition to Caffe, Tensorflow and Darknet.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Ability to use more models

WLANGUAGE

numeric and specifying the number of digits after the decimal point each time, in version 2024 you can create a type **PricePowder** and then define variables in the project using this type.
You will eliminate the risk of using the wrong number of decimals.
Code is automatically clearer and more consistent.
Compilation attributes defined on the type are preserved on all variables of this type.
Such types can then be used like native WLanguage types.
In our example, you can create arrays of **PricePowder** variables.

```
PricePowder is type : numeric (5,4)

PROCEDURE CalculateColorPrice( WeightToProduce is real,
RALColor is int) : PricePowder
```

Another, more advanced, example is the ability to define a **callback** type, which specifies the number and type of parameters, and the return value expected by the callback ("delegate").
Thus, callbacks will always have the expected number of parameters, and the expected return value.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Powerful programming possibilites

094

CREATE YOUR OWN WLANGUAGE TYPES: FINER PROGRAMMING BY DEFAULT

Imagine an application that handles prices: costs of devices, a commodity or quantities in general.
An example is the price of powder, defined in grams, with 4 decimal places. Rather than defining the corresponding variable in type

095

IMMUTABILITY

A variable with the **Immutable** attribute can only be assigned once, and never be changed again.
Unlike a constant, this variable can be conditionally initialized in the code.
Immutability is also available for procedure parameters.

HANDLE NULL VALUES

096

HANDLE NULL VALUES

In version 2024, WLanguage manages "Null" values on all types.
This allows you to directly handle NULL items (columns) in a database. Variables become "nullable".
All WLanguage types become nullable: integers, strings, currencies, dates, times, etc.
Nullable variables must be declared with the **<Nullable>** extension attribute. Alternatively, you can add a question mark after the type, for example: **Int?**

Conditions on null variables meet expected standards. The previous mode for managing Null values is kept for compatibility.
The new **??** , **??*** and **?** operators allow you to handle cases with null values.
To avoid unwanted implicit conversions, the compiler generates an error when a nullable variable is assigned to a non-nullable variable.

Here are some WLangage code examples:

```
// Declaration of nullable variable
n is int<nullable>
```

```
// Short syntax
n is int?

// New operator to retrieve the variable or another
variable if null
v is int = n ?? 0

// Gets the default value of the type if n is null
v is int = n ?? *

// New operator used to call a procedure for a non-null
// variable, otherwise the line is not executed
s is string? = "Hello world!"
r is string = s?.Left(5)??""
```

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More programming possibilities

097

BINDING & NULL VARIABLES

Nullable variables make it easier to create a binding between a database and a class.
Nullable variable handling is now standardized.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Simplified bindings

098 — CONDITIONAL COMPILATION: 2 IMPROVEMENTS

New feature WD WB WM

Conditional compilation has been improved in version 2024.
You can write

```
<COMPILE IF CST_APP_MODE EXISTS>
```

This allows you to compile different code in a component.
It is now possible to enclose an entire procedure within: <COMPILE IF...>
This makes it possible to exclude the procedure from compilation.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Finer compilation options

099 — DROPBOX, GOOGLE DRIVE AND ONEDRIVE

New feature WD WB WM

3 new WLanguage types have been introduced: `gglDrive`, `oDrive` and `dpDrive`.

The new family of `Drivexxx` functions allows you to perform the operations listed below on any file stored using these services.

Here are some of the available features :

- list the contents of a folder
- download
- upload
- copy
- delete
- rename
- move

The generated code is independent from the storage service used.

```
// Standard syntax
MyDrive is Drive
// Upload file to Drive
DriveUploadFile(MyDrive, "C:\DocsToProcess\CR-489-884.pdf", "/My documents/2023/")

// Prefix syntax
MyDrive.UploadFile("C:\DocsToProcess\CR-489-884.pdf", "/My documents/2023/")
```

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Greater compatibility

100 — INTUITIVE FILE PATH AND URL BUILDING

New feature WD WB WM

In version 2024, you can build strings containing file paths by separating elements with "+" and "/" characters.
Example:

```
FilePath is string = Drive/Folder/File
FilePath is string = Folder/File
```

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Easily build file paths

101 — RAR5 COMPRESSION

New feature WD WB WM

RAR5, a common file compression and archiving format, is now supported.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
New standard supported

102 — ASSOCIATIVE ARRAYS: SET FUNCTIONS

New feature WD WB WM

You can now use set functions with associative arrays:

- map
- filter
- reduce
- apply
- sum
- min
- ...

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Simplified programming

103 — TYPE OF CONTROL NOW INDICATED IN VARIABLES OF TYPE CONTROL

New feature WD WB WM

In version 2024, you can define the type of controls.
This allows for clearer code and more precise code completion.
An automatic security mechanism prevents the developer from passing incompatible parameters, for example:

```
myTable is Control <control type = typTable>

myTable.
         AddLine
         Add...
         Break...
         Delete...
         Enum...
         Formula...
         Input...
         Insert...
         Modify...
```

Code completion only shows functions for the Table control

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More precise code completion

104 — ADD YOUR OWN FUNCTIONS TO CONTROLS

New feature WD WB WM

In version 2024, you can define your own functions for a specific type of control using prefix syntax.
Example:

```
TABLE_Search.ColorRow(nCurrentRow)
```

Your own functions will appear in the code completion suggestions.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More possibilities

105 — FUNCTION OVERRIDING: NOW AVAILABLE IN PREFIX SYNTAX

New feature WD WB WM

You can override functions used on controls, using both standard and prefix syntax.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More possibilities

106 — CHECK THE FORMAT OF TAX IDENTIFIERS (NIF, TIN, ETC.)

New feature WD WB WM

You can now check the format of tax identifiers using the WLanguage `CheckTaxNumber` function, prefixed by the corresponding country.
For example:

```
France.CheckTaxNumber
```

The tax identifiers of the following countries are currently supported:

- France
- Canada
- Switzerland
- Belgium
- United States
- Spain
- Italy
- Germany
- Brazil

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Avoid consuming web services with numbers in the wrong format

107 — TYPE OF PROCESSOR

New feature WD WB WM

Some very specific processes (drivers, etc.) need to determine the type of processor to perform low-level processes.
The new `sysNativeProcessor` constant identifies the type of processor used on the machine: x64, ARM, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Useful for API calls

108 — OAUTH

New feature WD WB WM

2 useful features for oAuth have been introduced in version 2024:
- PKCE authentication protocol, which avoids storing the private key in the executable
- ability to generate an oAuth token from JSON content.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Compatibility with an increasingly common standard

109 — JSON WEB TOKEN (JWT)

New feature WD WB WM

JSON Web Token is a standard that enables secure communication between two parties.
In version 2024, WLanguage natively supports this authentication protocol.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
One more protocol for the road

PCSCLOUD.NET: A DEDICATED CLOUD SOLUTION

PCSCloud

PCSCLOUD.NET : A CLOUD TO DEVELOP AND DEPLOY YOUR PROJECTS

APPLICATIONS

- WEBDEV Application Server to host WEBDEV sites
- Cluster of WEBDEV Application Servers
- WEBDEV Application Server to provide web services
- SaaS platform
- Your own Private Store for WINDEV and WINDEV Mobile apps

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 and **HFSQLDRIVE** are purpose-built cloud solutions:
- for SCM data sharing
- for hosting HFSQL databases.

YOUR FAVORITE CONTROLS IN 2 CLICKS
PRESERVE THEIR STYLE, SIZE AND CODE

110

New feature WD WB WM

FAVORITE CONTROLS: PRACTICAL NEW FEATURE

Often, developers recreate the same controls, with the same style and the same code throughout a project, without ever using a template or an Internal Window.
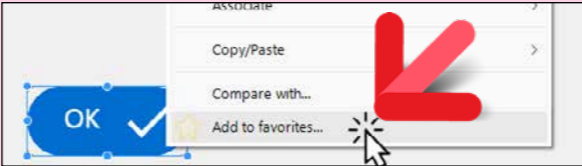
For example, the "OK" and "Cancel" buttons.

Many developers tend to copy an existing control from another page or window, paste it and then modify it.

Favorite controls vastly simplify this process

In version 2024, you can define a control or set of control as "Favorites".

Simple right-click a control and add it to your Favorites.

Right-click a control and add it to your favorites

Once added, the Favorite control will appear at the top of the list of controls.

Favorite controls preserve the following properties:

• size
• style
• code.

You can directly edit the Favorite control in the window or page. No need to override its characteristics.
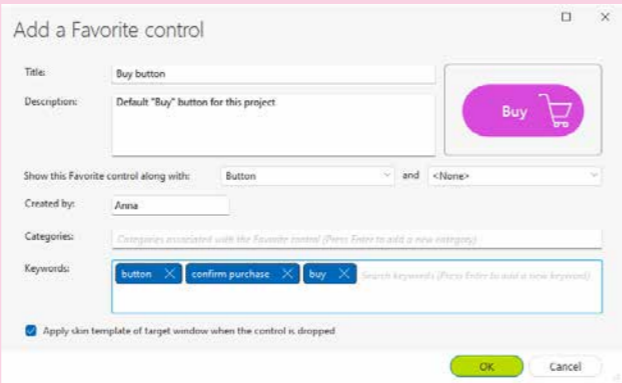
Optional description of a Favorite control

When you create a Favorite control, it is added to the list of controls of the same type.

Favorite control composed of 2 controls
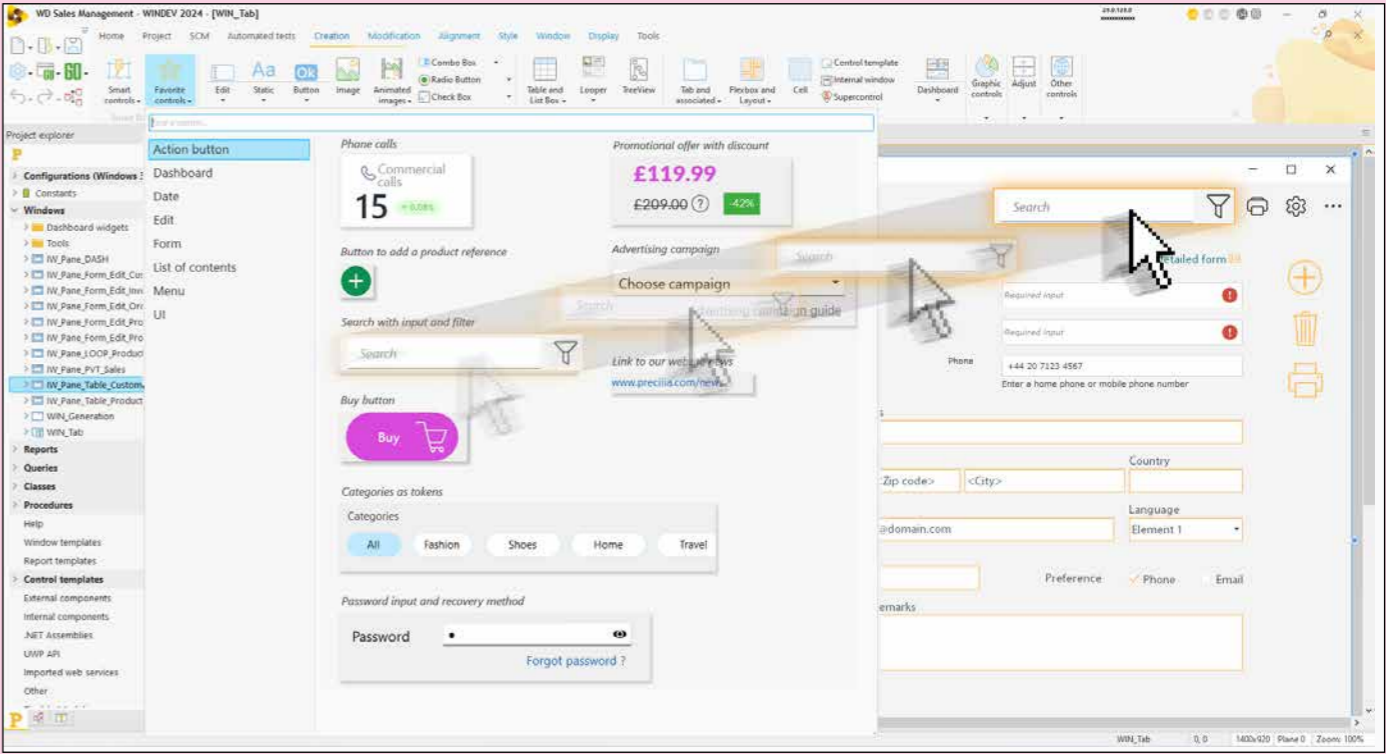
You can choose the list(s) in which the Favorite control should appear, which is useful for a Favorite control composed of several controls.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Reuse your favorite controls in a single click

111

New feature WD WB WM

TURN SEVERAL CONTROLS INTO A SINGLE FAVORITE CONTROL

A Favorite control can be composed of multiple controls.
For example, an Edit control and a filter button.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
One or several controls in a single click
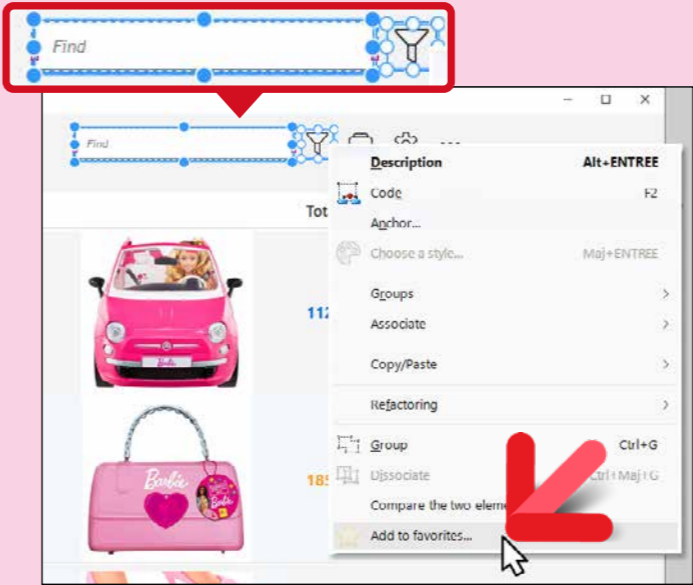
112

New feature WD WB WM

SHARE YOUR FAVORITE CONTROLS

Favorite controls within a project are accessible to all project contributors.

You can share Favorite controls between different projects. You can also copy Favorite controls from one project to another.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Reusability

113

New feature WD WB WM

HOW TO USE A FAVORITE CONTROL

A new button in the ribbon opens a list with all your Favorite controls, classified according to the tags defined when they were created.

Favorite controls can also be found in the list of controls by type, according to the options defined when they were created.

Favorite controls appear at the top of the list.

You can then simply drag them from the list and drop them onto the current window or page.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
As simple as Drag & Drop

GO FURTHER WITH VERSION 2024

114 — New feature WD WB WM
DNS QUERY

In version 2024, you can easily run DNS queries with the new `DNSQuery` function:
- IP associated with a domain name
- sub-domains associated with a domain
- information on records: A, AAAA, CNAME, PTR...
- search on a particular DNS or on the first one found

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
No need to use APIs

115 — New feature WD WB WM
USE ARRAYS FOR PROCEDURES THAT EXPECT MULTIPLE PARAMETERS

In version 2024, the parameters of a procedure that expects different parameters (and not an array), can be contained in an array that will be analyzed by the `ArrayToParameters` function to extract the parameters.
This greatly simplifies the call to the procedure.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Array analyzed automatically

116 — New feature WD WB WM
NEW STRING DELIMITER: ➘

In addition to double quotes ("), the "grave accent" delimiter is now supported.
The purpose of this separator is to avoid doubling double quotes, and to ensure that strings with `[%` can be used regardless of the options defined in a project.

```
sHtmlCode is string = `<p style="color:red;">`
```

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better readability

117 — New feature WD WB WM
%, MODULO

The `Modulo` operator now accepts the `%` operator as synonym.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Useful for copying formulas from Stack Overflow.

118 — New feature WD WB WM
"AND", "OR" OPERATORS: STANDARD BEHAVIOR

You can change the behavior of `AND` and `OR` operators to optimize evaluations. If the outcome of the condition can be determined by evaluating the first expression, the second expression will not be evaluated.
You can choose this mode in the compilation options.
All new projects will implement this behavior by default.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Optimized evaluations

119 — New feature WD WB WM
NEW TYPE: SIMPLIFIED NUMERIC FORMATTING

A new type for formatting numbers is available: `NumericFormat`.
The properties of this type can be used to specify the number of digits after the decimal point, separators, etc.
A code wizard makes the task even easier.
Example:

```
PriceFormat is NumericFormat

PriceFormat.DigitsAfterPoint = 2
PriceFormat.Prefix = "$"
PriceFormat.DecimalSeparator = "."
PriceFormat.ThousandSeparator = ","
PriceFormat.Sign = nfsMinusIfNegative

Price is string
Price = NumericToString(16945201.986, PriceFormat)
// Price contains "$16,945,201.99"
```

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Simplification

120 — New feature WD WB WM
SYNTAX HIGHLIGHTING IN THE UI

Now, you can apply syntax highlighting to WLanguage in the UI of your app, to avoid displaying it as raw text.
The `WLanguageCodeFormatting` type allows you to do just that.
Here are some of the supported features:
- code indentation
- translation
- capitalization
- theme (light or dark)
- ...

HTML.
A reusable CSS style sheet is generated.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Go from black & white to full colors!

2024 WINDEV

New feature WD WB WM

121 to 122 — MISCELLANEOUS

- New `fReadLine` syntax
- Functions for Push notifications are available in prefix syntax

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Useful improvements

WEB SERVICES

123 — New feature WD WB WM
FASTER, LESS CPU-INTENSIVE WEB SERVICE CALLS

In some cases, large web services created with WINDEV or WEBDEV (several hundred classes, etc.) could take a long time to respond.
In version 2024, 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.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Mind-blowing performance

124 — New feature WD WB WM
NTLM AND DIGEST AUTHENTICATION

NTLM and Digest are authentication protocols used to access servers.
Some REST web services may require NTLM or Digest authentication.
In version 2024, these authentication protocols are natively supported.
Please note, however, that NTLM is no longer recommended.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Security

125 — New feature WD WB WM
MISCELLANEOUS

- The new `httpTraceInfo` constant for the `httpRequest` type allows you to capture cURL and OpenSSL output info.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Useful additions

XML

126
New feature WD WB WM
XML SIGNATURE: ECDSA

In version 2024, you can sign XML files using the Elliptic Curve Digital Signature Algorithm (ECDSA).
The following formats are supported:
- RSA SHA384
- RSA SHA512
- ECDSA SHA224
- ECDSA SHA256
- ECDSA SHA384
- ECDSA SHA512.

Note : ECDSA is the signature algorithm used by Bitcoin.

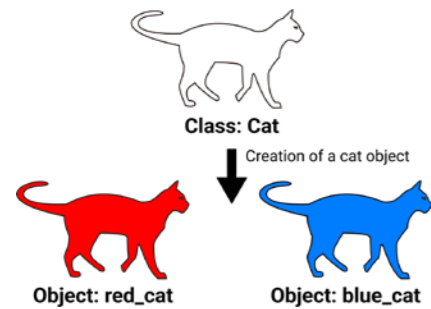Benefit of this new feature in version 2024 :
Higher security

127
New feature WD WB WM
NEW FUNCTION: XMLCHECKSIGNATURE

The new **XMLCheckSignature** function allows you to check the validity of a signed XML file.

Benefit of this new feature in version 2024 :
Precision

OBJECT-ORIENTED PROGRAMMING

Class: Cat

Creation of a cat object

Object: red_cat   **Object: blue_cat**

128
New feature WD WB WM
SCOPE ATTRIBUTES

New attributes for class members are now available.
The `<get>`, `<protected get>`, and other attributes can be used to define the scope of members and to define wheter they are accessible in read, write or read/write mode.

Benefit of this new feature in version 2024 :
No need to create properties

129
New feature WD WB WM
EXTENSION METHOD FOR CLASSES

In version 2024, you can add your own methods to a shared class, without having to modify its code.

Therefore, these changes do not affect other projects that use this class.

Benefit of this new feature in version 2024 :
Modify a class without side effects

130
New feature WD WB WM
IMMUTABLE CLASSES

An immutable class can be seen as a kind of constant.
All class members become immutable: once assigned (in the constructor), they can no longer be modified.

Benefit of this new feature in version 2024 :
A constant class

131
New feature WD WB WM
COMPILATION ERROR FOR MEMBERS BOUND TO ITEMS OF DIFFERENT TYPE

In version 2024, the compiler warns you when a member is bound to an item with different charactersitics:
- different size
- ANSI/Unicode strings
- different type

This type of error can occur when a data description (analysis) is modified.

Benefit of this new feature in version 2024 :
More secure code

COMPATIBILITY WITH THIRD-PARTY LANGUAGES

132
New feature WD WB WM
PYTHON

Version 2024 can now handle objects passed as parameters or retrieved by a Python procedure.

Benefit of this new feature in version 2024 :
Greater compatibility with Python

133
New feature WD WB WM
C#

You can write C# code without having a C# assembly in the project.

Benefit of this new feature in version 2024 :
Less constraints

AUTOMATICALLY-GENERATED WLANGUAGE CODE DESCRIPTION
UNDERSTAND CODE AT A GLANCE

134
New feature WD WB WM
AI IN THE CODE EDITOR

In version 2024, the code editor can generate a description of procedures and sections of code.
Simply click an icon to generate these descriptions.
You can use ChatGPT within the editor for this purpose.

Benefit of this new feature in version 2024 :
Better workflow

135
New feature WD WB WM
AUTO-GENERATE CHECK-IN COMMENTS IN THE SCM

It is good practice to write a brief description of the changes made, when checking resources back into the SCM.
The code editor in version 2024 can also generate this description for the developer.

Benefit of this new feature in version 2024 :
Automatic documentation

136
New feature WD WB WM
AUTO-GENERATE AN EXPLANATION OF WLANGUAGE CODE

We've all been there: Working on code written by another developer or maintaining very old code, and not understanding what the code does.
Now, the code editor can show you a clear, concise explanation of the process using natural language.
Simply select the code for which you want to get an explanation.

Benefit of this new feature in version 2024 :
Truly amazing help feature

This procedure increments file names by adding a digit to the end of the name. Here is how it works:
- The "sPath" variable gets the file path using the fExtractPath function with the fDrive and fDirectory parameters. This allows you to get the drive and directory.
- The "sExt" variable gets the file extension using the fExtractPath function with the fExtension parameter.
- The "sFile" variable gets the file name using the fExtractPath function with the fFile parameter.
- The "n" variable is an integer variable used to store the number to be incremented.
- The "nPos" variable is an integer variable which is initialized with the length of the "sFile" variable.
Next, the "WHILE" loop runs as long as "nPos" is greater than 0 and the character corresponding to "nPos" in the "sFile" variable is numeric. At each iteration, the "nPos" variable is decremented.
Then, depending on the value of "nPos", several cases are possible:
- If "nPos" equals 0, the file name contains only numbers. In this case, the name is converted into a numerical value, incremented by 1, and assigned to the "sFile" variable.
- If "nPos" is equal to the size of the "sFile" variable, this means that the file name contains no digits at the end. In this case, "1" is added to the end of the name, using the "+=" concatenation operator.
- Finally, if none of the above is true, it means that the file name contains numbers at the end, but not only. In this case, the numeric value corresponding to the digits at the end of the name is retrieved using the Val function, it is incremented by 1, and is assigned to the "sFile" variable.

Finally, the procedure returns the path, name and extension of the newly incremented file.

137
New feature WD WB WM
AUTO-GENERATE THE DOCUMENTATION OF A PROCEDURE

The Code Editor can be used to generate the procedure header comment from existing procedure code:
- description of each parameter
- return value of the procedure
- description of processes in the procedure.

These comments are generated in standard or Doxygen format.
These comments are also used by the code editor to provide assistance as you write the calling code.

Benefit of this new feature in version 2024 :
Self-generated comments

Please note the developer must have an OpenAI account to use these services. Additional costs may apply based on usage.

HFSQL DATABASE

HF**SQL** ®

138 · New feature WD WB WM
HFSQL SERVER LANGUAGE

The HFSQL server can display messages visible to the end user.
In version 2024, these messages are displayed in the language of the end user whenever possible: English, Spanish, French.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Voilà!

