

# Digitize business processes successfully

Accelerate digital transformation with the X4 BPMS low code platform

## Release Notes X4 BPMS Release 7.2.3

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# 1 X4 BPMS Release 7.2.3

The following bugs were fixed in Release 7.2.3:

## 1.1 Bugfixes

### 1.1.1 X4 Server

Key	Summary
<a href="#">XVIER-16334</a>	Error when using <i>PCML Adapter</i>
<a href="#">XVIER-15413</a>	httpstarter/ReST calls in 7.2 release do not work with another X4 client secret

### 1.1.2 X4 Web Apps

Key	Summary
<a href="#">XVIER-15183</a>	SelectAction is ignored upon selection of an image in a ListView
<a href="#">XVIER-15734</a>	Grid Component: Mouse pointer does not change upon mouse over

## 2 X4 BPMS Release 7.2.2

### Note:

[XVIER-15834](#) - Thread leak in Process Starter

X4 BPMS Version 7.2.0 and Version 7.2.1 might cause storage / thread leaks during the operation. We recommend an update to Version 7.2.2 for the production environment.

In addition, some third party libraries were updated with Release 7.2.2 and the following bugs were fixed.

## 2.1 Updating Third Party Libraries

The following third party libraries have been updated to the latest version:

- Apache POI
- OData Client
- liquibase
- Apache Maven

The following adapters were updated to support the latest third party libraries:

- GDVVU adapter (hsqldb and commons-text)
- Google Cloud adapter (latest library versions)
- IoT adapters (latest library versions)

## 2.2 Bugfixes

### 2.2.1 X4 Adapter

Key	Summary
<a href="#">XVIER-15343</a>	SAML Calculator - broken operations: Sign Request & Sign Assertion
<a href="#">XVIER-15783</a>	[X4-Adapter] Keycloak Management - list users default limit

### 2.2.2 X4 Server

Key	Summary
<a href="#">XVIER-15311</a>	NullPointerException at process start via Startup

<a href="#">XVIER-15374</a>	schedule.xml migration with start and end date is broken
<a href="#">XVIER-15427</a>	Native adapters cannot be deployed and used in X4 designer
<a href="#">XVIER-15432</a>	Wildfly service folder is not available in zip artifacts
<a href="#">XVIER-15513</a>	Migration tool: Keycloak service cannot be installed correctly
<a href="#">XVIER-15717</a>	Webapp Login in 7.2.x with Keycloak 16.0.1 does no longer work
<a href="#">XVIER-15790</a>	SQL-Profiling does not work on mssql with other than default schema
<a href="#">XVIER-15855</a>	Error in a native adapter usage when the process is scheduled at startup process
<a href="#">XVIER-15908</a>	Webapp templates shows login page unexpectedly, as they are public by default

### 2.2.3 X4 Web Apps

Key	Summary
<a href="#">XVIER-15418</a>	Error when entering values in decimal/integer fields
<a href="#">XVIER-15431</a>	[WebApp] Switching between modules does not work
<a href="#">XVIER-15615</a>	After page reload a web app with more than one module breaks in public access
<a href="#">XVIER-15622</a>	Properties in MasterDetail not accesible in 7.2
<a href="#">XVIER-15641</a>	Error when navigation between Components with TextBlock/Link - Element
<a href="#">XVIER-15839</a>	ComponentName in Link doesn't work in a TextBlock



## 3 X4 BPMS Release 7.2.1

In addition to the feature highlights and product enhancements listed below for the X4 BPMS Release 7.2.0, we fixed one important issue for the Release 7.2.1.

### 3.1 Web App

Key	Summary
<a href="#">XVIER-15379</a>	Possible GDPR (German DSGVO) violation by Google fonts integrated online.  The font for icon texts is now delivered with the X4 BPMS and the servers of the US group are no longer accessed.

## 4 Feature Highlights

### 4.1 OpenAPI for the X4 BPMS

X4 BPMS users can create standardized interfaces based on OpenAPI which makes it possible to provide technical processes from the X4 BPMS as a service at the push of a button. This does not only simplify the electronic data exchange with customers or suppliers, but also makes it easy for consumers to use services.

- This low-code feature for X4 BPMS developers is included in the X4 BPMS default license.
- The OpenAPI is used when ReST services are used for internal and external communication and data transmission.
- The feature provides X4 BPMS users with a basis for the provision of an API gateway.

### 4.2 Web App API for the X4 BPMS

This new module in the X4 Software Development Kit (SDK) allows X4 BPMS developers to extend the functionality of X4 Web Apps with their own JavaScript functions, so that the Web App's data and actions can be accessed via JavaScript API functions. This means that the flexible possibilities of JavaScript for mapping almost any functionality in the browser can be combined with the uncomplicated creation of X4 Web Apps.

- A separate license is required for this pro-code feature for X4 BPMS developers.
- The feature provides more flexibility in the use of X4 Web Apps as existing functions can be integrated but also own building blocks can be created.
- With the Web App it is possible to respond to customer-specific requirements and to design customized Web Apps.

### 4.3 X4 BPMS Process Monitoring

With the X4 BPMS Process Monitoring, X4 BPMS administrators have a wide range of default statistics available as standard for monitoring processes. This means that deviations from targets can be identified at an early stage and action can be taken proactively. This results in a higher system stability and process efficiency.

- This no-code feature for X4 BPMS developers is included in the X4 BPMS default license.
- X4 BPMS administrators get an overview of all executed processes and can visualize X4 process metrics.
- The connection to third-party solutions can be easily established via an API.

### 4.4 Additional Highlights of the X4 BPMS 7.2.0

- X4 BPMS incl. Keycloak available on Docker Hub
- Extended GDV VU/VM Adapter
- Dependencies from third-party libraries reduced and updated libraries, e.g. Keycloak, to the latest version

## 5 System Requirements

Please refer to the X4 BPMS System Requirements document for a detailed list of the system requirements. You will find this document on the Download page of the SoftProject website at [www.softproject.de/en/downloads](http://www.softproject.de/en/downloads).

## 6 Product Enhancements

Besides the feature highlights described above, the X4 BMPS Release 7.2 includes a variety of feature enhancements expanding the functionality of all X4 BPMS components:

- X4 Adapter
- X4 Control Center
- X4 Designer
- X4 Server
- X4 Web Apps

### 6.1 X4 Adapter

#### 6.1.1 Warning instead of error issued if mandatory parameters are not set for an adapter

If an adapter misses required parameters, a warning instead of an error will be issued in the **Problems** view.

The image shows two screenshots from the X4 Designer. The left screenshot displays the 'FTP Connector (not licensed)' adapter configuration. It lists parameters: host (value: 21), user, password, path, and targetPath. The 'user', 'password', and 'path' fields are highlighted with red boxes, indicating they are mandatory and currently empty. The right screenshot shows the 'Problems' view, which lists five warnings. The first four warnings are highlighted with red boxes: 'Mandatory parameter "user" in adapter "FTP Connector" has no value assigned...', 'Mandatory parameter "password" in adapter "FTP Connector" has no value assigned...', 'The adapter "FTP\_Connector\_1.fa" is not licensed.', and 'Mandatory parameter "path" in adapter "FTP Connector" has no value assigned...'. The fifth warning is 'Mandatory parameter "host" in adapter "FTP Connector" has no value assigned...'.

#### 6.1.2 FTP Connector – Checks if file to be downloaded exists

The *FTP Connector* now checks if the file to be downloaded exists on the server issuing an error message if the file is not available.

The new `Exists` operation with the `path` parameter has been added to the adapter.