139 · New feature WD WB WM
HFSQL SERVER REPLICATION

To handle special cases of physical corruption of replication files (.HYL), the new WLanguage `RSIIgnoreError` function, as well as a new option in the HFSQL Control Center allow you to ignore the corrupted part of the file.
With this option, you can make available services in production phase. Note it must be used carefully.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Useful the production phase

140 · New feature WD WB WM
HFSQL DOCKER

The Docker image of the HFSQL server is now available in Debian 12, in multiple languages.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More possibilities

New feature WD WB WM

141 to 145 · MISCELLANEOUS

- `HQueryExecuted`, new function used to determine if a query has already been executed.
- The automatic data file modification mechanism now al-

lows you to convert items of type `Password` to type `String` (passwords are not retrieved).
- Server backup: Ability to set the default directory.
- You can retrieve the list of files monitored by the WLanguage `HlistTrackedFiles` function.
- Stored procedure: Ability to pass arrays as parameters.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Always more

SQL FUNCTIONS

146 · New feature WD WB WM
COMPLEX QUERIES: BETTER PERFORMANCE

The execution of complex queries is significantly faster in version 2024.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
The faster, the better

147 · New feature WD WB WM
RETURNING CLAUSE

The `Returning` SQL clause that returns values for insertion, modification and deletion requests is supported in version 2024. Useful, for example, to retrieve automatic identifiers for rows inserted by the query.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Sharp programming

148 · New feature WD WB WM
RENAME TABLES WITH "ALTER TABLE RENAME"

Now, you can rename tables using the `Alter Table Rename` statement.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Rename tables programmatically

149 · New feature WD WB WM
SUBDATE, DATE_SUB, ADDDATE...

The `DATE_SUB`, `ADDDATE`, `SUBDATE` and `DATE_ADD` functions are now supported to improve compatibility with certain databases.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Compatibility

150 · New feature WD WB WM
FASTER ISNULL FUNCTION

The `IsNull` function is faster in version 2024.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better performance

New feature WD WB WM

151 to 177 · 27 NEW SQL FUNCTIONS

27 new SQL functions are introduced in version 2024.

VALUE	Replaces a value with a constant value.
LOREM_IPSUM	Replaces a string with Lorem Ipsum text of a given length.
NOISE	Returns a value between -x% et +x% of the original value.
PARTIAL	Partially replaces the characters in a string.
PROCEDURE	AUses a procedure to mask data.
RANDOM_DATE_BETWEEN	Gets a random value in a date range.
RANDOM_INT_BETWEEN	Gets a random value in a range of integers.

SQL spatial data functions

ST_Area	Returns the area covered by the shape.
ST_Contains	Returns True if shape A contains shape B, i.e. if every point in B is a point in A, and their interior contains a non-empty intersection.
ST_CoveredBy	Returns True if any point in shape A is in shape B.
ST_Covers	Returns True if any point in shape B is in shape A.
ST_Crosses	Returns True if the two shapes have some, but not all, of their interior points in common. This intersection must also have a smaller dimension than that of the given shapes, and the intersection must not be equal to one of these shapes.
ST_Difference	Returns a shape representing the difference between 2 shapes.
ST_Distance	Returns the distance between the input shapes. In 2D, this corresponds to the Euclidean distance. For geographic shapes, returns the geodesic distance.
ST_Equals	Returns True if the input shapes are spatially equal, i.e. if shape A is within shape B and vice versa.
ST_GeomFromText	Returns a shape from a textual representation and a reference identifier.
ST_Intersection	Returns a shape representing the entire area included in the two input shapes.
ST_Intersects	Returns True if the two input shapes have at least one point in common.
ST_Length	Returns the length of a linear shape. For polygons and points, returns 0. For geographic shapes, the length is the sum of the lengths of the geodesics making up the shape.
ST_MakePolygon	Returns a polygon whose outer ring is the first shape entered, optionally with holes.
ST_Overlaps	Returns True if the intersection of the shapes results in a shape of the same size, but different from the source shapes.
ST_Perimeter	Returns the perimeter of the shape. On geographic shapes, this is equivalent to summing the length of the geodesics making up the shape's contour.
ST_Simplify	Returns a simplified copy of the input shape using the Ramer-Douglas-Peucker algorithm with the given tolerance.
ST_SymDifference	Returns a shape representing the non-intersecting parts of shapes A and B.
ST_Touches	Returns True if the shapes have at least one point of their exterior in common, without their interiors having a point in common.
ST_Union	Returns a shape representing the union of two shapes. The shapes are merged to produce a resultant shape with no overlap.
ST_Within	Returns True if the first shape is within the second shape.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Enriched SQL

HFSQLDRIVE: YOUR HFSQL DATABASES IN THE CLOUD WITH 3 CLICKS

HFSQLDrive can easily and immediately host your databases in the Cloud.
A mobile app that stores data in the cloud is also at your disposal.
Get it now to benefit from an attractive flat rate subscription.

HFSQL CLUSTER

178 · New feature WD WB WM
FASTER SYNCHRONIZATION

A cluster synchronizes in real time, with the aim of keeping every node up to date, which improves resiliency and avoids errors caused by Windows updates.
A cluster also optimizes read performance.
In version 2024, HFSQL Cluster significantly improves synchronization performance when a node is restarted.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better availability

179 · New feature WD WB WM
MISCELLANEOUS

- The WLanguage `HCopyFile` function is now available in Cluster mode.
- Secure encryption support.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More powerful and secure clustering

GDPR & HFSQL: AUTOMATIC DATA MASKING

Note: Data masking should not be confused with pseudonimization.
Pseudonimization is a reversible operation, which means data is not 100% protected.
Data masking, on the other hand, is irreversible and therefore cannot be used to retrieve the original data.

180 New feature WD WB WM
WHY MASK DATA?

Data masking helps you prevent sensitive data exposure by hiding it from certain users.
Data masking also makes it possible to secure information and prevent it from spreading.
This data masking technique helps you meet GDPR requirements.
Keep in mind data masking and pseudonymization are different operations, see above.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Meet GDPR requirements

181 New feature WD WB WM
WHAT KIND OF DATA?

You can choose the items (columns) you want to mask.
Text (String and Text Memo), Integer, Real and Date items support data masking.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Mask data item by item

182 New feature WD WB WM
5 DATA MASKING METHODS

You can mask each item using one of the following methods:
1. Noise: Returns the original value with variable alterations
2. Fixed value: Always returns the same value
3. Random value: Returns a random value
4. Partial scrambing: Replaces only a part of the item
5. Custom: The value is returned by your code, which must be in a stored procedure

Examples of each method applied to a text and a number:
1. Dupont >>> not applicable   1230 >> 1385
2. Dupont >>> LastName   1230 >> 1111
3. Dupont >>> efvb458/   1230 >> 743
4. Dupont >>> DxxxxT   1230 >> 1xx0
5. Dupont >>> 2335874   1230 >> 6

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Multiple data masking methods to choose from

183 New feature WD WB WM
HOW TO MASK DATA?

To mask items in a database table, simply use the data model editor.
Set the data masking rule in the item description.

Different data masking rules

You can also mask data using the new SQL functions: `ADD Masked`, `noise`, `value`, `random_XXX_between`, `partial`, `procedure`.
Note that a table (data file) must be encrypted when it contains one or more masked column (item).

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Choose the method that works best for you

184 New feature WD WB WM
WHO CAN READ THE DATA?

For security reasons, any access attempt to a masked item returns masked content.
The original value cannot be read, either in the HFSQL Control Center or programmatically.
To allow reading the original content, you must have unmask privileges on the data file.
In this case, the server returns the original data.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Total control over data privacy

185 New feature WD WB WM
SIMPLE PROGRAMMING

In all cases, the server stores the initial value of a masked item, which is why the data file (table) must be encrypted.
WLanguage functions such as `HModify`, etc. have no effect on the masked item. They do not modify values from masked items.

There is no risk of overwriting the original values.
Users cannot search, sort or filter data from these items unless they have the required permissions.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024:
Easy programming

186 New feature WD WB WM
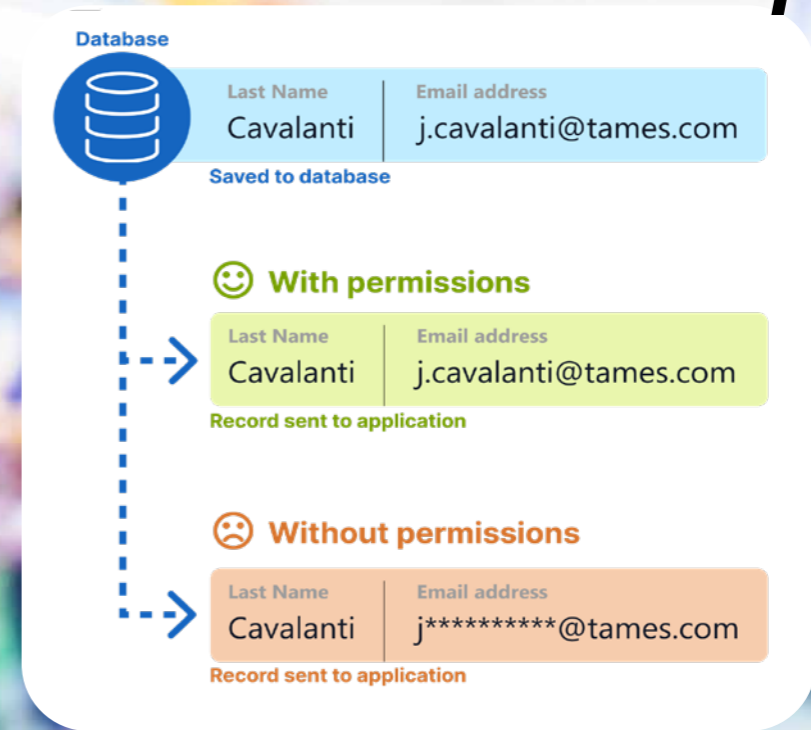### MAXIMUM SECURITY

All cases of use of a masked item are managed: Stored calculated items, materialized views, backups, table exports, etc.
It is not possible to create a backup copy of a data file without the unmask privileges.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Total security by default

HFSQL
SPATIAL DATA

Calculate distance between 2 points taking into account the Earth's curvature

Find plots larger than 10,000 Sq. foot

Find the 5 nearest EV charging stations

STORE AND HANDLE SPATIAL DATA WITH HFSQL

HFSQL 2024 allows you to manipulate geometric and geographic data.

You can store these types of data in HFSQL databases and perform advanced SQL queries. For example, "list of parcels a given path goes through" or "list of schools within a 1-mile radius".

187 — New feature WD WB WM
SPATIAL DATA

Spatial data allows you to define the:
- **position,**
- **shape,**
- **extension**
of objects on the surface of the Earth.

Spatial data can be used to store points of interest (charging stations, restaurants, hotels), roads, rivers, lakes or surfaces such as properties (land registry), forests, mountains, administrative zones, etc.

This type of data is essential to the creation of a GIS.

Spatial data includes both geographic and geometric information (see below).

Benefit of this new feature in version 2024 :
New data type, infinite possibilities

188 — New feature WD WB WM
NEW WLANGUAGE TYPES TO DESCRIBE SPATIAL DATA

Two coordinate systems are available, according to the intended use:
- geometric coordinates (2D, geometry)
- geographic coordinates (latitude/longitude, GPS, geography)

Geometric 2D coordinates can be used over short distances (up to 50 km / 31 mi).

For longer distances, it is necessary to use geographic coordinates, which factor in the Earth's curvature.

You can manipulate these types of data using new WLanguage types.

For the gemoetric system (2D), several new types are available: `Point2D`, `Polygogne2D`, `Linestring2D`, etc.

The new `MultiXXX` type allows you to store a set the previous types.

These types are also available for the geographic system: `PointGeo`, `PolygonGeo`, `LinestringGeo`, etc.

Benefit of this new feature in version 2024 :
Always more programming possibilities in WLanguage

189 — New feature WD WB WM
HOW TO RETRIEVE SPATIAL DATA?
There are several methods to retrieve spatial data.

Data can:
- be specified directly by the developer
- be the result of user input (e.g. coordinates)
- be imported from a device such as a GPS tracker
- come from GPX files
- be downloaded from files available online

Almost every smartphone can provide GPS information.

Once retrieved, this data can be used in a wide range of fields:
- land register
- natural areas and protected zones
- urban planning
- defense and security areas
- and many more.

New WLanguage functions enable you to serialize and deserialize the new types. Numerous formats are supported: JSON, XML, CSV, text, etc.

Benefit of this new feature in version 2024 :
More possibilities

190 — New feature WD WB WM
CALCULATION FUNCTIONS FOR SPATIAL DATA

You can perform specific operations using spatial data: Calculate plot areas, road lengths, perimeters, stored shapes, etc.

It is also possible to perform operations on different sets of data, such as calculating distances, finding nearest neighbors, calculating the union or intersection of several geographic areas, etc.

The new `Shape` functions enable you to perform all these operations (see new feature 372, sorted alphabetically).

Benefit of this new feature in version 2024:
Powerful programming

191 — New feature WD WB WM
HOW TO STORE SPATIAL DATA?

In version 2024, storing spatial data is as easy as it gets. Simply use HFSQL.

Store data in the new item types: `PointGeo`, `PolygonGeo`, `LinestringGeo`, etc.

Benefit of this new feature in version 2024 :
HFSQL, a truly universal solution

192 — New feature WD WB WM
SPATIAL INDEX FOR QUICK SEARCHES
To optimize performance on spatial queries, HFSQL has introduced spatial indexes.

Spatial indexes make it possible to quickly process very large volumes of data, which is an essential feature given the size of most spatial datasets.

A spatial index can be described with a single click in the data model editor.

Benefit of this new feature in version 2024 :
A special index for spatial data

193 — New feature WD WB WM
QUERIES ON SPATIAL DATA

You can create queries such as: "Find the 5 nearest charging stations to my location", or "Count the number of plots of land in town XYZ within 0.5 miles from a school, with a surface area of at least 4000 Sq. foot". Queries can be written in SQL, or generated using the query editor.

20 new SQL commands (see new feature 151) can be used to set the desired conditions: distance, area, intersection, etc.

Example of a query that finds the 5 nearest charging stations to given point:

```
SELECT TOP 5 *
FROM charging_stations
ORDER BY ST_Distance(charging_stations.position, {pMyPosition})
```

Benefit of this new feature in version 2024 :
Ability to create advanced queries

These maps are stored as datasets in HFSQL 2024

HFSQL SPARE

194 New feature WD WB WM
ADD DATA FILES

HFSQL Spare is a near real-time server backup solution.
In 2024, data files are automatically added to a Spare database.
Simply add the file to the source database.
No additional actions required.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Automated actions

HFSQL CONTROL CENTER

195 New feature WD WB WM
SHORTER TABLE LOADING TIMES

Tables have been optimized in version 2024. Content is displayed much faster.
For example, memos are not systematically loaded and viewed.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Access data in no time

196 New feature WD WB WM
VIEW RECORDS IN FORM MODE

Form mode is a new way to view records (rows), which makes it much easier to view and edit the content of each row, and provides a more user-friendly experience.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
UI that helps you avoid errors

197 New feature WD WB WM
READ SPATIAL DATA

The HFSQL Control Center displays items (columns) of type "spatial data" as human-readable text.
The format used is the now widespread WKT format.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Understand spatial data at a glance

198 New feature WD WB WM
MISCELLANEOUS

• Double-clicking no longer expands a row
• Ability to change column width to fit the contents
• Multiline content support, with ability to set maximum number of lines
• Fusion of Content and Search tabs
• SQL **Returning** clause support.
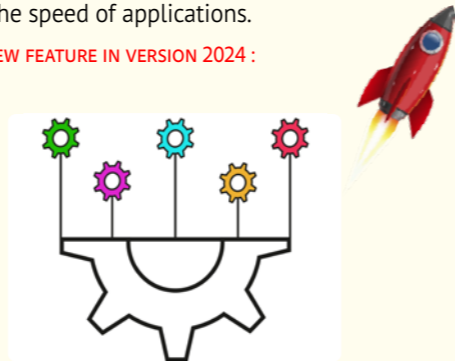
DATABASE NATIVE CONNECTORS

Many Native Connectors are available for third-party databases: Oracle, SQL Server, AS/400, DB2, MySQL, PostgreSQL, SQLite, xBase, MariaDB, Informix, Progress, Sybase, etc.
These Native Connectors facilitate programming (binding, etc.). They keep evolving in version 2024.

199 New feature WD WB WM
NATIVE CONNECTOR: NON-BLOCKING STORED PROCEDURES

In multithreaded programming, when a stored procedure is executed, other threads can immediately access the Native Connector. This increases the speed of applications.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Speed

200 New feature WD WB WM
NATIVE CONNECTOR: HIGHER SPEEDS IN MULTITHREADED PROGRAMMING

In version 2024, Native Connectors handle all aspects of multithreaded programming.
A database query that uses a Native Connector and that is executed in one thread no longer blocks other threads attempting to access the database at the same time.
This results in higher speeds.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
The faster, the better

201 New feature WD WB WM
DOCKER IMAGE: NATIVE ORACLE AND SQL SERVER CONNECTORS

In version 2024, Native SQL Server and Oracle Connectors can be contained in a Docker image. This is very useful for WEBDEV Docker images (see new feature 933).
Reminder: A Native Connector license is required for each Docker image.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Easy deployment

202 New feature WD WB WM
MISCELLANEOUS

• The SQL **Returning** clause is suuported in the Native Oracle, MariaDB and PostgreSQL Connectors.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More programming possibilities

VISUAL QUERY EDITOR

203 New feature WD WB WM
SELECT * QUERIES

SELECT * queries are now supported in the query editor.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Flexibility

204 New feature WD WB WM
MISCELLANEOUS

• Ability to generate WLanguage structures corresponding to the result of a query.
• Ability to sort data in Union queries.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Simplicity

IOT

205 New feature WD WB WM
SUPPORT DE MQTT 5

MQTT is a machine-to-machine messaging (data transfer) protocol.
MQTT 5 is supported in version 2024.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
No constraints

206 New feature WD WB WM
MQTT: IGNORE CERTIFICATE ERRORS

You can now ignore certificate errors.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Handy workaround

207 New feature WD WB WM
MODBUS IN WEBDEV

Modbus functions are now available in WEBDEV.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Cross-platform

ELECTRONIC INVOICING

The European Union has chosen to generalize electronic invoicing.

208 New feature WD WB WM
NEW DATA EXCHANGE FORMAT

Electronic invoicing is becoming mandatory in many EU countries.
The exchange format is generally based on JSON structures.
Version 2024 reinforces JSON format support, to enable secure data exchanges.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Exchange data with peace of mind

BLOCKCHAIN

209 BITCOIN BLOCKCHAIN FUNCTIONS
New feature WD WB WM

In version 2024, the new **BitcoinXXX** functions enable you to get information on the Bitcoin blockchain: blockchain size, hrate, date the latest block was mined, etc.

Benefit of this new feature in version 2024 :
Don't trust, verify!

TELEMETRY

Telemetry allows you to collect and aggregate anonymous or non-anonymous information on how your applications are used: selected menus, functionalities used, duration of processes and queries, possible bugs, use time ranges, etc.
Telemetry also allows you to determine the hardware configuration and OS version of end users.
PCSCLOUD.NET enables you to instantly install a telemetry server.

210 ADMINISTRATOR
New feature WD WB WM

Version 2024 features an intuitive administration page with the main maintenance and administration operations:
• change password
• change database connection
• remove an application

Benefit of this new feature in version 2024 :
Better interaction with users

AUTOMATED TESTS

211 CREATE AN AUTOMATED TEST WITHOUT THE SOURCE CODE OF AN APPLICATION
New feature WD WB WM

The test automaton tool included in WINDEV is a very popular tool. Version 2024 expands its possibilities even further.
It is no longer necessary to handle the source project of the application to be tested.
Automated tests can be generated using only the executable.
Automated test scripts can be generated and used as stand-alone scripts.

Benefit of this new feature in version 2024 :
Automated tests without source code!

212 START THE AUTOMATED TEST TOOL FROM A COMMAND LINE
New feature WD WB WM

In version 2024, you can start automated tests via scripts.

Benefit of this new feature in version 2024 :
Automation

MONITORING BOT (WATCHDOG)

213 CERTIFICATE EXPIRATION WARNING
New feature WD WB WM

In version 2024, the Robot detects the expiration date of TLS certificates, and generates a warning message if necessary.

Benefit of this new feature in version 2024 :
Closer monitoring

214 MONITORING VIA HTTP REQUESTS
New feature WD WB WM

The monitoring mechanism via HTTP requests now lets you add parameters to the HTTP headers of these test requests.

Benefit of this new feature in version 2024 :
Powerful programming

BIG DATA

215 REDIS
New feature WD WB WM

The new **RedisDisconnect** function allows you to disconnect from the database without completing the ongoing process.

Benefit of this new feature in version 2024 :
It's good to disconnect from time to time

WINDEV®

And more in WINDEV...

216 THE 215 COMMON NEW FEATURES OF VERSION 2024 ARE AVAILABLE IN WINDEV
New feature WD WB WM

WINDEV 2024

gets the 215 common new features of version 2024, including the improved editors, Figma import, Favorite controls, higher speeds, new controls, improved code editor, data masking for GDPR in HFSQL, HFSQL spatial data, the new Waffle chart, new features in the SCM, new features in WLanguage and OOP, etc.
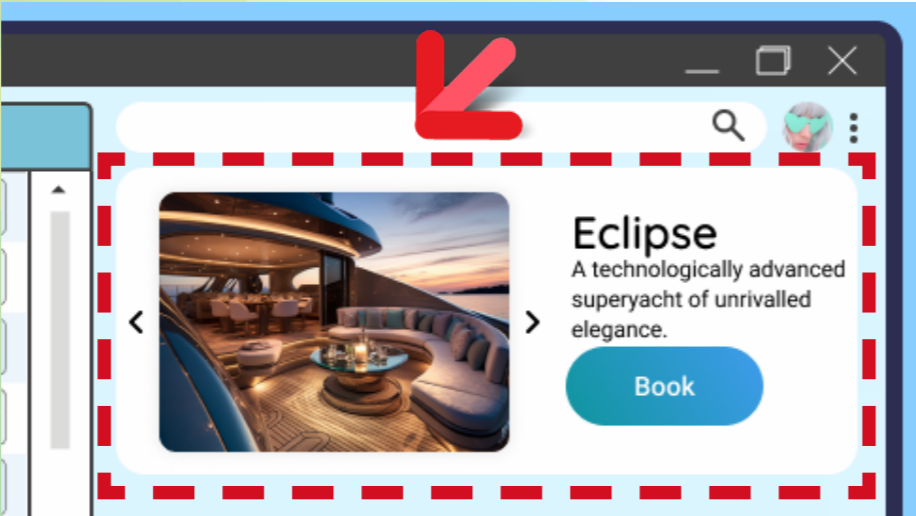
NEW CELL CONTROL

The Cell control can be resized to fit its contents: the Cell control automatically expands when the controls in the cell expand.
To improve its cross-platform capabilities, this control behaves just like WEBDEV's Cell control.

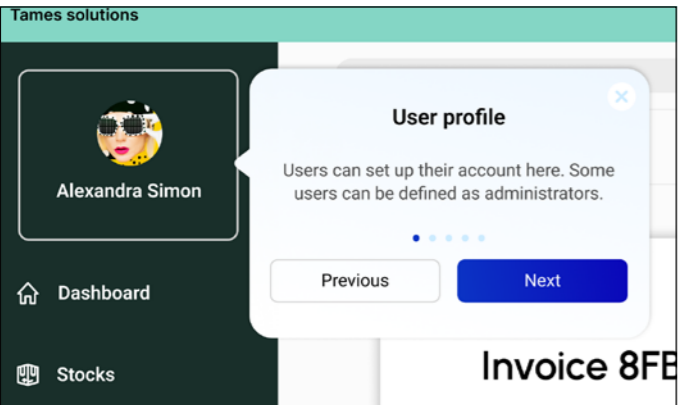**BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :**
A truly powerful control

217 New feature WD WB WM
WINDEV'S CELL CONTROL: AN INTUITIVE CONTAINER

WINDEV 2024's new Cell control makes it possible to group a set of controls together.
This allows handling them simultaneously, in the editor and programmatically.
A style can be applied to the entire Cell control, so that all the controls it contains have the same characteristics: frame, background color, etc.
A Cell can also group controls that will be used in a Flexbox container, and which will therefore be positioned in fixed coordinates in the cell.

Cell controls can have several planes, independently of the host window.

Example of a Cell control with an Image, Static and Button control

NEW INTERACTIVE GUIDED TOUR

218 New feature WD WB WM
GUIDED TOUR GENERATOR: ESSENTIAL IN WINDEV

The new Guided Tour Generator makes it easy to create guided tours or walkthroughs for an application or part of an application.
It's the perfect system for presenting new features in a pleasant way.
Integrate this intuitive user onboarding technique and help users make the most of your application.
See new features 001 to 013.