##### Properties

Operation	<code>Exists</code> : Checks whether the files or folders specified in the <code>path</code> parameter exist. Outputs an XML with metadata as a result.
-----------	---

##### Parameter

<code>path</code>	Path to a folder or file on the FTP(S)/SFTP server. <b>Possible values:</b> <ul style="list-style-type: none"><li>▪ Any string (e.g. <code>/Folder/Subfolder</code> or <code>/Folder/Subfolder/File.xml</code>)</li></ul>
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### 6.1.3 FTP Connector (Advanced) – Pass all files in local folder to FTP Server

When using the *FTP Connector*, multiple files stored in a local folder can now be passed to the FTP Server automatically in send and receive mode.

If transferring all files from the folder defined in the `localPath` parameter to the folder defined in the `remotePath` parameter:

- Set `multipleFiles` parameter
- Set `documentname` parameter NULL

### 6.1.4 Loop Adapter – Specifying number of loops executed in a process

Users can now set the `count` parameter which clearly specifies how often the loop will be executed in the process.

The *Loop Adapter* executes a specified number of loops in a process. As soon as the specified number of loop passes has been executed, the *Loop Adapter* outputs the status value 1.

#### Properties

Operation	Operation executed by the adapter  <b>Possible values:</b> <ul style="list-style-type: none"><li>▪ <code>Count</code>: Counts the number of loop passes.</li></ul>
-----------	--

#### Parameter

<code>count</code>	Number of loop passes to be executed  <b>Possible values:</b> <ul style="list-style-type: none"><li>▪ Integer</li></ul>
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### 6.1.5 IMAP and POP3 Email Adapters – adding OAuth 2.0 support

As Microsoft deprecates the basic authentication for IMAP, POP3, and other legacy protocols, the *IMAP* and *POP3* email adapters will support Microsoft Modern Auth (OAuth 2.0).

#### Parameter

<code>oAuth2</code>	Defines if the OAuth 2.0 protocol is used for log-in.  <b>Possible values:</b> <ul style="list-style-type: none"><li>▪ <code>true</code>: OAuth 2.0 is used for login</li></ul>
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	<ul style="list-style-type: none"> <li>▪ <code>false</code>: OAuth 2.0 is not used for login</li> </ul> <p>If the OAuth 2.0 protocol is used:</p> <ul style="list-style-type: none"> <li>▪ The SSL encryption must be enabled for the connection to the IMAP server by setting the <code>ssl</code> parameter.</li> <li>▪ The access token must be entered as the <code>password</code> parameter.</li> </ul>
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### 6.1.6 Keycloak Management Adapter – retrieving data from non-default realm

The *Keycloak Management* adapter can retrieve data from a non-default realm by choosing the realm for authentication at log-in.

To support this, the following new parameters were added to the adapter:

#### Parameters

<code>realm</code>	Realm to be used in Keycloak ReST API calls
<code>clientId</code>	Client ID for Keycloak ReST API authentication
<code>clientSecret</code>	Client secret for Keycloak ReST API authentication

### 6.1.7 LDAP Connector – turn off host name validation for an LDAP connection

In the *LDAP Connector* the host name validation for an LDAP connection can be turned off with the `acceptAllHostnames` parameter.

#### Parameter

<code>acceptAllHostnames</code>	<p>Disables the security settings by accepting any host name contained in the certificate.</p> <p><b>Possible values:</b></p> <ul style="list-style-type: none"> <li>▪ <code>true</code>: Accepts any host name.</li> <li>▪ <code>false</code>: The security settings are enabled (default).</li> </ul>
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### 6.1.8 User Session Adapter – new adapter to store user session information from a process

There is a new adapter (*User Session*) in the **X4 Tools** category which allows to store data in the user session and access it later.