NEW FLEXBOX CONTROL

219 New feature WD WB WM
FLEXBOX: ALSO USED IN WINDOWS

The Flexbox concept, which is widely used in web applications, is also useful in Windows.
For example, it can be used to to create UIs with a similar behavior to that of the Windows 11 control panel, where controls are dynamically moved and replaced.
See new features 258 to 261.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Flexible UIs

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
First impression is the best impression

NEW SMART CONTROL IN WINDEV 2024

220 New feature WD WB WM
NEW SMART CONTROL AVAILABLE IN WINDEV 2024

Smart controls save valuable time during the UI creation process, and immediately make your applications more sophisticated.
A new Smart control has been introduced in WINDEV 2024:
• Markdown document viewer
Reminder: Smart controls are provided with their source code, and are therefore completely modifiable and customizable.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Extremely useful controls

221 New feature WD WB WM
NEW SMART CONTROL MARKDOWN DOCUMENT VIEWER

The Markdown Document Viewer control can display a large Markdown document and automatically manages scrollbars.
The text can be selected, copied and pasted.
Links are clickable.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Easily display Markdown content

TABLE CONTROL

222 New feature WD WB WM
INDEPENDENT COLUMN HEADER ORIENTATION

In version 2024, Table control allows you to set the orientation of the header text for each individual column.

First column with a horizontal header, all other columns with vertical headers

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Advanced customization

223 New feature WD WB WM
AAF EXPORT MENU

The table export AAF menu (to Word, Excel etc.) has been revised and simplified.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better UX

ENVIRONMENTAL POLICY

Preserving our environment is essential. When printing 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. 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. All our software products are available online. This eliminates the need for packaging and printed documentation. For example, a 10-developer license can be shipped with only two sets of documentation on demand.

NEW FEATURES FOR CONTROLS

224 New feature WD WB WM
CLICK THE CONTENTS OF A CONTROL TO EXECUTE WLANGUAGE CODE

In version 2024, you can define links that will execute WLanguage procedures.
Simply use the **MarkdownLink** function.
The WLanguage procedure must be present in the project.
For example: When clicked, a product name in a within a block of text or in a table column can open a product description window.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
*No longer need to use **gClickableLink** functions.*

225 New feature WD WB WM
EDIT CONTROL: CUSTOM VECTOR BORDERS WITHOUT AN IMAGE

In version 2024, you can use vector borders for each state of an Edit control.
You no longer need to use images to customize the borders of the control.
There are many new settings for each state of the border: color, thickness, corner radius, etc.
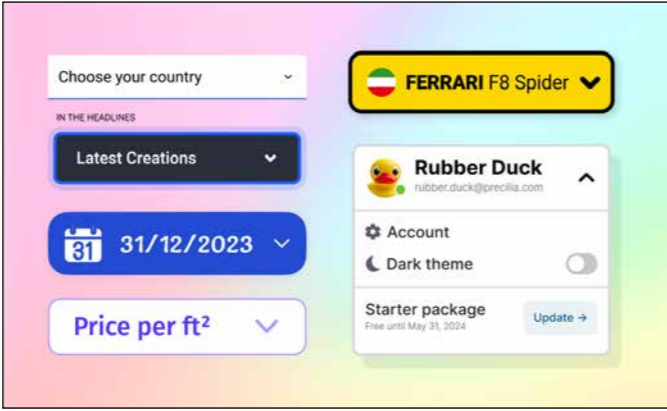

Vector border examples

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More customization options

226 New feature WD WB WM
COMBO BOX CONTROL: CUSTOM VECTOR BORDERS WITHOUT AN IMAGE

The new feature presented above is also available for Combo Box controls.

Combo Box controls with vector borders

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Now, that's a combo

227 New feature WD WB WM
TOKEN CONTROL: DRAG & DROP TO REORDER TOKENS

Now, Token controls support drag & drop operations to allow users to freely reorder tokens. No programming required.

The user clicks and holds the token on the right...

... and drops it at the desired position.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Modern, intuitive UI

228 New feature WD WB WM
NEW MINI-TOOLBAR IN HTML EDITOR AND WORD PROCESSING CONTROLS

The Word Processor and HTML Editor controls feature a ribbon with numerous options.
In version 2024, these controls also feature a new, minimalist toolbar. Depending on the intended use and control size, this allows for a more discreet and less intrusive toolbar.
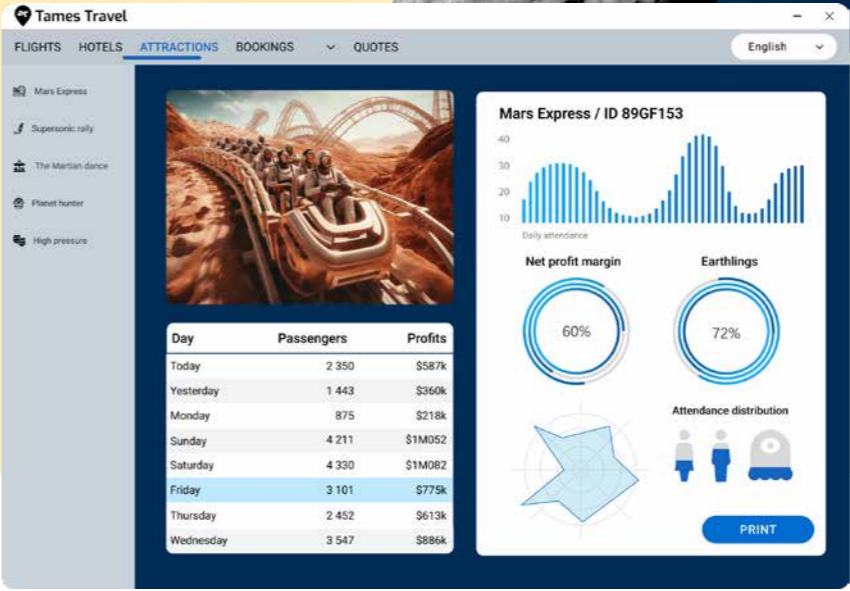Mini toolbars are provided as Internal Windows, and can therefore be customized.

229 New feature WD WB WM
NEW SKIN TEMPLATE IN WINDEV

Cobalt, a new skin template has been introduced in version 2024.
This allows for more customization possibilities.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Instant new look!

Use these templates in your applications and software packages, as well as all the skin templates provided with WINDEV.

Keep in mind that you can also create your own skin templates.

WINDEV includes everything you need to create superb UIs.

Mini toolbar in the Word Processing control

Mini toolbar in the HTML Editor control

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Modern toolbars with the essential features

230 New feature WD WB WM
EDIT CONTROL: CLICKABLE ICON IN THE INPUT AREA

In version 2024, you can include a clickable icon in the input area.
The icon can be clicked and can be positioned on the right and/or left of the input area.

A new event allows you to write the WLanguage code, which will be executed when the icon is clicked.
You can fully customize the icon.

Clickable search icon inside the Edit control

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Easier to create and use

231 New feature WD WB WM
RADIO BUTTON CONTROL: NEW LAYOUT POSSIBILITIES

In version 2024, you can display a description text above or below the options of the control.
This allows you to create a more modern, richer UI.

NEW CONTROL: WLANGUAGE CODE EDITOR

232 New feature WD WB WM
NEW "WLANGUAGE CODE EDITOR" CONTROL

The new Code Editor control opens up many possibilities. It allows developer to make tests, or end users to enter formulas or business rules. It can even be used to write user-specific processes.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Customization options right until the end

233 New feature WD WB WM
SECURITY FEATURES IN THE CODE EDITOR CONTROL

For security reasons, the application developer can prevent the use of certain WLanguage functions or function families in this control.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Avoid risks

234 New feature WD WB WM
SYNTAX HIGHLIGHTING

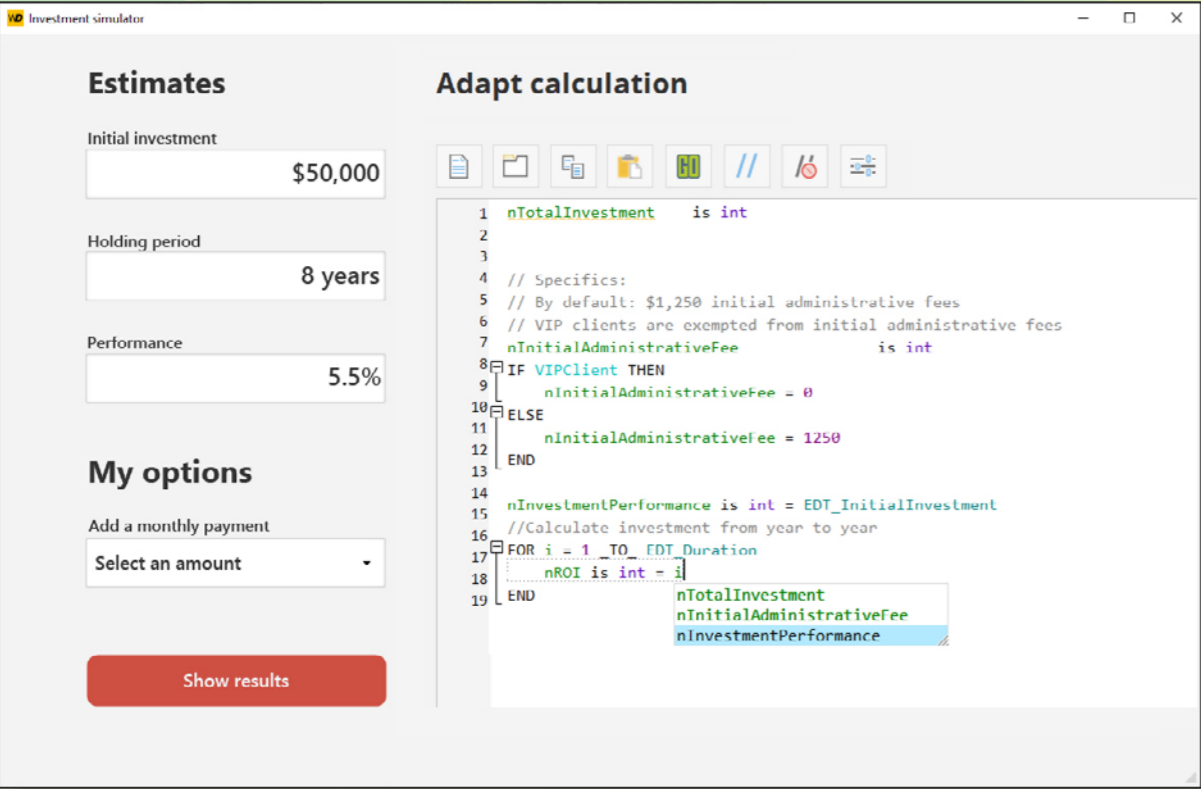The Code Editor control includes syntax highlighting and code completion features.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Readability

235 New feature WD WB WM
DEVOPS: USEFUL CONTROL FOR OPTIMIZATION DURING PRODUCTION STAGE

The Code Editor control makes it easy to fine-tune and test an application in a real use scenario. The actual data can be accessed in the context of the running application.
You can run queries.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Advanced features in the production stage

Investment simulator

Estimates

Initial investment
$50,000

Holding period
8 years

Performance
5.5%

My options

Add a monthly payment
Select an amount

Show results

Adapt calculation

```
1   nTotalInvestment     is int
2
3
4   // Specifics:
5   // By default: $1,250 initial administrative fees
6   // VIP clients are exempted from initial administrative fees
7   nInitialAdministrativeFee            is int
8   IF VIPClient THEN
9       nInitialAdministrativeFee = 0
10  ELSE
11      nInitialAdministrativeFee = 1250
12  END
13
14
15  nInvestmentPerformance is int = EDT_InitialInvestment
16  //Calculate investment from year to year
17  FOR i = 1 _TO_ EDT_Duration
18      nROI is int = i
19  END
            nTotalInvestment
            nInitialAdministrativeFee
            nInvestmentPerformance
```

MULTIPLE ANALYSES IN THE SAME PROJECT

MULTI-DATABASE QUERIES
MULTI-SERVER QUERIES

MULTI-DATABASE QUERIES

236 New feature WD WB WM
USE MULTIPLE ANALYSIS IN THE SAME PROJECT

Developers have often requested the ability to use several analyses (data descriptions) in a single project.
WINDEV 2024 now makes it possible to use 2 or more different analyses in the same project.
This use of multiple analyses can be permanent, or simply one-off, to easily run specific queries.
All the data files from all the analyses support databinding.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More possibilities within a single project

237 New feature WD WB WM
MULTI-DATABASE QUERIES

Another highly anticipated feature is the ability to run queries using the databases from different analyses.
Data can be located on different servers.
Queries can be described in SQL or using commands from the `HRead*` family.
Databinding is available on a multi-database query.
A warning message appears when several analyses have data files with the same name. In this case, you can rename one of the data files. Otherwise, only the data file from the first analysis will be used.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Easier queries

238 New feature WD WB WM
SPLIT YOUR ANALYSES

Another use of this new feature is the ability to split a large analysis into several smaller parts, making it easier to share these analyses between different projects.
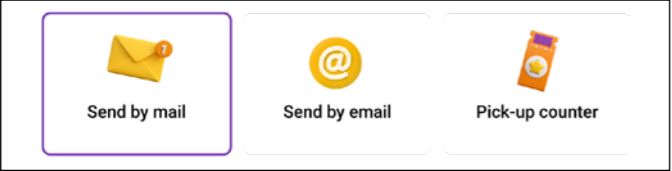
BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Share data more easily

239 New feature WD WB WM
SHARE YOUR ANALYSES USING THE SCM

You can share the various analyses used in a project with other projects, using the SCM.
It's all automatic, no additional actions required.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
*Powerful, yet easy data sharing*

Modern Radio Button control with 3 options

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Bring Radio Button controls to life

240 New feature WD WB WM
BUTTON CONTROL: FIT TO CONTENT

In version 2024, buttons can be automatically resized to fit the text they contain.
This is very useful in the case of text defined programmatically, and in multilingual applications, where text lengths vary.
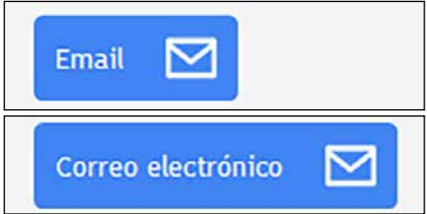
The Button control automatically adapts to the text

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Auto-sizing Button controls

New feature WD WB WM
241 to 244   MISCELLANEOUS

- 2 new events: "**Before applying the skin template**" and "**After aplying the skin template**"
- Dynamic calls to Internal Window procedures
- New event for HTML controls "**Error loading page**"
- The new **Markdown** property allows you to display Markdown content in different types of controls. This property is particularly useful for controls created programmatically.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More powerful controls

WEBDEV SITE IN A WINDEV WINDOW

245 New feature WD WB WM
PASS PARAMETERS

WINDEV windows can integrate WEBDEV pages or websites, and exchange data using native WLanguage procedures.
In version 2024, you can pass structures, arrays and associative arrays.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Extremely useful controls

HELP IN YOUR APPLICATIONS

246 New feature WD WB WM
HELP EDITOR

In version 2024, you can customize the header of your help pages.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Advanced customization

WINDEV ENVIRONMENT

247 New feature WD WB WM
COMMON NEW FEATURES

WINDEV's environment benefits from the common new features in version 2024 (see new features 042 to 058).
These features include: Ability to reorder documents by moving tabs, faster compilation, cleaner UI, multiple inheritance for templates, new automated actions, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
An ever richer environment

WINDOW EDITOR

248 New feature WD WB WM
COMMON NEW FEATURES

The WINDEV window editor benefits from the following new features: Favorite controls, per-pixel alignment, custom skin templates, multiple inheritance for templates, etc.
See new features 014, 052, 054, and 110 to 113.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Powerful new features

249 New feature WD WB WM
TREEVIEW CONTROL: STORED VALUE, STORED ITEM

In version 2024, you can define both stored values and stored items in the 7-tab window of TreeView controls bound to data files.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More precision

250 New feature WD WB WM
SIMPLIFIED UI

The Edit control's mandatory input settings window has been revised and simplified.
The window creation UI has also been improved.
For styles too, version 2024 baosts a simplified, far more intuitive UI.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better workflow

RAD

251 New feature WD WB WM
RAD: TAKE INTO ACCOUNT PROJECTS WITH MULTIPLE ANALYSES

In version 2024, projects can use several analyses.
The RAD tool allows you to select data files from different analyses, and to generate the appropriate processes.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Expand your possibilities

WINDEV PRIVATE STORE

252 New feature WD WB WM
ADD TAGS TO APPLICATIONS AVAILABLE IN THE STORE

In version 2024, the Private Store lets you define tags for each installed application.
These tags enable end users to classify and filter applications: Service name, domain, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better organization

253 New feature WD WB WM
AUTHENTICATION VIA LDAP

You can implement LDAP authentication to access the Private Store using an LDAP directory, or use Active Directory within a given organization.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Centralize authentication methods

254 New feature WD WB WM
INSTALL WITH LIVE UPDATE: RUN IN THE BACKGROUND

Updates for WINDEV applications deployed from a Private Store are now available automatically.
Updates can now be downloaded in the background.
When an update is ready to be installed, a notification is displayed to the end user.
The update can then be installed directly from this notification.
Alternatively, you can show an update prompt when the application is closed or next time it is opened.
This mode can be disabled.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Always up to date

255 New feature WD WB WM
APPLICATION OWNERS

In a Private Store in version 2024, application owners can define multiple settings (private, etc.) without having to contact the administrator.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More flexibility

256 New feature WD WB WM
APPLICATION HISTORY

The Private Store keeps a copy of each version of the available applications.
In version 2024, you can specify the maximum number of versions to be kept.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Avoid overloading the server

257 New feature WD WB WM
APPLICATION DESCRIPTION

The Private Store now shows a description of each available application.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Help users choose the application they need

FLEXBOX IN WINDEV: EXAMPLES

AN ADDITIONAL ADAPTIVE LAYOUT METHOD AVAILABLE IN WINDEV

258 New feature WD WB WM
FLEXBOX OVERVIEW

Flexbox is an adaptive layout method that allows controls to be positioned relative to each other.

Although it is mostly used in web applications, this mode is also used on Windows and mobile devices, for controls with dynamic content (e.g., long text spanning over several lines or translation into several languages), or when a window is resized.

Controls are laid out in rows or columns, according to precise rules which are cumulative.

Positioning is relative rather than pixel-based.

Flexbox can be used on the entire window, or only on a group of controls.

A well-known example is the layout of controls in the Windows 11 settings window.

Benefit of this new feature in version 2024 :
New layout mode
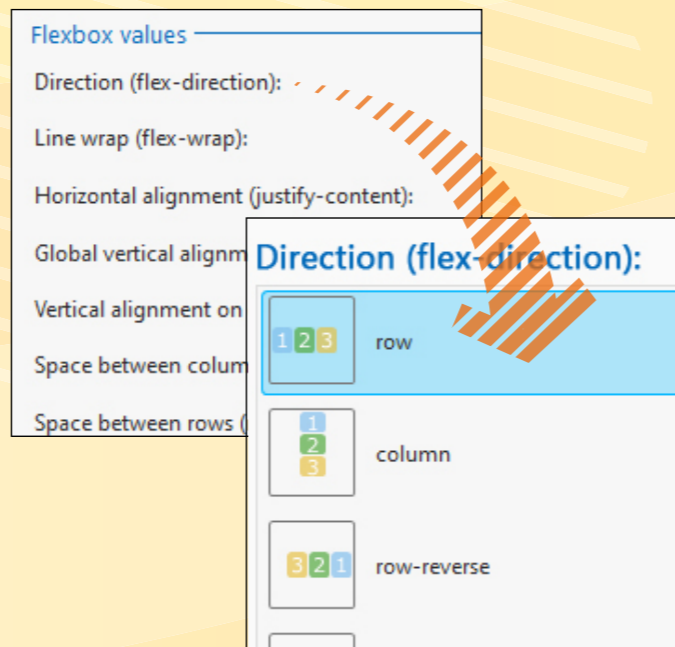
Flexbox rules

259 New feature WD WB WM
AVAILABLE RULES

A Flexbox control acts as a container.

Items (individual controls) are positioned one after another, within a box (Flexbox control).

Key point: In WINDEV, one or more of these individual controls can themselves be Flexbox controls.

First, indicate how controls should be laid out within each box: in rows or columns.

Then, indicate how the controls should react when the box or the other controls are resized: line wrap, grow, shrink, etc.

Apply this method to as many controls as necessary to define their positioning and resizing behavior.

A scrollbar will automatically appear where necessary.

All these rules can easily be defined in the 7-tab window, which includes all layout possibilities.

Benefit of this new feature in version 2024 :
Flexibilty

260 New feature WD WB WM
SPECIFIC USE CASES

Translating text into different languages almost always results in strings with different lengths. The size of buttons changes, and the button that grows pushes the button next to it.

A Flexbox control is the ideal solution to make sure that the buttons remain aligned (e.g., at the lower-right corner of the window), when text is translated and/or when the window is resized.

Buttons remain aligned

Benefit of this new feature in version 2024 :
Preserve the window layout

261 New feature WD WB WM
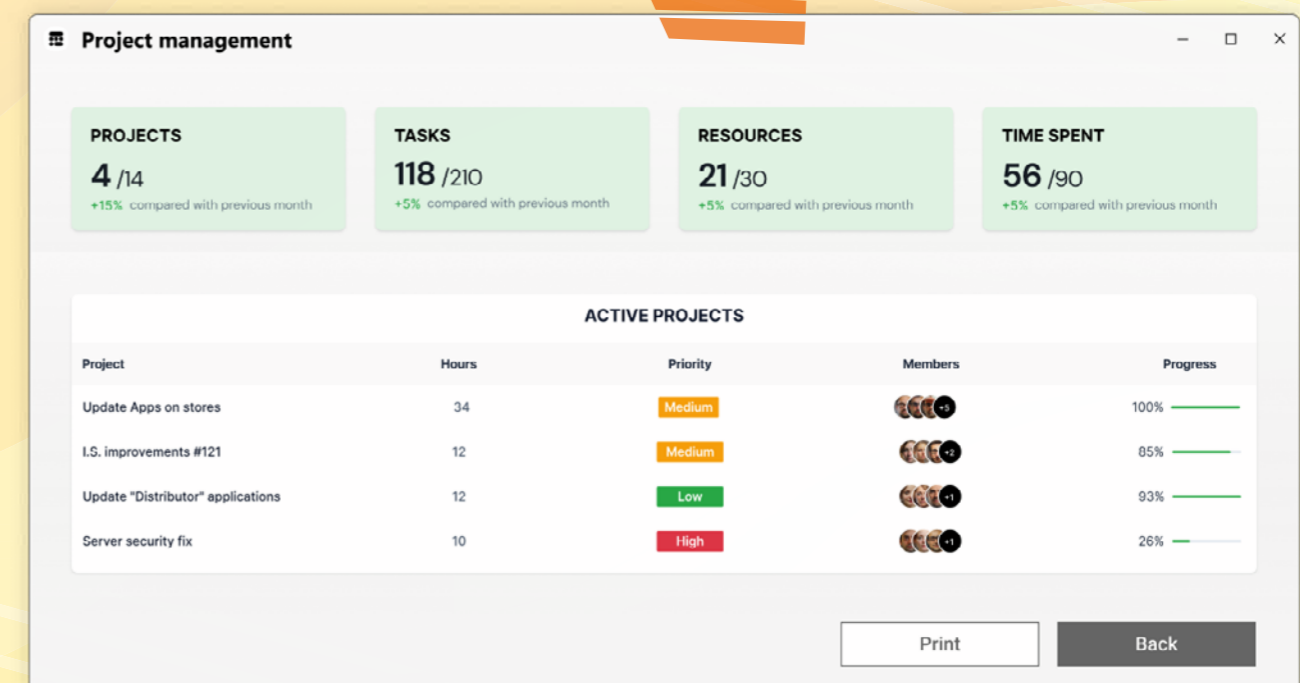### USE FLEXBOX IN AN ENTIRE WINDOW

Using Flexbox to distribute elements in an entire window can solve positioning conflicts that may occur when a window is resized.

Benefit of this new feature in version 2024 :
Automatic layout

In this example, 4 Flexbox controls are used to find the best possible layout

WINDEV TAKES THE CROWN

WINDEV 2024

DEVELOP 10 TIMES FASTER

262
New feature WD WB WM
LIST WEB APPLICATION ADDRESSES IN THE PRIVATE STORE

The Private Store can now list web applications and websites (via their address) used within an organization.
These websites and applications appear in the catalog of the Private Store.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Expand the possibilities of your Private Store

New feature WD WB WM

263 to 266
MISCELLANEOUS

- Help to install the first application
- Ability to copy/paste the overview/install page of an application
- Better management of Administrator passwords
- Password strength checker

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
A more powerful Private Store
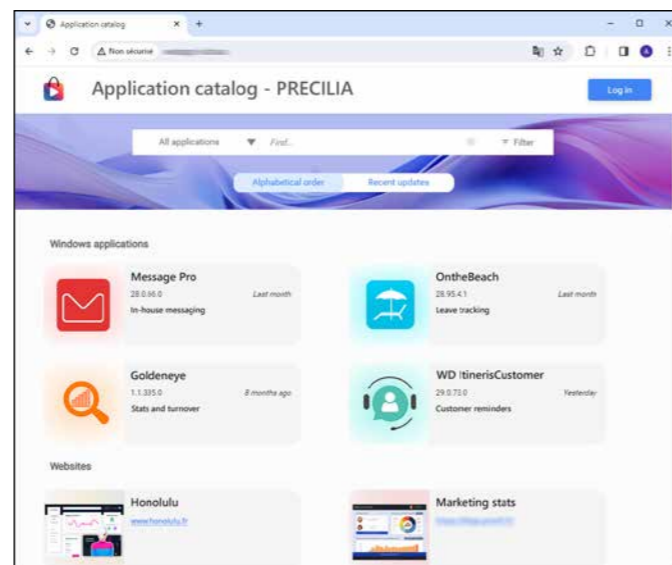
AAF: AUTOMATIC APPLICATION FEATURES

267
New feature WD WB WM
TABLE: ADD A ROW NUMBER COLUMN

"Row number" column added via an AAF

At some point, every user needs to know which row they are on, or the total number of rows in a table.
In version 2024, a new AAF allows users to add a column with row numbers.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Help users identify each row

268
New feature WD WB WM
TABLE: ADD A COUNTER ON ANY TYPE OF COLUMN

As you know, end users have practical AAFs for adding a sum, average or counter to columns with numeric data.
In version 2024, the counter AAF is now available on all column types: text, etc.

Counter at the bottom of a text column

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Automatic counters

269
New feature WD WB WM
MENU OPTION: AUTOMATIC VALIDATION

In version 2024, a new AAF allows you to define a validation timeout for a given option.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More automated actions

270
New feature WD WB WM
MENU OPTION: KEYBOARD SHORTCUT

In version 2024, a new AAF allows you to associate a shortcut key with a menu option.
Pressing this key while in the window will execute the option.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better workflow

271
New feature WD WB WM
SHORTCUT KEY: ENTER

In version 2024, the different AAFs allow you to set the Enter key as keyboard shortcut.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Simple, but extremely useful

272
New feature WD WB WM
CHARTS: SET BOUNDS AND SCALE

A new AAF allows end users to set the bounds and the scale of axes in a chart.
See new feature 025.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Help users avoid blanks in their charts

JAVA

273
New feature WD WB WM
CONTROL TYPE AVAILABLE IN JAVA

In version 2024, the **Control** type is available in Java.
This allows you to perform generic actions on controls in Java.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More programming possibilities

New feature WD WB WM

274 to 277 MISCELLANEOUS

- Properties are now available for controls
- `/=`: operator supported
- Compilation options available for internal components
- Management of `null` values now available

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Useful improvements

New feature WD WB WM

278 to 282 5 NEW JAVA FUNCTIONS

WLanguage offers 5 new functions for Java.

DateToDayOfYear UTFConvert	fChangeExtension	CurrentDay	UTF8Valid

LINUX

New feature WD WB WM

283 LINUX: FLEXBOX AND CELLS

Flexbox and Cell controls are also supported in Linux in version 2024.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better cross-platform

New feature WD WB WM

284 LINUX: MINIMUM VERSIONS

Linux applications generated with WINDEV require specific distributions.
In version 2024, applications require at least the following versions:

- Debian 10
- Ubuntu 22.04.2 LTS,
- OpenSUSE 15.4 (Leap
- CentOS 8 (Stream).

Make sure you use these distributions or later versions to ensure your applications run smoothly and error-free.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better cross-platform

New feature WD WB WM

285 to 337 53 NEW FUNCTIONS 133 NEW LINUX CONSTANTS FOR WINDEV

WLanguage offers 53 new functions and 133 new constants (see online help) for Linux.

WBAdminListApplication	AdminWBSupprimeApplication	Germany.CheckTaxNumber	Belgium.CheckTaxNumber
BitcoinDateLastBlock	BitcoinNumberBlock	BitcoinConfigure	BitcoinNumberHasPerSecond
Brazil.CheckTaxNumber	Canada.CheckTaxNumber	DateToDayOfYear	DNSQuery
Spain.CheckTaxNumber	UnitedStates.CheckTaxNumber	ShapeArea	ShapeContain
ShapeCorrect	ShapeCover	ShapeDifference	ShapeSymmetricDifference
ShapeConvexHull	ShapeWithin	ShapeCoveredBy	ShapeIsValid
ShapeIntersect	ShapeIntersection	ShapePerimeter	ShapeSerializeDSV
ShapeSerializeWKT	ShapeTouch	ShapeUnion	France.CheckTaxNumber
gpwListUser	grColumnBarType	grWaffleSize	grWaffleTypeCell
HInfoItemRights	HListTrackedFiles	HModifyItemRights	HOpenComplementaryAnalysis
HQueryExecuted	HRSIgnoreError	HDataSourceKnown	Italy.CheckTaxNumber
CurrentDay	Linestring2DAddPoint	LinestringGeoAddPoint	RedisDisconnect
Switzerland.CheckTaxNumber	ArrayToParameters	UTF8Valid	xlsCoordinatesToName
xlsNameToCoordinates			

Each upgrade to version 2024 enables you to send 15 requests to PC SOFT's Free Technical Support.
In version 2024, your teams benefit from Free Technical Support!*

UNIQUE SERVICE
PEACE OF MIND...

2024

DOTNET

New feature WD WB WM

338 .NET 8 SUPPORT

.NET 8 is now supported.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Keep up with the latest framework

New feature WD WB WM

339 NULLABLE VARIABLES IN .NET

`Nullable` variables are now supported in calls to .Net assemblies.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Cross-platform

WLANGUAGE

New feature WD WB WM

340 COMMON NEW FEATURES

Language remains the cornerstone of development.

In WINDEV 2024, WLanguage is further enriched.
It benefits from common new features and many useful improvements: management of null values, immutability, ability to add custom functions to controls, drive access functions, RAR5, JWT, DNS queries, new operators, etc.
See new features 094 to 137.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Ever-increasing power in WLanguage

New feature WD WB WM

341 164 NEW CONSTANTS

164 new WLanguage constants are available in version 2024:

adminWBTypeWebSocket	adminWBTypeRESTWebservice	adminWBTypeRESTWebservice	adminWBTypeSite
apiBoolean_1	asECDSA_SHA_224	asECDSA_SHA_256	asECDSA_SHA_384
asECDSA_SHA_512	asRSA_SHA_384	asRSA_SHA_512	auDigest
auNTLM	authDefault	authPKCE	authPKCE
WLCodeFormatText	WLCodeFormatUpperCase	WLCodeFormatHTML	WLCodeFormatHTML
WLCodeGrayTheme	WLCodeDarkTheme	WLCodeFormatLowerCase	WLCodeLightTheme
dnsCNAME	dnsDNAME	dnsA	dnsAAAA
dnsNS	dnsPTR	dnsMX	dnsNAPTR
dnsTLSA	dnsTXT	dnsSOA	dnsSRV
emailSessionIgnoreInvalid	emailSessionIgnoreInvalidName	emailProtocoleTLS	emailSessionIgnoreExpired
encodingBaltic	encodingChinese	emailIgnoreRevocation	encodingArabic
encodingKoreanJohab	encodingCyrillic	encodingTraditionalChinese	encodingKorean
encodingHebrew	encodingJapanese	encodingCentralEuropean	encodingGreek
encodingThai	encodingTurkish	encoding	encodingSystemDefault
aafAutoFilterOnKeystroke	aafFindBarAppearance	encodingUTF8	encodingVietnamese
swBottom	swDisabled	aafFindDialogAppearance	swFitToContent
swInvisible	swCollapsed	swExpanded	swHalfExpanded
nfaRight	nfaLeft	swSysMedium	swVisible
nfmExponential	nfnHexadecimal	nfnBinary	nfnDecimal
nfsMinusIfNegative	nfsParenthesesIfNegative	nfnOctal	nfpAuto
		nfsAlways	ftpConfigureReuseConnection

grTooltipFormatWaffle	grColumnRoundedCorners	grColumnSharpCorners	grWaffle
grWaffleCellSquare	grWaffleCellRoundedSquare	grWaffleCellCircle	grWaffleCellRectangle
grWaffleCellRoundedRectangle	hBackupPath	hRightsUnmask	hServerLanguage
hItemShape	hItemMultiPoint2D	hItemMultiPointGeo	hItemMultiPolygon2D
hItemMultiPolygonGeo	hItemMultiLinestring2D	hItemMultiLinestringGeo	hItemPoint2D
hItemPointGeo	hItemPolygon2D	hItemPolygonGeo	hItemLinestring2D
hItemLinestringGeo	httpTraceInfo	httpTraceInfo	hItemLinestringGeo
mqttIgnoreExpiredCertificate	mqttIgnoreInvalidCertificate	mqttIgnoreInvalidCertificateName	mqttIgnoreRevocation
sysNativeProcessor	stInvalid	stMultiPoint2D	stMultiPointGeo
stMultiPolygon2D	stMultiPolygonGeo	stMultiLinestring2D	stMultiLinestringGeo
stfPoint2D	stPointGeo	stPolygon2D	stPolygonGeo
stLinestring2D	stLinestringGeo	trConsole	trtAfterChangingSkinTemplate
trtBeforeChangingSkinTemplate	trtClickButtonEditControlRight	trtClickButtonEditControlLeft	trtErrorLoadingHTMLPage
typCell	typeDocElementCheckBoxControl	mimeTypeCSV	mimeTypeGglAppsScript
mimeTypeGglDocs	mimeTypeGglDrawings	mimeTypeGglSheets	mimeTypeGglSlides
mimeTypeODP	mimeTypeODS	mimeTypeODT	mimeTypePPTX
mimeTypeSVG	mimeTypeRichText	mimeTypeTSV	typFlexbox
gtaNone	gtaControlgtaDefault	gtaNextStep	
gtaEnd	gtPreviousStep	gtNextStep	gtsCircle
gtsRectangle	gtsRoundedRectangle	gtInfoDate	gtInfoCount
gtInfoVersion	gttNone	gttHalo	gttDDW

New feature WD WB WM

342 to 364 23 NEW TYPES

23 new types of variables are available in WLanguage:

docElementCheckBox	dpDrive	Drive	GglFile
DSVFormat	Shape	gglDrive	JWTParameters
MultiPoint2D	MultiPointGeo	MultiPolygon2D	MultiPolygoneGeo
MultiLinestring2D	MultiLinestringGeo	oDrive	Point2D
PointGeo	Polygon2D	PolygoneGeo	Linestring2D
LinestringGeo	GuidedTour	GuidedTourStep	

New feature WD WB WM

365 to 371 7 NEW CONTROL PROPERTIES

7 new WLanguage properties are available for WINDEV.

RightButton	LeftButtonCalcInProgress	IntervalX
IntervalY	IntervalYSecondaryAxis	ActivePlane

New feature WD WB WM

372 to 477 106 NEW WLANGUAGE FUNCTIONS FOR WINDEV

106 new WLanguage functions are available for WINDEV in version 2024:

WBAdminListApplication	Returns the list of WEBDEV applications on an application server, for a given account, and for a given type.
WBAdminDeleteApplication	Deletes an application from the WEBDEV application server.
Germany.CheckTaxNumber	Checks the validity of a tax number in Germany.
AuthImportToken	Creates a webservice access token from a token description in JSON format.
Belgium.CheckTaxNumber	Checks the validity of a tax number in Belgium.
BitcoinDateLastBlock	Returns the creation date of the last block.
BitcoinNombreBlock	Returns the size of the blockchain, i.e. the number of blocks since January 3, 2009.
BitcoinHashPerSecond	Returns the number of times the SHA256 function had to be calculated per second in order to calculate the last block.
BitcoinParameter	Specifies the RPC connection parameters to the Bitcoin server.
Brazil.CheckTaxNumber	Checks the validity of a tax number in Brazil.
Canada.CheckTaxNumber	Checks the validity of a tax number in Canada.
WLanguageCodeGetCSSDeclarations	Returns the CSS style sheet corresponding to a theme in the WLAN-GUAGE code.
WLanguageCodeFormat	Formats WLanguage code: coloring, normalized rewriting, indenta-

2024

	tion, translation.
DateToDayOfYear	Returns the number of the day in the year corresponding to the date passed in parameter.
DNSQuery	Sends a query of the type specified to a DNS server.
dpDriveConnect	Creates a connection to a DropBox drive.
DriveCopyFile	Copies a single file from the remote drive to another folder on the remote drive.
DriveCopyDirectory	Copies a directory on the remote drive to another directory on the remote drive.
DriveCreateFile	Creates a file on the remote disk.
DriveCreateDirectory	Creates a folder on the remote drive.
DriveMoveFile	Moves a file from one directory to another on a remote disk.
DriveMoveDirectory	Moves a directory and its contents to another directory on a remote disk.
DriveUploadFile	Sends a file (present on the user's machine) to a remote disk.
DriveUploadDirectory	Sends a directory (present on the user's machine) to a remote disk.
DriveListFile	Lists files in a drive directory.
DriveListFileGgl	Lists files from the Google suite (Google Docs, Google Spread-Sheets, etc.).
DriveListDirectory	Lists the sub-directories of a directory.
DriveDownloadFile	Retrieves a file from a remote disk and saves it on the user's workstation.
DriveDownloadGglFile	Retrieves a Google document from a Google Drive in the desired compatible format.
DriveDownloadDirectory	Retrieves all files and folders on a remote drive and saves them on the user's workstation.
DriveRename	Renames a file or directory on a remote drive.
DriveDeleteFile	Deletes a file from a remote drive.
DriveDeleteDirectory	Deletes a folder on the remote drive.
CodeEditorComment	Comments the current selection in the Code Editor control.
CodeEditorCompile	Compiles and displays potential code errors in the Code Editor control.
CodeEditorUncomment	Uncomments the current selection in the Code Editor control.
CodeEditorDuplicateLine	Duplicates the current line in the Code Editor control.
CodeEditorExecute	Executes code in Code Editor control.
CodeEditorManageFunction	Manages functions available for the Code Editor control.
CodeEditorInsert	Inserts text in Code Editor control.
CodeEditorOpen	Opens WLanguage code from a file.
CodeEditorSearch	Searches for text in the Code Editor control.
CodeEditorGetError	Gets an error, if any, from the code in the Code Editor control.
CodeEditorReplace	Replaces text in Code Editor control.
CodeEditorSave	Saves the contents of the Code Editor control.
CodeEditorDeleteAll	Deletes the contents of the Code Editor control.
InGuidedTourMode	Indicates whether a guided tour is in progress.
Spain.CheckTaxNumber	Checks the validity of a tax number in Spain.
UnitedStates.CheckTaxNumber	Checks the validity of a tax number in the United States.
ShapeArea	Calculates the area of a given shape.
ShapeContain	Determines whether shape A contains shape B (shape B is completely contained within shape A).
ShapeCorrect	Corrects the shape passed as a parameter, to ensure that it complies with the OGC standard.
ShapeCover	Determines whether any point in shape B is inside or inside the outline of shape A.
ShapeDifference	Calculates the difference between two shapes.
ShapeSymmetricDifference	Calculates the symmetrical difference between two shapes.
ShapeConvexHull	Calculates the convex envelope of the specified shape.
ShapeWithin	Determines whether shape A is completely contained within shape B.
ShapeCoveredBy	Determines whether any point of shape A is inside or inside the contour of shape B.
ShapeIsValid	Checks whether the shape passed as a parameter is valid according to the OGC standard.
ShapeIntersect	Checks whether two shapes have a non-empty intersection.
ShapeIntersection	Calculates the intersection between two shapes.
ShapePerimeter	Calculates the perimeter of a given shape.
ShapeSerializeDSV	Serializes a geometric shape using the specified DSV format.

ShapeSerializeWKT	Serializes geometry in Well Known Text (WKT) format.
ShapeTouch	Determines whether two shapes *touch*, in the OGC sense of the term.
ShapeUnion	Calculates the union of two shapes.
France.CheckTaxNumber	Checks the validity of a French tax number.
GglDriveConnect	Creates a connection to a Google Drive.
gpwlListUser	Retrieves the user list of the User Groupware.
grColumnBarType	Defines the type of bar to be used in a histogram.
grWaffleSize	Defines the number of rows and columns in a Waffle graph.
grWaffleTypeCell	Defines the shape of a portion of a Waffle graph.
HInfoItemRights	Allows you to find out the rights granted to an item.
HListTrackedFiles	Returns the list of files monitored by the HTrack function.
HModifyItemRights	Modifies the rights granted on an HFSQL server for an item.
HOpenComplementaryAnalysis	Opens a new analysis.
HQueryExecuted	Determines whether a query has been executed.
HRSIgnoreError	Ignores errors so that replication can continue.
HDataSourceKnown	Determines whether a data source has been initialized.
Italy.CheckTaxNumber	Checks the validity of a tax number in Italy.
CurrentDay	Returns the current day of the current month.
MarkdownLink	Returns a markdown string that generates a link to a WLanguage procedure.
NotifPushSendSubscriber	Sends a (remote) push notification to subscribers of a topic to an Android mobile device.
oDriveConnect	Creates a connection to OneDrive.
PDFSign	Applies an approval signature to an existing PDF.
Linestring2DAddPoint	Adds a new point to a 2D polyline.
LinestringGeoAddPoint	Adds a new point to a geographic polyline.
RedisDisconnect	Closes the connection to a Redis server (or a Redis cluster).
SaaSChangePassword	Changes the password of the connected user.
SaaSConnect	Authenticates a user of a SaaS site beside the SaaS web service that manages the site.
SaaSClientConnection	Returns the characteristics of the connection to the client database.
SaaSDisconnect	Disconnect the user of a SaaS site beside the SaaS web service that manages the site.
SaaSWriteSiteParameter	Saves a specific information for a SaaS site in the configuration of a client account.
SaaSIsConnected	Defines whether the connection to the SaaS web service is still established.
SaaSReadSiteParameter	Reads an information specific to the client for the current SaaS site.
SaaSConnectedUser	Returns the user who is currently connected via SaaSConnect.
SaaSCheckService	Checks the access rights of the user to a service of SaaS site.
Switzerland.CheckTaxNumber	Checks the validity of a tax number in Switzerland.
ArrayToParameters	Converts an array of elements into a list of parameters.
PVTCalculateUpdateAsynchronous	Updates (without blocking) part of the data in a PivotTable control from a date.
PVTCalculateAllAsynchronous	Fully calculates or recalculates a PivotTable control without blocking.
UTF8Valid	Checks the validity of a string in UTF-8 format.
GuidedTourStop	Stops the current guided tour.
GuidedTourChangeStep	Changes the step of the guided tour.
GuidedTourStart	Displays the guided tour.
GuidedTourInfo	Returns information about the guided tour.

WIN**DEV**®
Mobile

And more in WINDEV Mobile...

478

New feature WD WB WM

THE 215 COMMON NEW FEATURES OF VERSION 2024 ARE AVAILABLE IN WINDEV MOBILE

WINDEV Mobile 2024

gets the common new features of version 2024, including the new Smart controls, higher speeds, interactive Guided Tour, Figma import, improvements of the environment and the code editor, new signatures, DocuSign, new WLanguage elements, new features in HFSQL, spatial data, etc.

WINDEV Mobile 2024 also boasts many new features specific to mobile development. Learn more in the following pages.

BOTTOM SLIDING WINDOW
MODERN MOBILE UX:
SHOW SECONDARY CONTENT FROM THE BOTTOM OF THE SCREEN

479 New feature WD WB WM
NEW BOTTOM SLIDING WINDOW

WINDEV Mobile 2024 features a new window display mode: Bottom Sliding Window. This window opens from the bottom of the screen.

This mode allows you to display only some content in a collapsed window, so that the user can expand it by sliding it towards the top of the screen. This type of window can be used, for example to display more detailed information, or to allow user input.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
New automatic window display mode

The new `WinSlidingVisible` function and the `MyBottomSlidingWindow` keyword are now available.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024:
Practicality

480 New feature WD WB WM
3 SIZES: COLLAPSED, HALF-EXPANDED, EXPANDED

The bottom sliding window has 3 possible sizes. Each size can be configured.
The window can be resized by the user, or programmatically. There are 3 available modes:
- Collapsed: Compact window
- Half expanded: Medium-sized window
- Expanded: Full-size window, with all the content

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Highly anticipated feature

481 New feature WD WB WM
HOW TO CREATE A BOTTOM SLIDING WINDOW

Bottom sliding windows can be created just like standard internal windows.
To enlarge this internal window, there are 2 possible methods:
- anchors, for simple cases
- layouts, for advanced UIs: additional controls, etc.

Bottom sliding windows have 3 options:
- modal or modeless: determines if the user can still interact with the main window
- "dismiss": the sliding window collapses or closes if the user taps the main window
- rounded corners

Open a window from the bottom of the screen.

Here, the window uses a dark background.

FLEXBOX ON MOBILE APPS

482 New feature WD WB WM
DYNAMIC CONTENT MADE EASY WITH FLEXBOX

In addition to managing the dynamic content of a window, a major constraint on mobile devices is the need to adapt the UI to different screen sizes and resolutions.
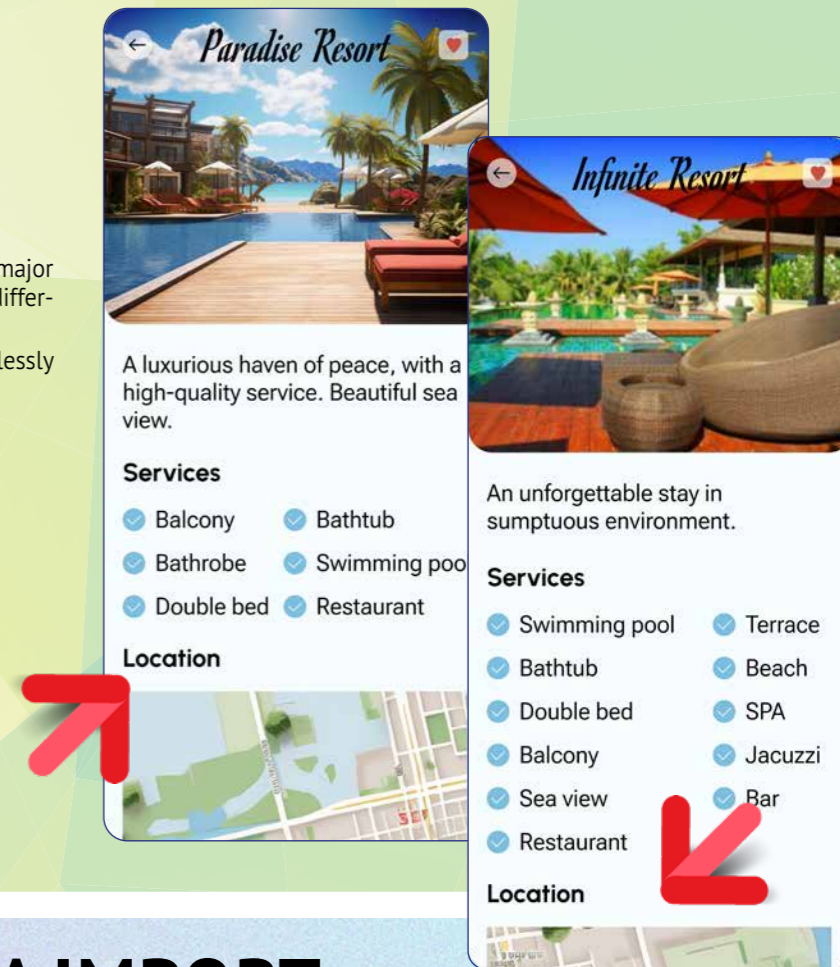With the Flexbox control in WINDEV Mobile, you can effortlessly meet all these requirements.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Adaptability

483 New feature WD WB WM
FLEXBOX: STANDARD BEHAVIOR

Flexbox controls react in the same way across WINDEV, WEBDEV and WINDEV Mobile.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
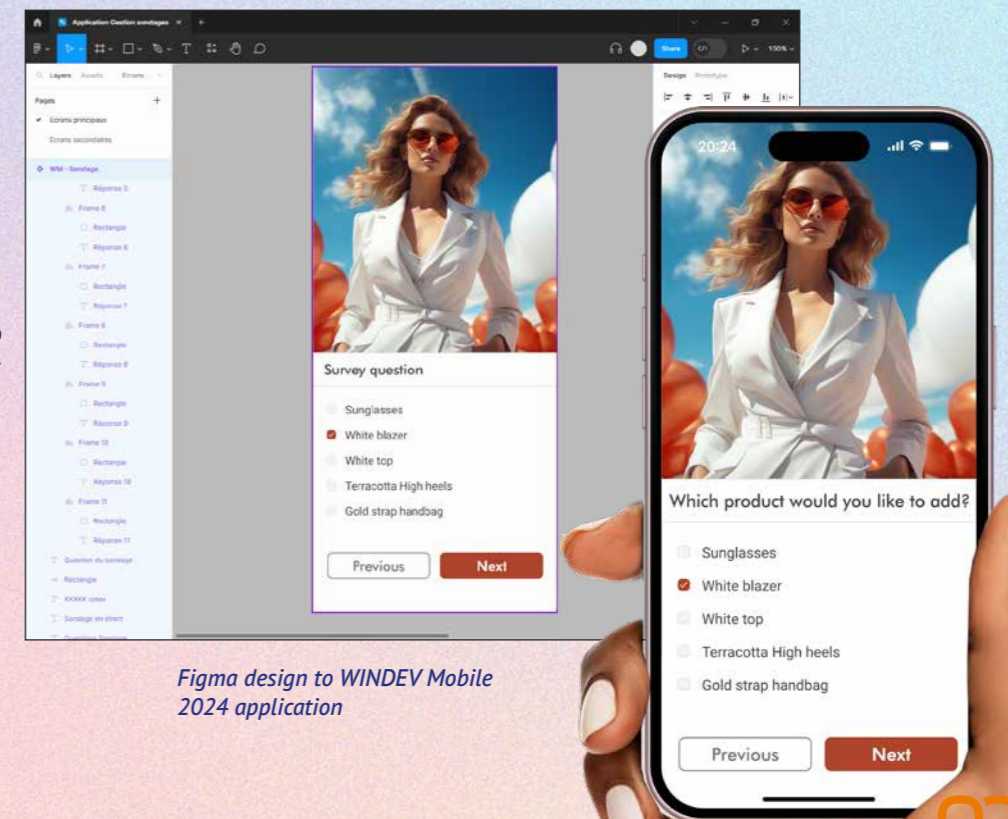*Portability*

FIGMA IMPORT

484 New feature WD WB WM
FIGMA IMPORT

In version 2024 , you can also transform Figma designs into WINDEV Mobile windows.
See new feature 043.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
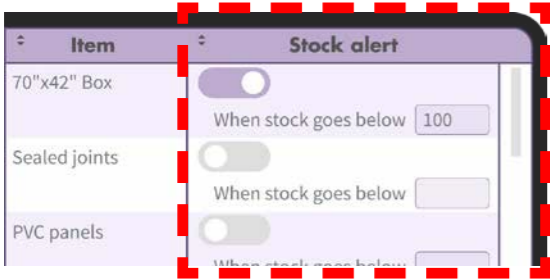*Easily retrieve resources from graphic designers*

Figma design to WINDEV Mobile 2024 application

NEW CONTROLS

WINDEV Mobile 2024 offers new types of controls to create even better UIs.

485 New feature WD WB **WM**
TABLE CONTROL FOR MOBILE: CONTAINER COLUMN

In version 2024, the Table control in mobile windows can include container columns.

Container column in a table on a mobile device

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
A new tool to create custom layouts

486 New feature WD WB **WM**
NEW CELL CONTROL FOR MOBILE

The Cell control is now available in WINDEV Mobile.
This control allows you to group other controls together, then perform all sorts of operations on the entire group as a single control:
• positioning
• flexbox layout
• programming
• decoration

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
One control to simplify the UI creation process

487 New feature WD WB **WM**
MISCELLANEOUS

• TreeView Table: You can now define column title-headers

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Less actions

2 NEW SMART COTROLS IN WINDEV MOBILE 2024

488 New feature WD WB **WM**
2 NEW SMART CONTROLS IN WINDEV MOBILE 2024

2 new Smart controls are available in WINDEV Mobile 2024:
• Sliding cards
• Numeric input with slider

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Create windows in less time

489 New feature WD WB **WM**
NEW SMART CONTROL: SLIDING CARDS

The "Sliding Cards" Smart control allows users to slide through different cards using touch gestures.
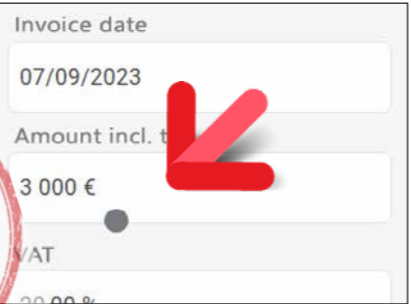Here, a card is a fully customizable set of controls.
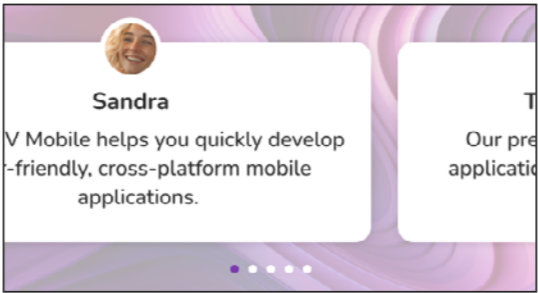
One card can contain controls and images

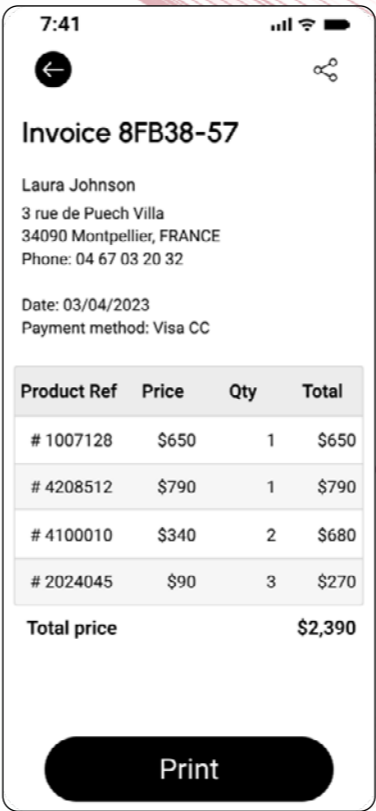BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Modern UI

490 New feature WD WB **WM**
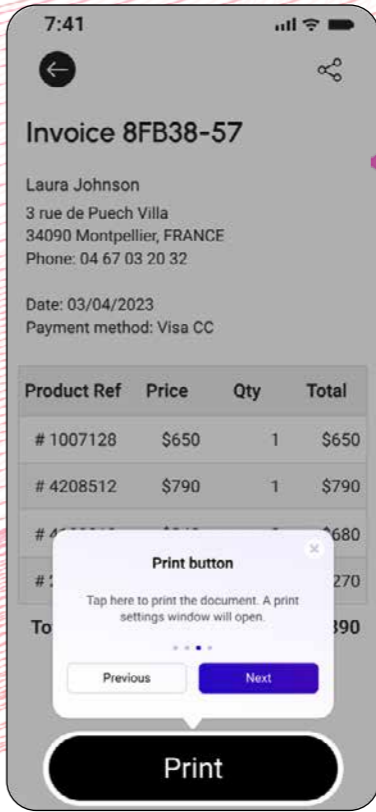**NEW SMART CONTROL: NUMERIC INPUT WITH SLIDER**

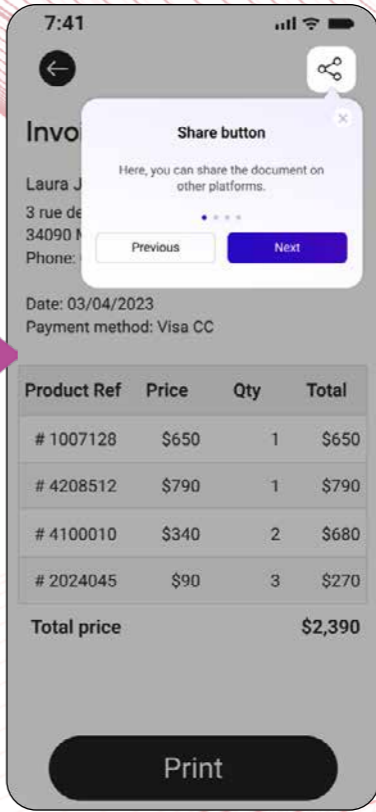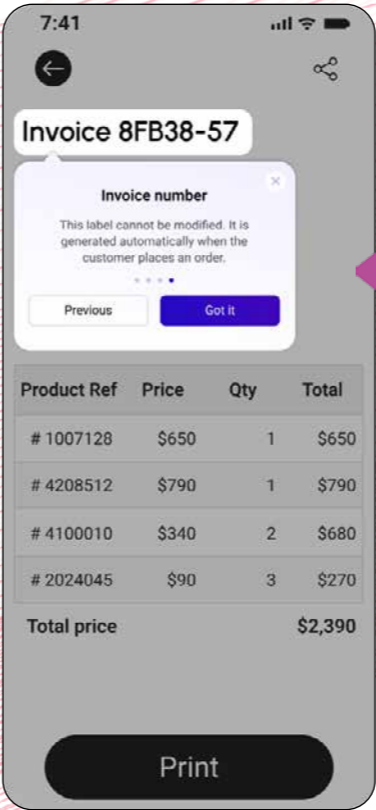*Slide the cursor to adjust the value*
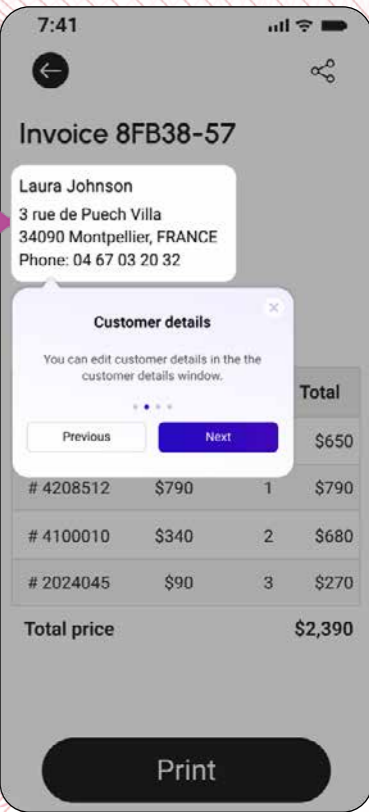
GUIDED TOUR ON MOBILE APPS

Example of a series of steps the user will follow to discover an application

491 New feature WD WB **WM**
GUIDED TOUR IN MOBILE APPS

In version 2024, you can create Guided Tours and Walkthroughs specifically for mobile apps.
Help users make the most of your app.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Interoperability

492 New feature WD WB **WM**
WIDE RANGE OF STYLES

There are many preset styles you can apply to a Guided Tour.
You can also create your own styles.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
*User onboarding exactly how you want it*

The "Numeric input with Slider" Smart control is available for mobile applications.
End users can move the cursor to adjust a value.
You can configure the bounds of the control.
End users can still enter the value directly in the input area.
The design of the control has been adapted to mobile devices.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Prevent typing errors

OTHER COMMON NEW FEATURES FOR IOS/ANDROID

493
New feature WD WB **WM**
HOLD AN APPLICATION ICON TO OPEN A MENU

Users can tap and hold an application icon to open a menu.
In version 2024, you can add your own options, including the text you want to show and the procedure to be called.
You can run an action from the icon in the home screen, for example, send a preset message to a given contact.
The new **QuickAction** type and the **QuickActionxxx** functions make programming easier.
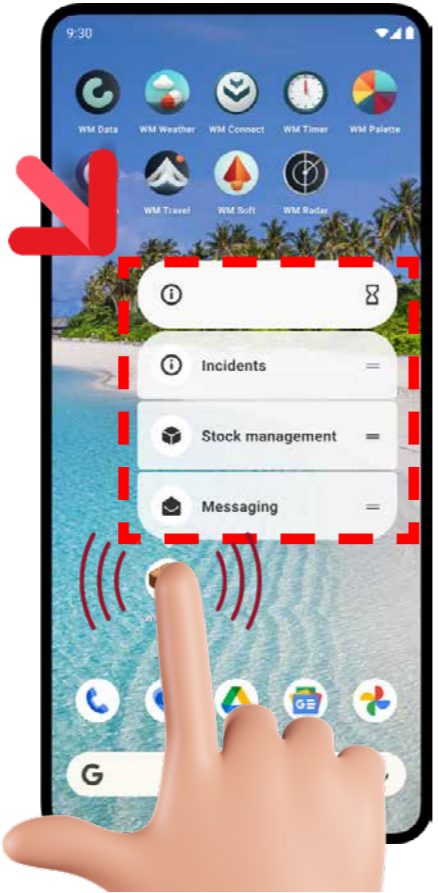
Users can hold an app icon to open a menu

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Run actions without opening the application

EASILY TRANSFORM YOUR WINDEV APPLICATIONS INTO IOS & ANDROID APPLICATIONS

WINDEV APPLICATION

494
New feature WD WB **WM**
SEAMLESS TRANSITION TO MOBILE APPS

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.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Easily transform your WINDEV applications into mobile applications

WINDEV MOBILE APPLICATION

495
New feature WD WB **WM**
NEW SKIN TEMPLATE FOR MOBILE APPS

The "Black & White" skin template for mobile applications is now available in version 2024: Give your applications an elegant and cohesive look with a few clicks.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
New looks for your apps
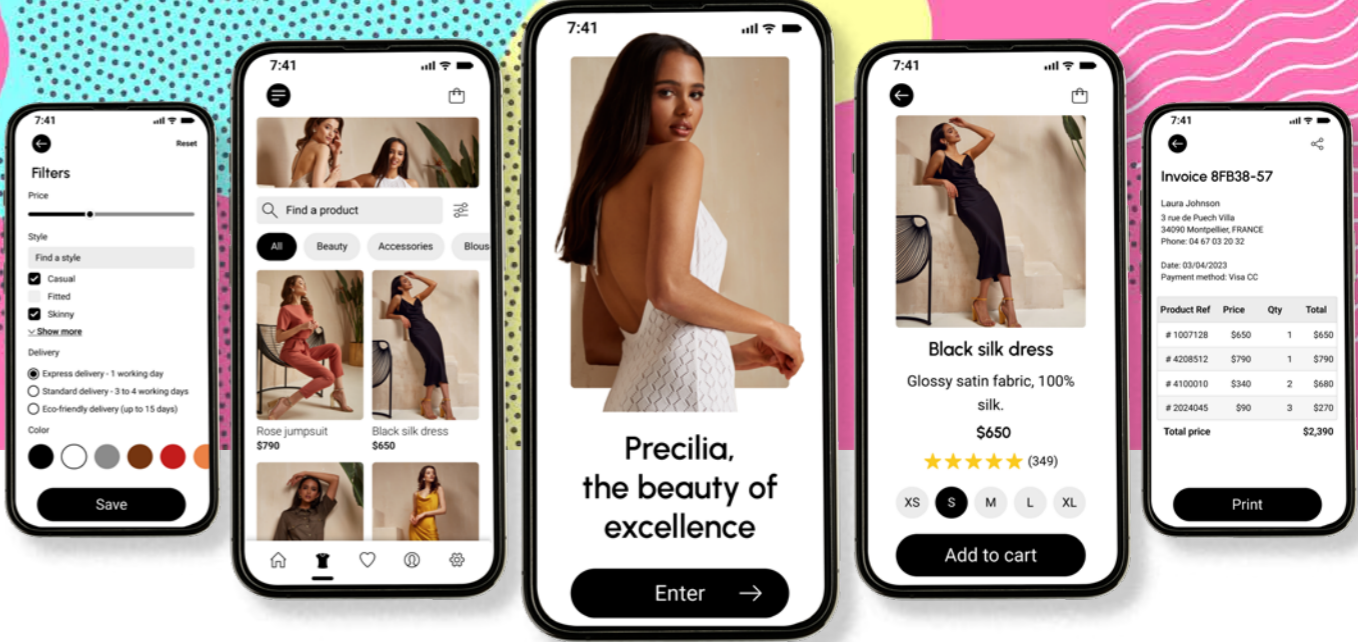
494 New feature WD WB WM
MODERN CHARTS

The default style of Column charts has been revamped in version 2024.
Wow users with modern, sleek charts.

Benefit of this new feature in version 2024 :
Data has never looked this good

497 New feature WD WB WM
ELECTRONIC SIGNATURE

Inversion 2024, DocuSign electronic signature functions are also available for mobile applications.
This opens up a wide range of possibilities.
See new features 026 to 033.

Benefit of this new feature in version 2024 :
Less paper

498 New feature WD WB WM
ONEDRIVE, GOOGLE DRIVE, DROPBOX

In version 2024, new WLanguage functions allow you to handle files from OneDrive, Google Drive and Dropbox.
See new feature 099.

Benefit of this new feature in version 2024 :
Data access on mobile devices

499 New feature WD WB WM
HFSQL MOBILE: SPATIAL DATA

In version 2024, HFSQL Mobile supports spatial (GPS) data.
A simple SQL query on an HFSQL database, for example, can be used to find the nearest charging stations (and much more).
See new features 187 to 193.

Benefit of this new feature in version 2024 :
Extremely useful data on mobile devices

WINDEV MOBILE IN THE WINDEV EDITOR

500 WD WB WM
REMINDER: OPEN AND HANDLE WINDEV MOBILE PROJECTS IN WINDEV

To make cross-plateform development easier, WINDEV can open WINDEV Mobile and WEBDEV projects.
This avoids duplicating code and objects and performing unnecessary operations. Objects are shared immediately.
The same project in WINDEV can contain WINDEV, iOS and Android configurations (and even WEBDEV configurations).

Note: a WINDEV Mobile (and/or WEBDEV) license is required

ACCESSIBILITY ON MOBILE DEVICES
SCREEN READERS & ACTIONS
FOR USERS WITH VISUAL IMPAIRMENTS

501 New feature WD WB WM
SCREEN READER: VOICEOVER AND TALKBACK FEATURES

On smartphones and tablets, there is an operating mode designed for visually impaired and blind users.
This mode is called TalkBack on Android and VoiceOver on iOS.
WINDEV Mobile 2024 enables you to use these modes.
By default, each control now includes a generic description.
You can customize this description where necessary.

Accessibillity features in the 7-tab window

The generic description is the default label or hint text of the Edit control. You can edit this description either via the different options of the 7-tab window, or using the new `..Accessibility..Description`, `..Accessibility..DecorativeContent`, `..Accessibility..ReadOrder` properties.

Benefit of this new feature in version 2024 :
Customize alternative text

502 New feature WD WB WM
INTERACTIVITY

This accessibility mode also allows users to interact with the application via specific standard gestures:
- simple tap to select and read the content of a control,
- double tap to perform the action,
- scroll with 2 or 3 fingers, etc.

In this accessibility mode, entering an Edit control activates the microphone of the device (automatically or with a tap) and enables the user to dictate text, which is then filled in by the speech recognition algorithm.

Benefit of this new feature in version 2024 :
Enable users to enter data by using speech recognition

503 New feature WD WB WM
ADVANCED OPTIONS

The accessibility mode allows you to:
- define a control as "decorative content" so that it is not read aloud
- define text programmatically to be read at runtime
- Indicate the possible actions on a control
- specify the order in which controls should be read
- avoid playing animations.

Benefit of this new feature in version 2024 :
Advanced features

504 New feature WD WB WM
MISCELLANEOUS

Regardless of the options enabled programmatically or in the 7-tab window, WINDEV Mobile applications support the following options in and Android iOS:
Android: Magnification, bold text, high-contrast text, color inversion.
On iOS, color filters are supported.

Benefit of this new feature in version 2024 :
Essential accessibility features supported

AND FOR IOS

505
New feature WD WB **WM**
**ALL THE COMMON
NEW FEATURES FOR MOBILE APPS**

iOS development has never been as powerful as with WINDEV Mobile 2024. Add new powerful features to your arsenal.
iOS evolves, and so does WINDEV Mobile.
WINDEV Mobile 2024 for iOS benefits from:
- the common new features in version 2024
- ***plus*** the common new features for mobile devices
- ***plus*** new features specific to iOS.

506
New feature WD WB **WM**
IOS 17, IPHONE 15, WATCH SERIES 9

iPhone 15 and Apple Watch Series 9

WINDEV Mobile 2024 supports both iOS 17 and WatchOS 10.
All iPhone 15, AppleWatch Series 9 and Ultra 2 models are supported.

Benefit of this new feature in version 2024:
Enjoy all the features of iOS 17

507
New feature WD WB **WM**
WLANGUAGE: XML SIGNATURES XML

XML signatures are now available for iOS.

Benefit of this new feature in version 2024:
Better cross-platform

508
New feature WD WB **WM**
OBJECTIVE C

WINDEV Mobile also supports Objective C.
It is now possible to provide the method implementation to be added to the `AppDelegate` class.

Benefit of this new feature in version 2024:
Fine programming

509
New feature WD WB **WM**
IOS MISCELLANEOUS

- WINDEV Mobile applications run on iOS 15 and higher. iOS 15 is supported on iPhone SE, 6s and later models.

Benefit of this new feature in version 2024:
Up to date with the latest versions

510 TO 531
New feature WD WB **WM**
22 NEW TYPES

22 new types of variables are available for iOS:

QuickAction	Drive	GglFile	DSV Format
NumericFormat	Shape	gglDrive	JWTParameters
MultiPoint2D	MultiPointGeo	MultiPolygon2D	MultiPolygonGeo
MultiLinestring2D	MultiLinestringGeo	Point2D	PointGeo
Polygon2D	PolygonGeo	Linestring2D	LinestringGeo
GuidedTour	GuidedTourStep		

Benefit of this new feature in version 2024:
More and more power in WLanguage

532 to 617
New feature WD WB **WM**
86 NEW WLANGUAGE FUNCTIONS FOR IOS, 31 CONSTANTS

WLanguage is enriched with 86 new functions for iOS, as well as 31 new constants, 1 property and 48 functions for iOS widgets (see full list on windev.com).

QuickActionAdd	QuickActionList	QuickActionRemove	QuickActionRemoveAll
DisplayLicense	Germany.CheckTaxNumber	AuthImportToken	Belgium.CheckTaxNumber
Brazil.CheckTaxNumber	Canada.CheckTaxNumber	DateTimeTimeZoneToLocal	DateTimeLocalToTimeZone
DateToDayOfYear	diffApply	diffCreate	DNSQuery
DriveCopyFile	DriveCopyDirectory	DriveCreateFile	DriveCreateDirectory
DriveMoveFile	DriveMoveDirectory	DriveUploadFile	DriveUploadDirectory
DriveListFile	DriveListFileGgl	DriveListDirectory	DriveDownloadFile
DriveDownloadGglFile	DriveDownloadDirectory	DriveRename	DriveDeleteFile
DriveDeleteDirectory	InGuidedTourMode	Spain.CheckTaxNumber	UnitedStates.CheckTaxNumber
ShapeArea	ShapeContain	ShapeCorrect	ShapeCover
ShapeDifference	ShapeSymmetricDifference	ShapeConvexHull	ShapeWithin
ShapeCoveredBy	ShapeIsValid	ShapeIntersect	ShapeIntersection
ShapePerimeter	ShapeSerializeDSV	ShapeSerializeWKT	ShapeTouch
ShapeUnion	France.CheckTaxNumber	GglDriveConnect	gClickableLink

|			
gpwListUser	grColumnBarType	grWaffleSize	grWaffleTypeCell
HInfoItemRights	HListTrackedFiles	HModifyItemRights	HOpenComplementaryAnalysis
HQueryExecuted	HDataSourceKnown	Italy.CheckTaxNumber	CurrentDay
ListMoveLine	ListInfoXY LuhnCalculate	LuhnCheck	
MarkdownLink	oDriveConnect	Phonetic	Linestring2DAddPoint
LinestringGeoAddPoint	SocketClientInfo	Switzerland.CheckTaxNumber	ArrayToParameters
TableDeleteSelect	UTF8Valid GuidedTourStop	GuidedTourChangeStep	
GuidedTourStart	GuidedTourInfo		

618 to 627
New feature WD WB **WM**
10 NEW WLANGUAGE FUNCTIONS FOR APPLE WATCH

10 new WLanguage functions are available for Apple Watch.

Germany.CheckTaxNumber	Belgium.CheckTaxNumber	Brazil.CheckTaxNumber	Canada.CheckTaxNumber
Spain.CheckTaxNumber	UnitedStates.CheckTaxNumber	France.CheckTaxNumber	Italy.CheckTaxNumber
Switzerland.CheckTaxNumber	UTF8Valid		

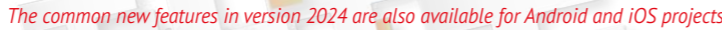*A window from a WINDEV Mobile application displayed in the mixed-reality headset*
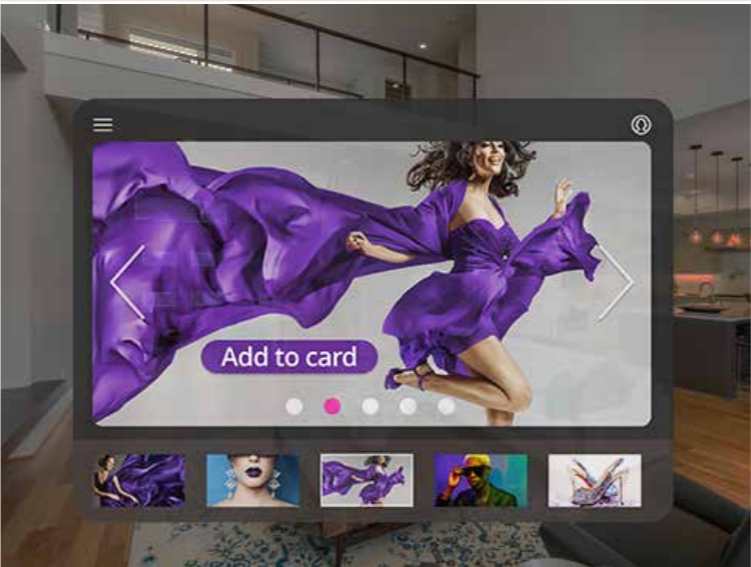
628
New feature WD WB **WM**
APPLE VISION PRO: APPLE'S NEW MIXED-REALITY HEADSET

WINDEV Mobile 2024 applications can be run on the Apple Vision Pro headset.

Benefit of this new feature in version 2024:
Seamless synchronization between Apple devices

Device not available at time of printing. Final appearance may differ. Screenshots made with Apple simulator available at time of printing.

AND FOR ANDROID

629 New feature WD WB WM
ALL THE COMMON NEW FEATURES FOR MOBILE APPS

Android development has never been as powerful as with WINDEV Mobile 2024.

The amount of powerful features at your disposal keeps increasing. Android evolves, and so does WINDEV Mobile. In version 2024, **Android 14 is supported.**

Key points of Android development in WINDEV Mobile 2024 include:

- the common new features in version 2024
- the common new features for mobile devices
- new features specific to Android.

630 New feature WD WB WM
ANDROID 14 SUPPORT

WINDEV Mobile 2024 supports the latest version of Android.

Benefit of this new feature in version 2024 :
Stay up to date

631 New feature WD WB WM
PIXEL 8 SUPPORT

Pixel 8, Google's latest smartphone, is supported in WINDEV Mobile 2024.

Benefit of this new feature in version 2024 :
Stay up to date

632 New feature WD WB WM
CUSTOM PROPERTIES ON CONTROLS

You can create your own properties on controls in an Android application.

Benefit of this new feature in version 2024 :
More granular programming

633 New feature WD WB WM
PUSH NOTIFICATIONS: TOPICS

Android supports topic-based push notifications.

A topic is a precise subject within the application: promotional offers, news about a specific model, etc.

The application suggests subscribing to the desired topics.

When the application editor wishes to send a notification to applications subscribed to a given topic, they can use the `Notif-PushSend` function, specifying the relevant topic.

Notifications are automatically sent to all the devices that are subscribed to this topic.

With this method, there's no need to store and manage tokens for each user.

Benefit of this new feature in version 2024 :
Easier and more powerful notifications

634 New feature WD WB WM
USER GROUPWARE: GOOGLE ONE TAP

One Tap is Google's authentication system for Android, which allows users to log in to different services using their Google credentials.

The User Groupware now supports One Tap authentication.

Benefit of this new feature in version 2024 :
Easier login process

635 New feature WD WB WM
OOP IN WLANGUAGE: INTERFACE

In Android, the `Interface` type (equivalent to abstract classes) is now available in WLanguage.

Benefit of this new feature in version 2024 :
More OOP options for Android

636 to 638 New feature WD WB WM
MISCELLANEOUS

- The `/=` and `*=` operators are now supported
- MVP in Android: `MyMappedFile`, `MyMappedUniqueKey` keywords now supported
- Ad control: Now you can specify an ID for each control.

Benefit of this new feature in version 2024 :
Easy programming

639 to 663 New feature WD WB WM
WLANGUAGE 25 NEW TYPES

25 new types of variables are available for Android:

QuickAction DSVFormat	ButtonInEditControl NumericFormat	Drive Shape	GglFile gglAccount

gglDrive MultiPolygon2D oDrive PolygonGeo GuidedTourStep	Margin MultiPolygonGeo Point2D Linestring2D	MultiPoint2D MultiLinestring2D PointGeo LinestringGeo	MultiPointGeo MultiLinestringGeo Polygon2D GuidedTour

Benefit of this new feature in version 2024 :
Useful types

664 to 720 New feature WD WB WM
57 NEW WLANGUAGE FUNCTIONS FOR ANDROID

WINDEV Mobile 2024 offers 57 new functions for Android, 57 new functions for Android widgets and 12 new constants.

QuickActionAdd	QuickActionPin	QuickActionList	QuickActionRemove
QuickActionRemoveAll	DisplayLicense	AnsiToOem	AuthRefreshToken
Conversion	DriveCopyFile	DriveCopyDirectory	DriveCreateFile
DriveCreateDirectory	DriveMoveFile	DriveMoveDirectory	DriveUploadFile
DriveUploadDirectory	DriveListFile	DriveListFileGgl	DriveListDirectory
DriveDownloadFile	DriveDownloadGglFile	DriveDownloadDirectory	DriveRename
DriveDeleteFile	DriveDeleteDirectory	ShapeArea	ShapeContain
ShapeCorrect	ShapeCover	ShapeDifference	ShapeSymmetricDifference
ShapeConvexHull	ShapeWithin	ShapeCoveredBy	ShapeIsValid
ShapeIntersect	ShapeIntersection	ShapePerimeter	ShapeSerializeDSV
ShapeSerializeWKT	ShapeTouch	ShapeUnion	France.CheckTaxNumber
GenerateLorem	GglAccountAssociate	GglAccountDissociate	GglDriveConnect
gpwListUser	NotifPushSubscribe	NotifPushUnsubscribe	oDriveConnect
OemToAnsi	GuidedTourStop	GuidedTourChangeStep	GuidedTourStart
GuidedTourInfo			

721 New feature WD WB WM
ANDROID CONTROL CENTER: SEND PUSH NOTIFICATIONS

WINDEV Mobile's Android Control Center allows you to send push notifications directly to a phone.

This feature is essential when testing an app that analyzes incoming notifications.

Please note that all notifications are sent through Google's servers.

Benefit of this new feature in version 2024 :
Easier testing
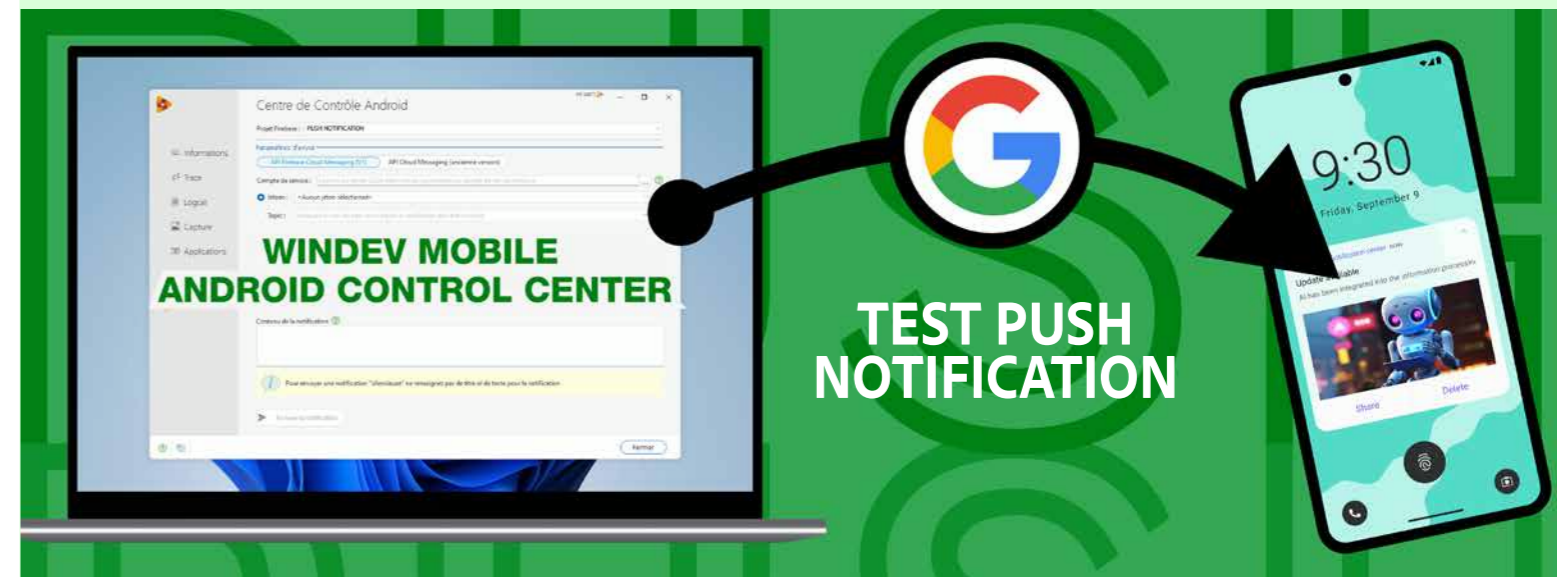
WINDOWS MOBILE, EMBEDDED & CE

Windows Mobile, Windows CE and Windows Embedded applications are still used in the industrial field.

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 version 26 from WINDEV Mobile 2024.

UWP

722 New feature WD WB **WM**

COMMON NEW FEATURES

UWP development benefits from most of the common new features of version 2024.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
UWP evolves

723 New feature WD WB **WM**

NEW ENVIRONMENT

UWP development also benefits from the improvements of the development environment in version 2024.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Increased ease of use

New feature WD WB **WM**

724 to 761 **38 NEW WLANGUAGE FUNCTIONS FOR UWP**

38 new WLanguage functions are introduced for UWP.

Germany.CheckTaxNumber	Belgium.CheckTaxNumber	Brazil.CheckTaxNumber	Canada.CheckTaxNumber
DateToDayOfYear	Spain.CheckTaxNumber	UnitedStates.CheckTaxNumber	ShapeArea
ShapeContain	ShapeCorrect	ShapeCover	ShapeDifference
ShapeSymmetricDifference	ShapeConvexHull	ShapeWithin	ShapeCoveredBy
ShapeIsValid	ShapeIntersect	ShapeIntersection	ShapePerimeter
ShapeSerializeDSV	ShapeSerializeWKT	ShapeTouch	ShapeUnion
France.CheckTaxNumber	grColumnBarType	HInfoItemRights	HModifyItemRights
HOpenComplementaryAnalysis	HQueryExecuted	HRSIgnoreError	HDataSourceKnown
Italy.CheckTaxNumber	CurrentDay	Linestring2DAddPoint	LinestringGeoAddPoint
Switzerland.CheckTaxNumber	UTF8Valid		

WINDEV MOBILE

POWERFUL APPS IN ALL FIELDS!

WEBDEV

And more in WEBDEV...

762 New feature WD WB WM

THE 215 COMMON NEW FEATURES OF VERSION 2024 ARE AVAILABLE IN WEBDEV

WEBDEV 2024

gets most of the 15 common new features in version 2024, including: higher speeds, new controls, new Smart Controls, new Waffle chart, improved Monitoring Robot, Favorite controls, improved code editor, spatial data and data masking in HFSQL, new WLanguage elements, etc.

And in addition to all these new features, WEBDEV 2024 benefits from amazing new features specific to the Web. See the following pages to learn more.

NEW SMART CONTROLS

763

New feature WD **WB** WM

5 NEW SMART CONTROLS FOR WEBDEV

5 new Smart controls are available in WEBDEV 2024:
• FAQ
• Sliding cards
• Editable text
• Non-blocking Upload control
• Handwritten signature

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Significant time savings

764

New feature WD **WB** WM
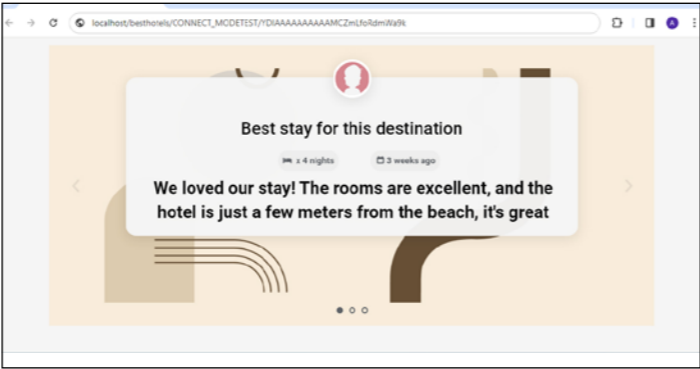
NEW SMART CONTROL: FAQ
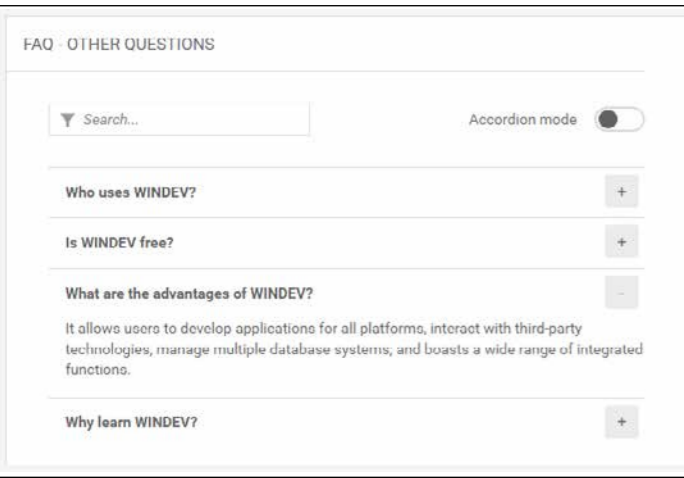
Expanded FAQ

The "FAQ" Smart control lets you display a list of questions/answers using a modern layout.
Only the questions are displayed by default. Users must click an answer to see the whole content.
The advantage of this layout is that it offers an overview of the contents by default.
The control includes a search bar.
You can populate the control dynamically, using data from a database.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Ready to use

765

New feature WD **WB** WM

NEW SMART CONTROL: SLIDING CARDS

Positioning in WEBDEV 2024

The "Sliding Cards" Smart control allows users to slide through the content in the different layers of a cell.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Modern, intuitive control

766

New feature WD **WB** WM

NEW SMART CONTROL: NON-BLOCKING UPLOAD CONTROL
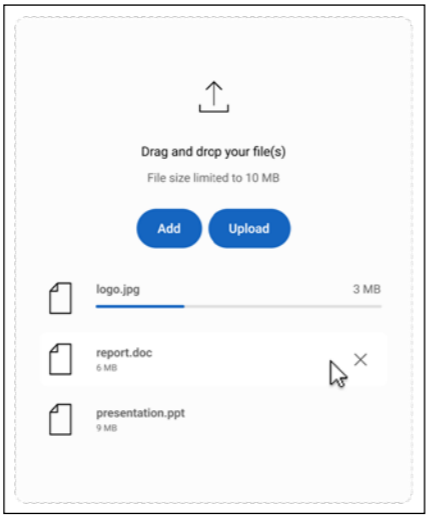
Clear upload process

The "Non-blocking Upload" Smart control allows users to transfer one or multiple files.
The process will run in the background, without blocking the users.
Users can drop multiple files.
An progress bar is displayed for each file.
Uploads can be cancelled individually.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Highly anticipated feature

GUIDE USERS THROUGH YOUR WEBSITES

WEB USER ONBOARDING

767

New feature WD **WB** WM

GUIDED TOURS IN YOUR WEBSITES

In version 2024 , you can easily create guided tours and walk-throughs in one or more pages of your websites.
Help users find their way to essential features and actions.
See new features 001 to 013

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Improve the user experience

768

New feature WD **WB** WM -

BROWSER CODE

The new WLanguage functions and variables types for Guided Tours

(**GuidedTourStep**, etc.) are also available in Browser code.
This makes it possible to perform the desired interactions while avoiding network latency.
You still have the possblity to call Server code before or after a step.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Intuitive behavior on websites

769

New feature WD **WB** WM

SAME METHOD ACROSS MULTIPLE PLATFORMS

You can create Guided Tours following the same method, whether you are developing for Windows, mobile devices or the web.
The Guided Tour wizard includes the same steps.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Cross-platform development

Web users can also benefit from Guided Tours

770 New feature WD WB WM
NEW SMART CONTROL: HANDWRITTEN SIGNATURE IN WEBSITES ON TABLETS AND SMARTPHONES

Handwritten signature in a mobile device

The "Handwritten signature" Smart control can be used in websites designed for tablets and smartphones.

This Smart control allows users to draw their signature on the screen. Signatures are then converted to image format.
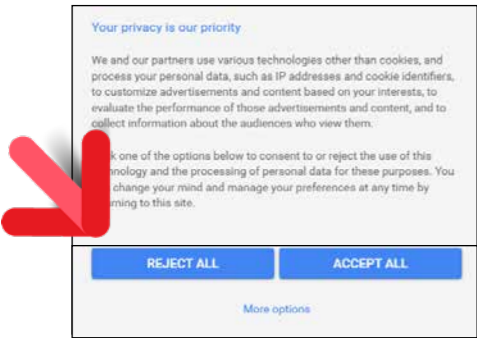
BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Well-known feature on mobile devices

771 New feature WD WB WM
COOKIE SMART CONTROL: MEET NEW REQUIREMENTS

The "Cookie" Smart control has been improved in version 2024 to meet new standards in some countries.

The "Reject all" option is now included by default.

"Reject all" option included by default

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Meet the latest requirements

772 New feature WD WB WM
NEW SMART CONTROL: EDITABLE TEXT
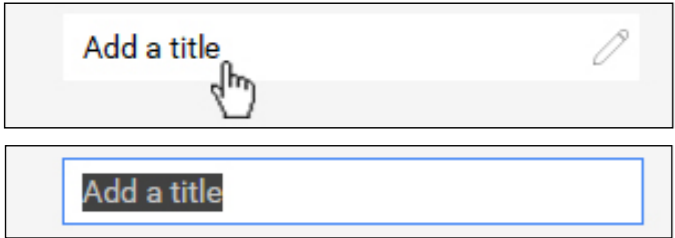
Intuitive UI behavior

The "Editable text" Smart control shows static text with a pencil icon next to it. When the user clicks this icon, the text becomes editable.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Modern UI

ACCESSIBILITY FOR USERS WITH DISABILITIES

773 New feature WD WB WM
COMPLETION

There are accessibility standards that have been defined to help users with disabilities (visual or cognitive impairment, color blindness, physical disabilities, dyslexia, etc.).

These standards are implemented, among other things, by adding ARIA tags to the HTML code of the page.

WEBDEV 2024 offers a custom completion mechanism (see new feature 780) and provides developers with more tools to improve accessibility in their websites.

PAGE EDITOR

774 New feature WD WB WM
MOVE A CONTROL OUTSIDE THE PAGE

You can now move controls outside the page without additional actions.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Adjust your page layout on the go

775 New feature WD WB WM
UI ERRORS TO IDENTIFY SMALL FONTS

In version 2024, the page editor identifies and highlights fonts that are too small.

Feel free to resize these fonts to meet both layout and readability standards.

Another UI error identifies external fonts that are not installed on the development computer.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better readability

776 New feature WD WB WM
MISCELLANEOUS

- Cell control: different cells can contain controls with the same name
- Looper control: now you can place Internal Page controls inside Looper controls
- Linear Looper controls also support internal pages
- New web font selection window
- Style editing: New "Apply" button to view all changes made.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Practicality

NEW FEATURES FOR CONTROLS

777 New feature WD WB WM
NEW CSS GRID CONTROL

The new CSS Grid control allows you to position controls and get a responsive page layout.
See new feature 789.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
New, powerful control

778 New feature WD WB WM
CONTAINER COLUMN: CONTROL ANCHORS

In version 2024, you can anchor controls in a Container column.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Practicality

779 New feature WD WB WM
SERVER BUTTON & BROWSER BUTTON

In previous WEBDEV versions, developers had to indicate, for each button, if the code was to be executed on the server or browser side.

In version 2024, this distinction is no longer necessary.
When code is in a Server process, the browser will automatically call the server.
When there is no code in Server processes, no server call will be made.
Note: Legacy mode is still available for compatibility reasons.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
No more hesitation. WEBDEV takes care of it.

780 New feature WD WB WM
FORM AUTOCOMPLETE

In a web form, the browser can show a list of possible values or pre-fill each control.

Ideally, the browser uses the **autocomplete** tag to search for relevant values.

When this tag is not indicated in the control, the browser relies on various heuristics (field name, field label, etc.) to pre-fill or suggest a value, which will inevitably be less accurate.
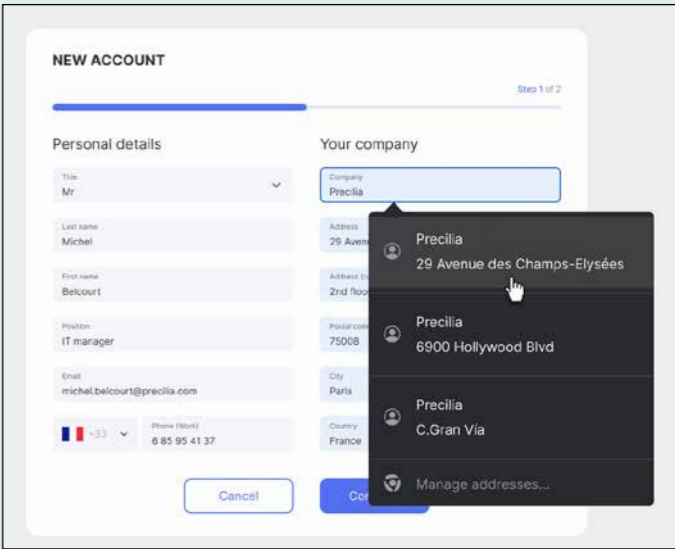
In version 2024, you can specifically indicate the type of information expected in the control.

The browser will then use the relevant data in the history to pre-fill the control.
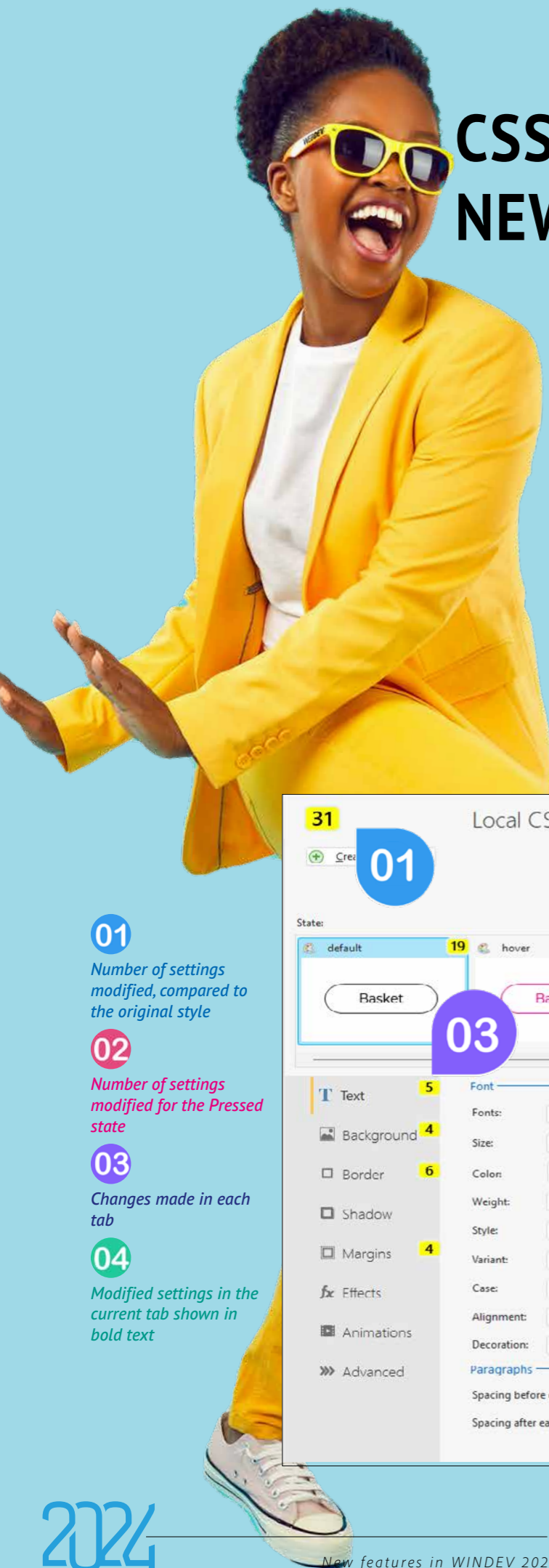
You can group multiple controls.
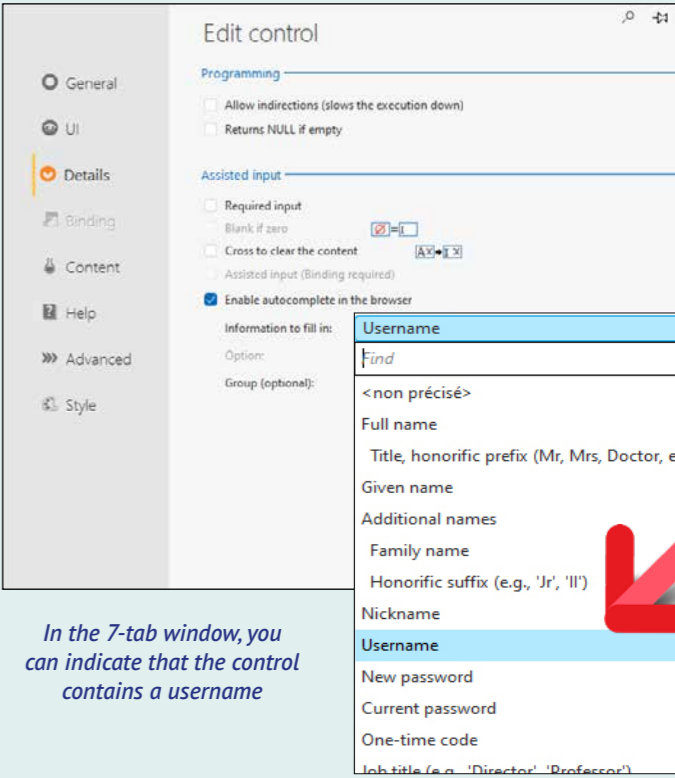
In the 7-tab window, you can indicate that the control contains a username

Result in the Browser

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Avoid user input errors

CSS STYLES: POWERFUL NEW FEATURES

Reminder: A WEBDEV style is composed of:
- The native WEBDEV style itself
- One or more CSS styles for each element in the control (caption, input area, column header, etc.).
  See new feature 782 on the opposite page

781 New feature WD WB WM
MORE INFORMATION IN THE CSS STYLE WINDOW

The CSS style window now provides more useful information for manipulating CSS styles.

On each control state, a badge indicates the number of changes made to the initial CSS style.

Then, for each CSS style state, the tab indicates the number of changes made in the tab itself.

This allows you to keep track of the tabs where you made changes.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Everything you want to know about a style, at a glance
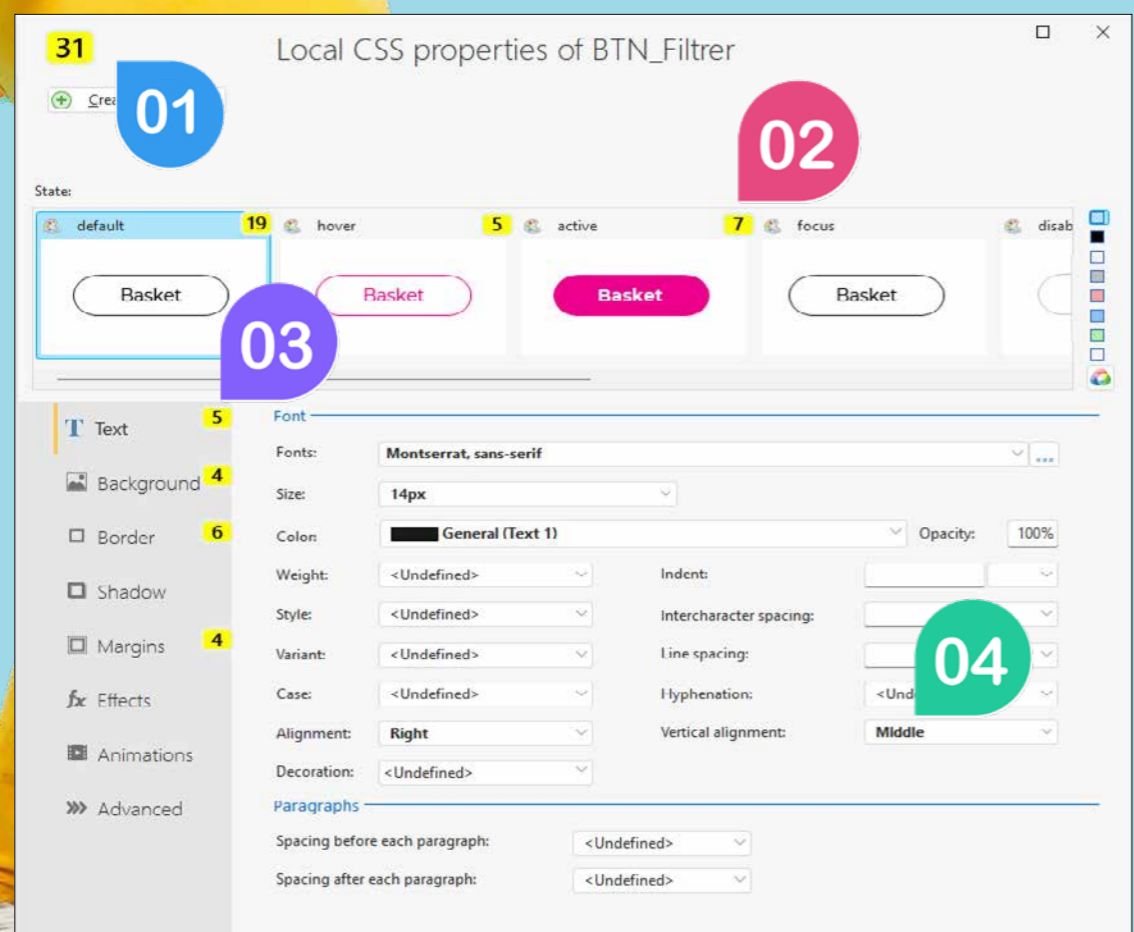
01
Number of settings modified, compared to the original style

02
Number of settings modified for the Pressed state

03
Changes made in each tab

04
Modified settings in the current tab shown in bold text

782 New feature WD WB WM
USE 10 TIMES LESS CSS STYLES: MULTIPLE STYLES IN AN ELEMENT OF A CONTROL

In version 2024, you can use multiple CSS styles for each element of a control:
- text
- input area
- border
- table header
- text within tables, etc.

As development continues, CSS styles start to pile up.

In version 2024, the Style tab has been improved and now allows you to use a combination of multiple CSS styles for each element of the control.

These CSS styles can be contained
- in the CSS stylesheet of the project
- in individual CSS files.

You no longer need to create a new CSS style for each combination of CSS styles, which significantly reduces the total number of styles in the CSS stylesheet.

Note: When deployed, websites will also include external CSS files by default.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
*Avoid multiplying the number of styles*
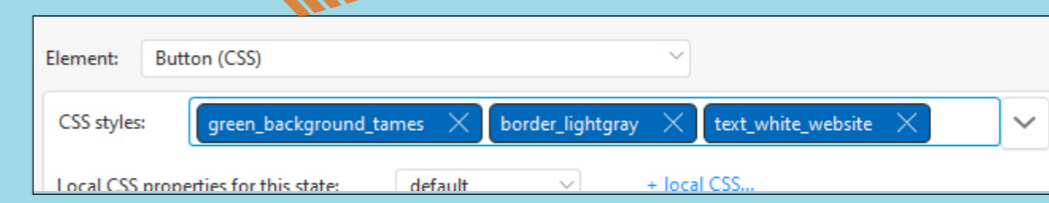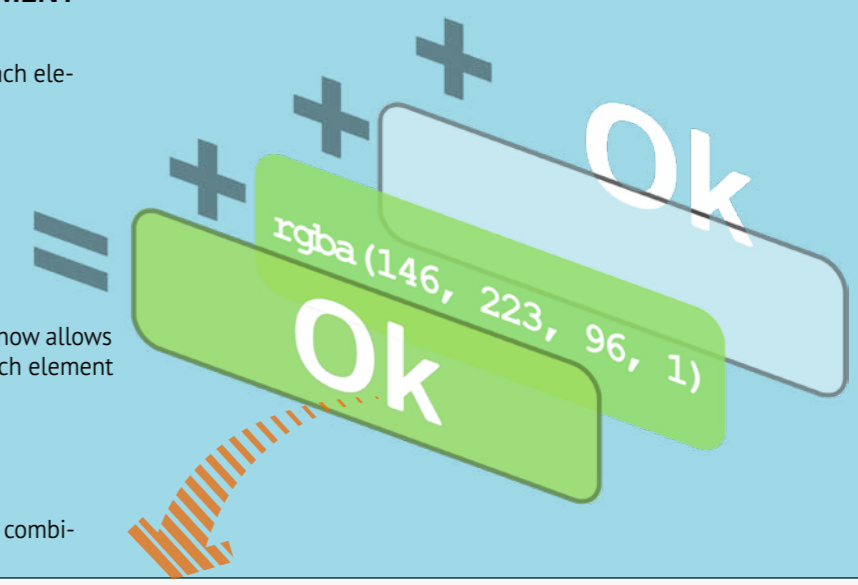
783 New feature WD WB WM
### CROSS-REFERENCES OF CSS STYLES IN THE PROJECT

A new badge in version 2024 indicates the number of elements in which a CSS style is used. This number takes into account both WEBDEV styles and controls used in the project.

Simply click the badge to open a detailed list.
You can delete unused CSS styles, or group similar WEBDEV styles together.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Easily determine where your styles are used
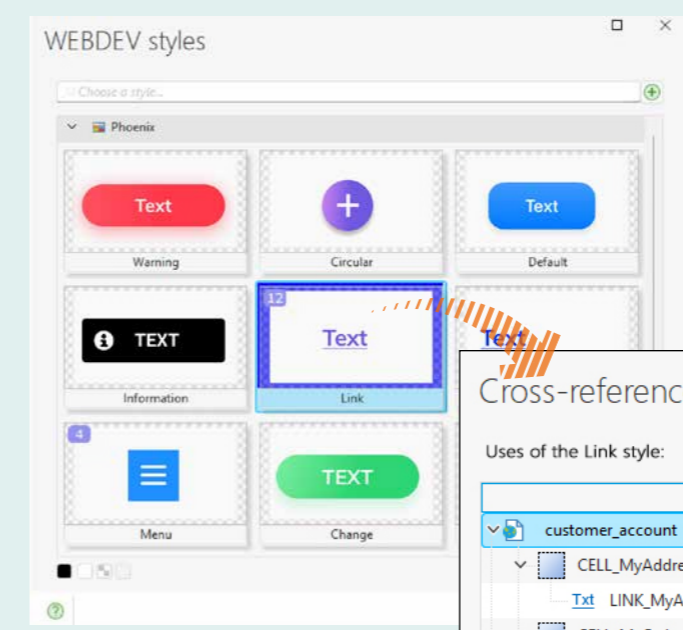
CSS styles used in the project. The number of elements where a style is used appears in a little badge.

Click the badge to open a list with all the elements where a style is used. Then, click each row to view the control in its corresponding page.
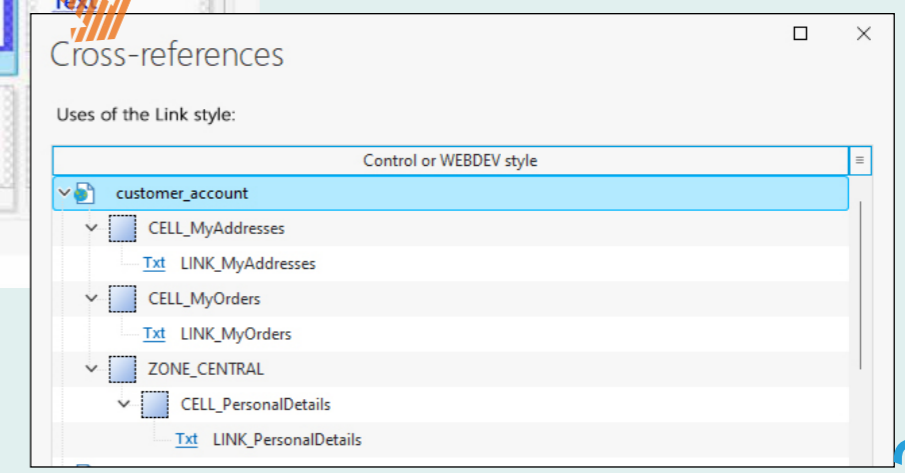
LAYOUTS

784 TEST CONTROL TEMPLATES UISNG A SPECIFIC LAYOUT
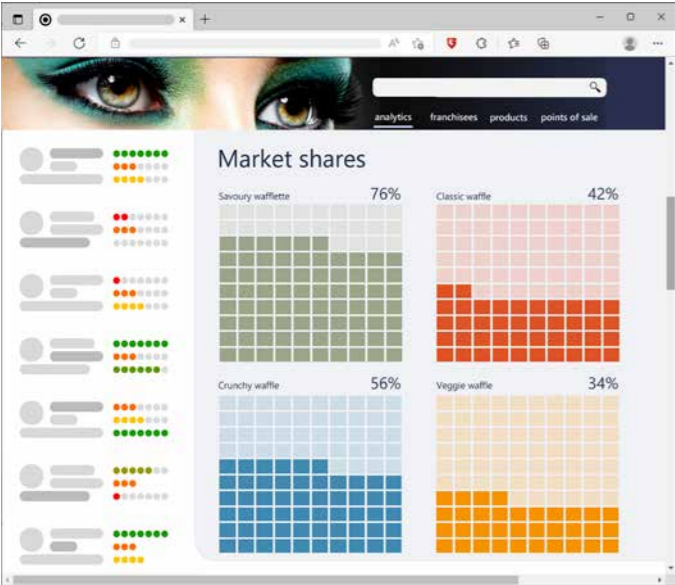New feature WD **WB** WM

In WEBDEV 2024, you can choose the layout to be used when testing a control template via the "GO" option.
You no longer need to resize the browser to change the layout.
The layout being edited is used by default.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Easier tests

CHART CONTROL

785 NEW WAFFLE CHART
New feature WD WB WM

This new type of chart is also available in WEBDEV.
See new feature 022.

A set of Waffle charts

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More data visualization options in your websites

POPUP

786 FIND THE POPUPS OF A PAGE
New feature WD **WB** WM

You can now search for any popup using its name in the editor.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Practical search mode

SAAS

787 SAAS: PASSWORD SECURITY
New feature WD **WB** WM

A password strength indicator is displayed when creating client account passwords.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Stronger passwords, higher security

SINGLE-PAGE APPLICATION (SPA)

788 SPA: CHANGE PAGES PROGRAMMATICALLY
New feature WD **WB** WM

Now you can programmatically switch between internal pages in a Single Page Application.
This allows you to more easily define a structure for pages that contain a large number of controls.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
WEBDEV 2024 is open to all architectures

NEW LAYOUT AND POSITIONING OPTIONS WITH THE CSS GRID CONTROL

CSS GRID

789 CSS GRID: A TWO-DIMENSIONAL LAYOUT SYSTEM
New feature WD **WB** WM

CSS Grid is a layout system used in web pages.
Positioning is defined in cells that are laid out in rows and columns. These cells contain controls.
Compared with Flexbox:
- Flexbox is one-directional, horizontal OR vertical
- CSS Grid is two-directional, horizontal AND vertical.

CSS Grid can be used for the entire page, or only for a given section. It is possible to use one or more grids, as well as Flexbox containers, within a CSS grid.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More page layout options

790 CSS GRID PROPERTIES
New feature WD **WB** WM

CSS grids has numerous properties:
- number of rows
- number of columns
- row or column size: fixed, percentage, fraction of the available space
- number of cells occupied by a control in the grid
- horizontal and vertical justification within a cell
- grid track
- ... and all the other CSS grid properties.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024:
Easily define all aspects of CSS grids

791 NEW CSS GRID CONTROL
New feature WD **WB** WM

Use the 7-tab window to define the properties of the new CSS Grid control.
You can write custom CSS code in a specific section of this window.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
A new essential control

792 FLEXIBLE LAYOUT: CSS GRID AND FLEXBOX
New feature WD **WB** WM

In WEBDEV, you can create Responsive pages using either the native layouts tool, or a combination of CSS Grid and Flexbox.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More possibilities
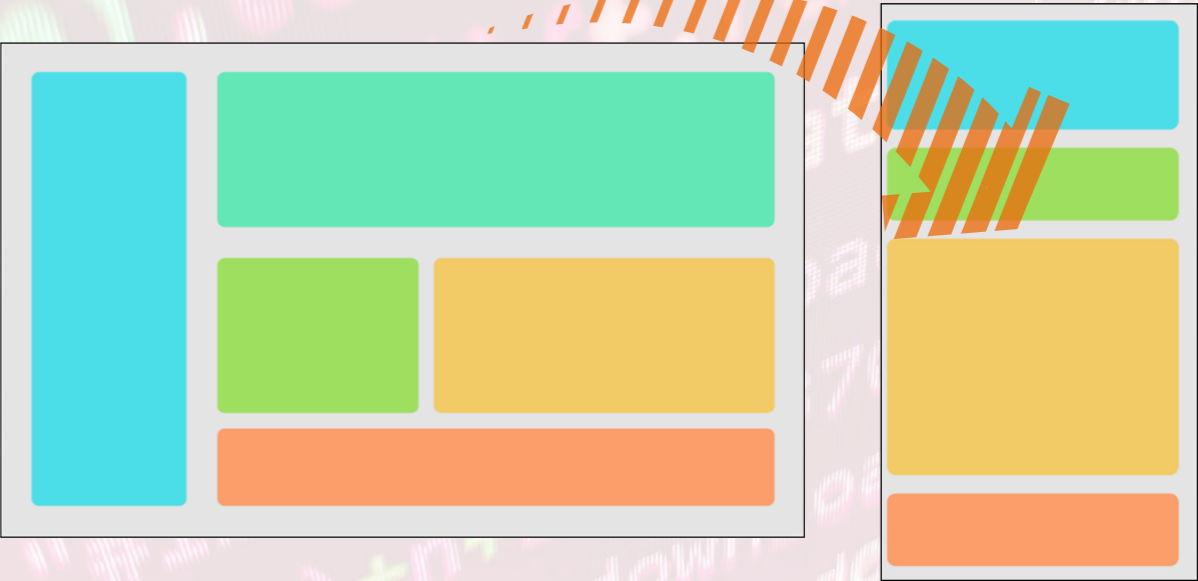
Blocks appear, disappear or move according to the rules you define

Here, the purple block no longer appears when the horizontal space is reduced

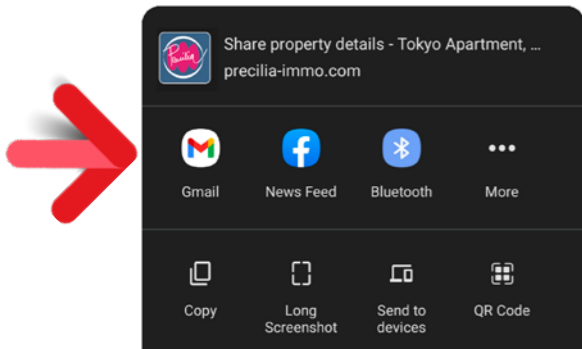# SOCIAL NETWORKS & COMMUNICATION TOOLS

793

New feature WD WB WM

TWITCH

Allow users to directly open a Twitch profile with this ready-to-use button introduced in version 2024.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Connect with one of the world's main livestreaming services

794

New feature WD WB WM

SHARE ON SOCIAL NETWORKS

Bottom sliding window with standard share options

In version 2024, the new **BrowserShare** function opens a window containing many standard options to share a document or link on the main social networks: WhatsApp, Messenger, Instagram, email clients, etc.
This mode is commonly used in websites designed for mobile devices.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Help users easily share content

SERVER WLANGUAGE

795

New feature WD WB WM

ALL THE NEW WLANGUAGE FUNCTIONS IN VERSION 2024 ARE AVAILABLE IN WEBDEV

WEBDEV Server code benefits from all the new WLanguage functions and features in version 2024.
See new features 804 to 884.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Cross-platform code

796

New feature WD WB WM

PAGEDISPLAY FUNCTION IN AJAX CALLS

You can now use the **PageDisplay** function in a Server procedure called from Browser code.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Simplified programming

797

New feature WD WB WM

NEW SECURE COOKIES TO PREVENT CSRF OR XSRF ATTACKS

Cross Site Request Forgery (CSRF or XSRF) attacks are quite common.
This type of attack leads an authenticated user to complete an operation requiring special privileges without their knowledge. For example, attackers might hide a command that will be run when the user simply opens an image.
The new **SameSite** property of the **Cookie** variable type helps you prevent CSRF/XSRF attacks.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Additional security

798

New feature WD WB WM

AJAX LOOPER: NEW SELECTION EVENT

The new **Selection** event, which is executed on the Server side, allows you to specify the server processes to be executed (if any) when the user selects a row in the Looper control.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More powerful programming

799

New feature WD WB WM

PRE-LAUNCHED SESSIONS: DETECT THE USE OF FORBIDDEN FUNCTIONS

Automatic pre-launched sessions are a very useful feature for speeding up sites.
However, pre-launched sessions cannot use certain WLanguage functions that communicate with the browser, since the browser is not yet present.
This error will only be raised at compile time if the detection of pre-launched session errors is enabled.

# WEB COMPATIBILITY: TAILWINDCSS

800

New feature WD WB WM

TAILWINDCSS: A LIBRARY OF PRESET UTILITY CLASSES

TailwindCSS is a widely used CSS utility class framework.
TailwindCSS is made up of CSS classes that define numerous style options.
WEBDEV 2024 is compatible with this framework.
TailwindCSS classes also describe positioning rules.
These rules are supported by WEBDEV controls laid out in Flexbox containers or CSS grids.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Compatibility

801

New feature WD WB WM

HOW TO USE TAILWINDCSS IN WEBDEV

To use TailwindCSS in WEBDEV 2024, simply enable the corresponding option in the project description window.
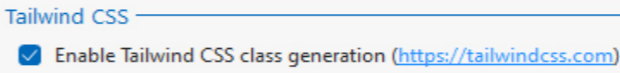
There's nothing to install or configure. Simply enter the name or names of the TailwindCSS classes to be used in the Styles tab.
WEBDEV automatically generates the CSS style sheets corresponding to the TailwindCSS classes used.
Reminder: In WEBDEV 2024, controls can use several CSS styles simultaneously.
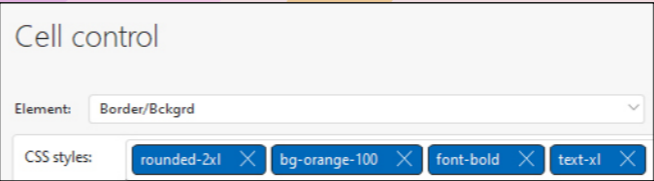
TailwindCSS classes selected by the developer.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More possibilities for web development

802

New feature WD WB WM

TAILWINDCSS: WYSIWYG

The WEBDEV page editor shows controls exactly how they will look using TailwindCSS classes.

Control displayed using TailwindCSS classes

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
What You See Is What You Get

803

New feature WD WB WM

TAILWINDCSS TECHNIQUES

TaiwindCSS includes numerous features. For example:
• variants for each state
• media queries to modify the aspect of controls
• configuration file to define custom classes, which are then added to the standard classes
All these features are supported in WEBDEV 2024.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Power

In version 2024, when the Application Server is configured to generate pre-launched sessions, and the site has not enabled this type of errors, a warning message is displayed.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Safer code

New feature WD **WB** WM

804 to 863 SERVER CODE: 81 NEW WLANGUAGE FUNCTIONS

WLanguage now includes 81 new functions in Server code, as well as 34 new constants. To see the full list, visit windev.com.

WBAdminListApplication	WBAdminDeleteApplication	Germany.CheckTaxNumber	AuthImportToken
Belgium.CheckTaxNumber	BitcoinDateLatestBlock	BitcoinBlockCount	BitcoinHashRate
BitcoinConfigure	Brazil.CheckTaxNumber	Canada.CheckTaxNumber	DateToDayOfYear
DNSQuery	SetFocus	dpDriveConnect	DriveCopyFile
DriveCopyDirectory	DriveCreateFile	DriveCreateDirectory	DriveMoveFile
DriveMoveDirectory	DriveUploadFile	DriveUploadDirectory	DriveListFile
DriveListFileGgl	DriveListDirectory	DriveDownloadFile	DriveDownloadGglFile
DriveDownloadDirectory	DriveRename	DriveDeleteFile	DriveDeleteDirectory
Spain.CheckTaxNumber	UnitedStates.CheckTaxNumber	ShapeArea	ShapeContain
ShapeCorrect	ShapeCover	ShapeDifference	ShapeSymmetricDifference
ShapeConvexHull	ShapeWithin	ShapeCoveredBy	ShapeIsValid
ShapeIntersect	ShapeIntersection	ShapePerimeter	ShapeSerializeDSV
ShapeSerializeWKT	ShapeTouch	ShapeUnion	France.CheckTaxNumber
GglDriveConnect	gpwListUser	grWaffleSize	grWaffleTypeCell
HInfoItemRights	HListTrackedFiles	HModifyItemRights	Italy.CheckTaxNumber
CurrentDay	ModbusConnectRTU	ModbusConnectTCP	ModbusDisconnect
ModbusWriteBit	ModbusWriteFloat	ModbusWriteRegister	ModbusSendRawFrame
ModbusReadBit	ModbusReadFloat	ModbusReadRegister	oDriveConnect
PageEcritCodeHTTP	PageWriteCustomHTTPCode	Linestring2DAddPoint	LinestringGeoAddPoint
RedisDisconnect	Switzerland.CheckTaxNumber	UTF8Valid	xlsCoordinatesToName
xlsNameToCoordinates			

EASILY TRANSFORM YOUR WINDEV APPLICATIONS INTO WEBDEV SITES

WINDEV APPLICATION

New feature WD **WB** WM

887 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 2024 :
Transform WINDEV applications into websites or SaaS

WINDEV MOBILE APPLICATION


AJAX

New feature WD **WB** WM

864 AUTOMATIC AJAX

In version 2024, using Ajax is easier than ever.
The WLanguage **AjaxExecute** and **AjaxExecuteAsynchronous** functions from previous versions are no longer necessary, but can still be used for compatibility reasons.
See new feature 910.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Easier programming

New feature WD **WB** WM

865 AUTOMATIC AJAX CALLS: NUMBER OF CALLS FROM BROWSER CODE DISPLAYED IN THE HEADER

In automatic Ajax mode, the code header indicates the number of calls to the procedure from Browser code.
When this number is zero, it means that there are no calls to this procedure in the project's Browser code. In this case, to avoid malicious calls, the Application Server refuses direct calls to this procedure from the Browser.
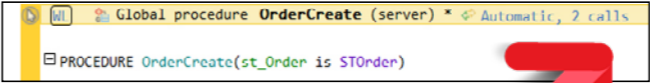
In the new header, both the mode and the number of calls are displayed

You can click the number of calls to open a list of calls and access the source code of these calls.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Useful information

AWP

New feature WD **WB** WM

888 NEW WLANGUAGE FUNCTIONS

The new WLanguage **PageWriteHTTPCode** and **PageWriteCustomHTTPCode** allow you to write the custom HTTP code that will be returned in the AWP call.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Useful for particular cases

JSON

New feature WD **WB** WM

889 TREEVIEW TABLES

The new WLanguage **JSONToTreeViewTable** function populates a Treeview Table control with the content of a JSON file.
The new WLanguage **TreeViewTableToJSON** builds a JSON file from the content of the table.
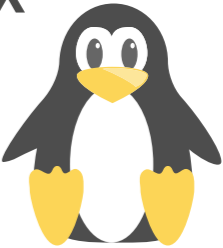
BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Power

New feature WD **WB** WM

890 NULL VALUE IN A JSON DOCUMENT

There are two options to generate the text file when there are "null" members in the JSON document:
- generate **Null**
- ignore the null member

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Interoperability

LINUX

New feature WD **WB** WM

891 POWERFUL NEW FEATURES

The new features available for Linux include: Guided Tours and Walkthroughs, new Waffle chart, automatic AJAX calls, GridCSS, Tailwind, and more.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Power

Version 2024 is out!

892
New feature WD **WB** WM
81 NOUVELLES FONCTIONS WLANGUAGE SOUS LINUX

81 new functions are available on Linux :

WBAdminListApplication	AdminWBDeleteApplication	Germany.CheckTaxNumber	AuthImportToken
Belgium.CheckTaxNumber	BitcoinDateLatestBlock	BitcoinBlockCount	BitcoinHashRate
BitcoinConfigure	Brazil.CheckTaxNumber	Canada.CheckTaxNumber	DateToDayOfYear
DNSQuery	SetFocus	dpDriveConnect	DriveCopyFile
DriveCopyDirectory	DriveCreateFile	DriveCreateDirectory	DriveMoveFile
DriveMoveDirectory	DriveUploadFile	DriveUploadDirectory	DriveListFile
DriveListFileGgl	DriveListDirectory	DriveDownloadFile	DriveDownloadGglFile
DriveDownloadDirectory	DriveRename	DriveDeleteFile	DriveDeleteDirectory
Spain.CheckTaxNumber	UnitedStates.CheckTaxNumber	ShapeArea	ShapeContain
ShapeCorrect	ShapeCover	ShapeDifference	ShapeSymmetricDifference
ShapeConvexHull	ShapeWithin	ShapeCoveredBy	ShapeIsValid
ShapeIntersect	ShapeIntersection	ShapePerimeter	ShapeSerializeDSV
ShapeSerializeWKT	ShapeTouch	ShapeUnion	France.CheckTaxNumber
GglDriveConnect	gpwListUser	grWaffleSize	grWaffleTypeCell
HInfoItemRights	HListTrackedFiles	HModifyItemRights	Italy.CheckTaxNumber
CurrentDay	HLoadFloat	ModbusConnectRTU	ModbusConnectTCP	ModbusDisconnect
ModbusWriteBit	ModbusWriteFloat	ModbusWriteRegister	ModbusSendRawFrame
ModbusReadBit	ModbusReadFloat	ModbusReadRegister	oDriveConnect
PageEcritCodeHTTP	PageWriteCustomHTTPCode	Linestring2DAddPoint	LinestringGeoAddPoint
RedisDisconnect	Switzerland.CheckTaxNumber	UTF8Valid	xlsCoordinatesToName
xlsNameToCoordinates			

PHP

893
New feature WD **WB** WM
PHP: LAYOUTS

in version 2024, loayouts are handled at runtime on PCs Tablets, Smartphones, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Greater interoperability

894
New feature WD **WB** WM
PHP: TAG INDENTATION

In version 2024, you can generate PHP pages with indented tags in the source code.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Better code readability

---

895 to 906
New feature WD **WB** WM
12 NEW WLANGUAGE FUNCTIONS IN PHP

12 new functions are available in PHP :

InPageWithinWindowMode	grWaffleSize	grWaffleTypeCell	WordToArray
PageCurrentLayout	PageChangeLayout	ArrayDistinct	ArrayIntersect
ArrayShuffle	ArrayDeleteDuplicate	ArrayUnion	ArrayUnionAll

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
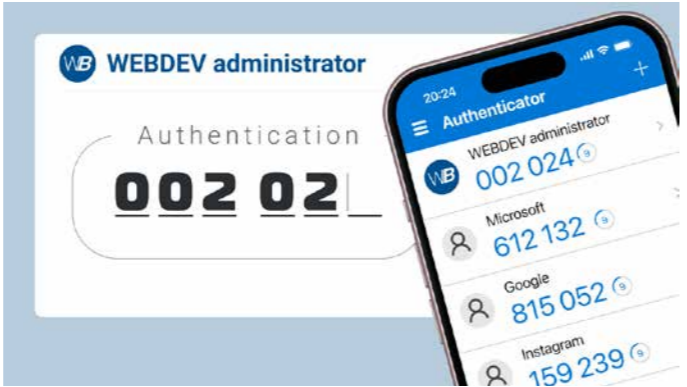*WLanguage improvements*

ADMINISTRATION

907
New feature WD **WB** WM
SECURITY: TWO-FACTOR AUTHENTI-CATION FOR ADMINSITRATION SITES

In version 2024, two-factor authentication is required to access the Application Server administrator.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Higher security

908
New feature WD **WB** WM
MANAGEMENT: NEW APIS

In version 2024, new APIs are introduced to help you automate administration actions in your websites:
- list websites
- list web services
- delete sites
- delete web services.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Automation

909
New feature WD **WB** WM
MISCELLANEOUS

- The UI of the access statistics viewer has been revamped

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Clearer, easier

NEW WLANGUAGE FEATURES IN BROWSER CODE

BROWSER WLANGUAGE

910
New feature WD **WB** WM
AUTOMATIC AJAX

In version 2024, Ajax calls from Browser code are simplified and automated.
By default, when WEBDEV detects a call to a Server procedure from Browser code, the call is made in Ajax mode.
You no longer have to activate this option in the procedure header.
Options from previous versions are still available for compatibility reasons. These options can be particularly useful to define a Server procedure that should not be called from Browser code.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
*Streamlined process*

911
New feature WD **WB** WM
AJAXEXECUTE FUNCTION: NO LONGER REQUIRED

In version 2024, you no longer need the **AjaxExecute** or **AjaxExecuteAsynchronous** functions to call a Server procedure from Browser code.
Simply use the standard procedure call syntax.
In the code editor, an icon indicates that the call is made to a Server procedure, and not to a Browser procedure.

```
OrderCreate⬌(OrderToCreate)
```
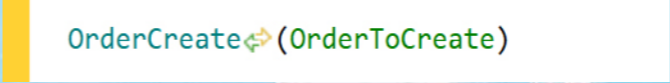
BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
One less call to write

912
New feature WD **WB** WM
PARAMETERS AND RETURN VALUES OF AJAX CALLS

Older versions of WEBDEV required the use of the WLanguage **Ajax-Execute** function to execute a Server procedure in Ajax mode. It was only possible to pass strings as parameters, and only retrieve strings as return values.

In version 2024, you can use the type of variable both to pass parameters and retrieve the return values, using the **AjaxTypeStructure** constant:
- **int**,
- **string**,
- **boolean**,
- **structure**,
- **array**,
- **associative array**
- etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Structure code directly in the control

913
New feature WD **WB** WM
AJAX LOOPER: ACCESS ATTRIBUTES

In version 2024, you can access the content (attributes) of Looper controls in Browser code.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
More programming possibilities

914
New feature WD **WB** WM
MISCELLANEOUS

- The **..Extra** property is available in read mode for all types of controls in Browser code.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Add all the information you need

New feature WD **WB** WM

915 to 919
5 NEW BROWSER WLANGUAGE FUNCTIONS

BrowserShare	Starts device-native sharing with text, title and URL
GuidedTourStop	Stops the current Guided Tour.
GuidedTourChangeStep	Goes to another step of the Guided Tour.
GuidedTourStart	Starts the Guided Tour.
GuidedTourInfo	Returns information about the Guided Tour.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Enriched browser code

REST WEB SERVICES

920
WEB SERVICE ENTRY POINTS: CODE ANALYSIS TO GENERATE THE DOCUMENTATION

WEBDEV automatically generates REST web service documentation in OpenAPI format.

The web service entry point documentation is automatically generated by analyzing the code of the web service procedure.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Automatic documentation

APPLICATION SERVER

921
New feature WD WB WM
REMOTELY UPDATE RUNNING APPLICATION SERVERS

In version 2024, you can remotely update one or more Application Servers.

This update can be run:
• from the WEBDEV administration application, via Remote Desktop Connection
• from the WEBDEV server administration website

When a more recent version of the Application Server is available, (major or minor update) the administrator shows an update notification and allows choosing the new version.

Once selected, the new version is automatically installed.

No further action is required.

Time savings are proportional to the number of Application Servers installed.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Less actions required

922
New feature WD WB WM
AUTOMATICALLY UPDATE RUNNING APPLICATION SERVERS

In addition to the previous new feature, it is now possible to make Application Server updates fully automatic.

Updates can be made as soon as a new version of the Application Server is available on the WINDEV website.

Updates can also be performed when a specific condition is met. You can define this condition, for example by setting the desired version.

This version must be present on an HTTP server.

You can define the automatic update detection frequency, as well as the day and time these updates should be installed.

For example, Sunday at 3 AM, or every hour every day, etc.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Less actions required

923
New feature WD WB WM
**AUTOMATICALLY RESTORE A WEBSITE AFTER AN UNEXPECTED ERROR**

In version 2024 , when a site encounters a fatal error (connection failure, unexpected update, fatal programming error, etc.), the Application Server automatically restores the site.

An incremental backoff strategy (n attempts every 10 seconds, then n attempts every minute, then n attempts every hour) and a maximum number of retries, allow you to seamlessly restore websites.

If the page that encounters the error is an SEO-ready page in Session mode, it will be refreshed when restored.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Less actions required.

924
New feature WD WB WM
LOAD BALANCING BETWEEN ALL ACTIVE ACCOUNTS
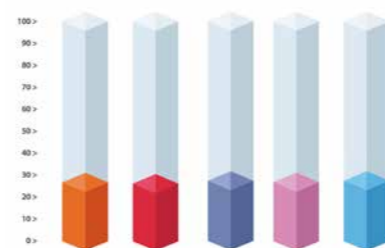
In this shared hosting system, all acounts benefit from the same CPU resources

A highly anticipated feature in the Application Server is the ability to fairly distribute CPU resources between WEBDEV accounts.

By default, the Application Server distributes workload evenly between all active accounts at a given time.

Therefore, any resource-intensive process will not slow down the websites of other accounts.

No account can take over the CPU.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Fair distribution of CPU performance

COLLABORATE WITH WEB GRAPHIC DESIGNERS: IMPORT FIGMA DESIGNS

925
New feature WD WB WM
TRANSFORM FIGMA DESIGNS INTO WEBDEV PAGES

The Figma design import feature allows you to convert the elements created by graphic designers into WEBDEV pages, while respecting your style guidelines.

See "Figma import" in detail, on new features 043 to 048.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
Take advantage of professional designs

1 • IMPORT THE FIGMA DESIGN INTO WEBDEV
2 • DEFINE THE TYPE OF CONTROL
3 • SAVE THE PAGE WITH ITS CONTROLS AND GRAPHIC ELEMENTS
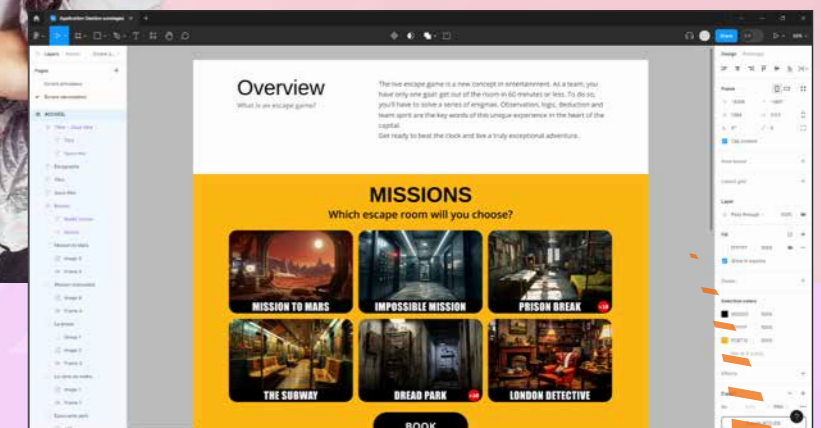**4 • FOCUS ON DEVELOPMENT**

926
New feature WD WB WM
SIMPLE PROCESS

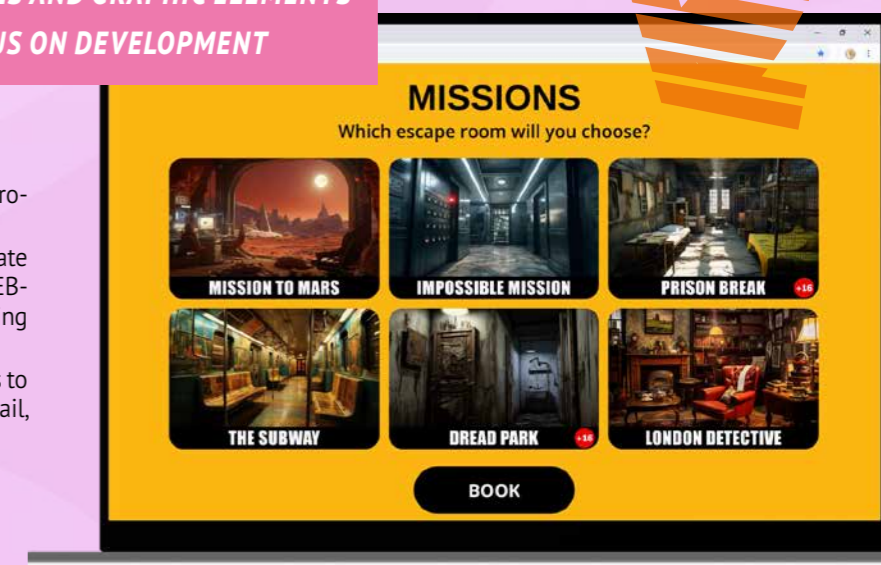Retrieving Figma designs is a simple and intuitive process.

Each element is analyzed, and then you simply indicate which type of control the elements correspond to. WEBDEV 2024 will generate and position the corresponding controls.

Where necessary, WEBDEV 2024 asks simple questions to define the control settings. See "Figma import" in detail, on new features 043 to 048.

BENEFIT OF THIS NEW FEATURE IN VERSION 2024 :
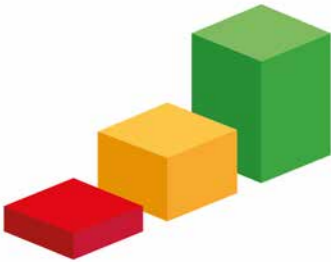*Easy to get, easy to work with*

927 MANAGE PRIORITIES BY WEBSITE

New feature WD WB WM

Within each account, each website can have a different prioritiy level: high, medium, low

You can assign a different priority level to each website of any given account.
There are 3 priority levels: low, medium and high.
High-priority websites will have access to more resources than the other websites of the account.

Benefit of this new feature in version 2024 :
It's always good to set priorities straight

928 WEBDEV ACCOUNT: SECURITY

New feature WD WB WM

WEBDEV accounts benefit from higher security in version 2024.
Account isolation has been reinforced, in cases where there are multiple accounts on the same physical server.
In a shared use scenario, the directories of an account can no longer be access from outside the account.

Benefit of this new feature in version 2024 :
Reinforced isolation

929 PREVENT SERVER ERROR LOG FILES FROM PILING UP

New feature WD WB WM

In version 2024, error log files are automatically deleted when disk space runs low. Older files are deleted to free up disk space.
The threshold is set to 10 GB by default. This value can be adjusted.

Benefit of this new feature in version 2024 :
No more disks full of log files

930 MISCELLANEOUS

New feature WD WB WM

• The Application Server now returns HTTP error codes.

Benefit of this new feature in version 2024 :
Clear data

WEBDEV CLUSTER

931 MONITOR SYNCHRONIZATION FOR EACH NODE

New feature WD WB WM

The WEBDEV administration application and website allow you to monitor the synchronization progress for each cluster node.
Likewise, synchronization errors (if any) are displayed by node.

Benefit of this new feature in version 2024 :
Easily monitor each node

MATOMO WEB ANALYTICS

932 MATOMO: OPEN-SOURCE WEB ANALYTICS SOFTWARE

New feature WD WB WM

WEBDEV now supports Matomo, the leading open source web analytics platform.
Simply indicate the necessary identifiers and all website traffic statistics will be available in Matomo.

It is worth pointing out that Matomo stores its data in the European Union.

Benefit of this new feature in version 2024 :
Choose your favorite web analytics tool

DOCKER DEPLOYMENT

933 NATIVE SQL SERVER AND ORACLE CONNECTORS

New feature WD WB WM

You can activate Native SQL Server or Oracle Connectors via a script in a Docker image of a WEBDEV site.

Benefit of this new feature in version 2024 :
Automation

934 MISCELLANEOUS

New feature WD WB WM

• It is no longer necessary to manually configure the root of the Docker adress.

Benefit of this new feature in version 2024 :
Simplicity

DEPLOYMENT OF YOUR SITES

935 SECURITY: NTLM AUTHENTICATION

New feature WD WB WM

With WEBDEV 2024, you can deploy WEBDEV sites on servers that use NTLM authentication.

Benefit of this new feature in version 2024 :
Improved security

936 MISCELLANEOUS

New feature WD WB WM

• The deployment process now checks for available disk space with more precision.

Benefit of this new feature in version 2024 :
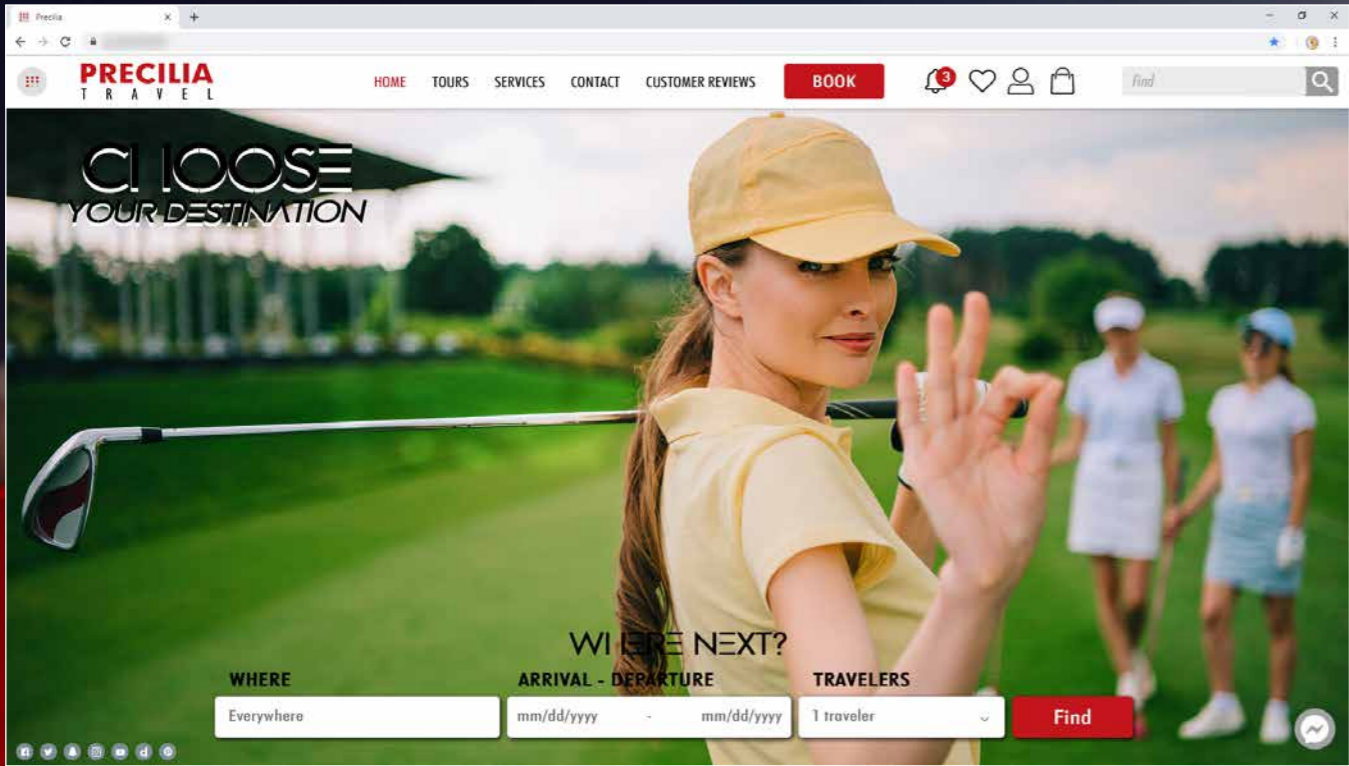*No surprises*

AND MUCH MORE

937 MANY MORE NEW FEATURES

New feature WD WB WM

Version 2024 offers many other new features that you will discover once you order and receive your software.

Version 2024, a world of new features

FASTER AND MORE SECURE APPLICATIONS IN VERSION

2024

2024

Your code is unique: Windows, Internet, HTML5, Linux, Java, .Net, PHP, Mac, web service, Android, iOS, Cloud, SaaS and more.

TECHNOLOGY DOES NOT WAIT: ORDER VERSION 2024 TODAY

AVAILABLE FROM 2023

Order today. Any purchase of WINDEV 28, WEBDEV 28 or WINDEV Mobile 28 (excluding updates) from 9/1/2023 entitles you to a free upgrade to the corresponding 2024 version (package tutorials) as soon as available. Any purchase of an update to version 28 after 1/9/2023 entitles you to version 2024 (package and tutorials) for the difference in update price (excluding shipping costs). New versions are being announced now, so you can plan ahead and avoid spending time developing features that will be included in the software. Some features may not be available as soon as the version is shipped, but will be offered later as downloads. Also note that additional improvements and new features other than the ones described in this document may be available in the new version. WINDEV, WEBDEV and WINDEV Mobile are professional software products. The amount of new features adds up to more than 929 since certain new features are related to multiple subjects and are presented more than once. Despite the care taken during the writing process, this is a non-contractual document. Screenshots and lists are for illustration purposes only. Don't hesitate to contact us for any additional information or to learn more about a new feature. All the trademarks mentioned in this publication are registered trademarks of their respective owners.

Documentation version: 100

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