## Properties

Operation	<p>Operation performed by the adapter</p> <p><b>Possible values:</b></p> <ul style="list-style-type: none"><li>▪ <code>Store Content</code>: Writes the data in the data stream to the user session.</li><li>▪ <code>Get Content</code>: Outputs the record from the user session specified in the <code>key</code> parameter.</li><li>▪ <code>List Content</code>: Outputs a list of the data in the user session.</li><li>▪ <code>Check User Session</code>: Checks if a user session exists and outputs the user session ID.</li><li>▪ <code>Clear Session Data</code>: Deletes the data in the user session and invalidates the user session.</li></ul>
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## Parameter

key	<p>For <code>Get User Session</code> operation: Used as filter.</p> <p>For <code>Store User Session</code> operation: Used as the name with which the data in the data stream is stored in the user session.</p> <p><b>Possible values:</b></p> <ul style="list-style-type: none"><li>▪ Any string</li></ul>
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### 6.1.9 System Status/Schedule Management Adapters – System Health API to detect e.g. performance issues

To check the system health or detect performance issues, useful runtime information about the X4 Server and the processes is needed. The *System Status* and *Schedule Management* adapters were extended to provide the required information.

The *System Status* adapter outputs status information about the X4 Server. The *Schedule Management* adapter updates or lists schedulers that are in the X4 repository or in a project.

## System Status Adapter

### Properties

Operation	<p>Operation executed by the adapter</p> <p><b>Possible values:</b></p> <ul style="list-style-type: none"><li>▪ <code>Threads Information</code>: Outputs information about all threads running on the X4 Server</li></ul>
-----------	--

	<ul style="list-style-type: none"> <li>▪ <b>JVM Parameters:</b> Outputs all parameters of the Java Virtual Machine</li> <li>▪ <b>Processes Running:</b> Outputs information about all processes running on the X4 Server</li> <li>▪ <b>User Sessions Memory:</b> Outputs information about the memory consumption of the user sessions</li> <li>▪ <b>Apps Status:</b> Outputs information about the failed and deployed X4 Apps</li> </ul>
--	--

The `Threads Information` operation outputs information about all threads running on the X4 Server. The following elements can be included in the output:

Element	Description	Possible values
Name	Name of the thread	<ul style="list-style-type: none"> <li>▪ Any string</li> </ul>
Id	ID of the thread	<ul style="list-style-type: none"> <li>▪ Integer</li> </ul>
State	Status of the thread	<ul style="list-style-type: none"> <li>▪ NEW</li> <li>▪ RUNNABLE</li> <li>▪ BLOCKED</li> <li>▪ WAITING</li> <li>▪ TIMED_WAITING</li> <li>▪ TERMINATED</li> </ul>
Priority	Priority of the thread	<ul style="list-style-type: none"> <li>▪ Integer between 1 and 10</li> </ul>
Daemon	Specification whether the thread is a background service	<ul style="list-style-type: none"> <li>▪ <code>true</code></li> <li>▪ <code>false</code></li> </ul>
CpuTime	Time needed for the execution of the current thread in seconds	<ul style="list-style-type: none"> <li>▪ Integer</li> </ul>

### Schedule Management Adapter

The *Schedule Management* adapter has a new operation, `Jobs Information`.

The `Jobs Information` operation displays information about scheduled processes from all Schedule files in the X4 repository.



The following elements can be included in the output:

Element	Description	Possible values
Id	UUID of the execution	<ul style="list-style-type: none"> <li>▪ UUID</li> </ul>
Name	Name of the execution	<ul style="list-style-type: none"> <li>▪ Any string</li> </ul>
Process	Path to the process to be executed	<ul style="list-style-type: none"> <li>▪ Any valid path to the X4 process in the X4 repository</li> </ul>
Active	Execution status	<ul style="list-style-type: none"> <li>▪ true</li> <li>▪ false</li> </ul>
JobsExecuted	Number of previous executions	<ul style="list-style-type: none"> <li>▪ Integer</li> </ul>
StartTime	Execution start date	<ul style="list-style-type: none"> <li>▪ Date</li> </ul>
PreviousTime	Date of last execution	<ul style="list-style-type: none"> <li>▪ Date</li> </ul>
NextTime	Date of the next execution	<ul style="list-style-type: none"> <li>▪ Date</li> </ul>
EndTime	Execution end date	<ul style="list-style-type: none"> <li>▪ Date</li> </ul>

### 6.1.10 System Configuration Adapter – showing configuration parameters

There is a new adapter to show the configuration parameters of the X4 instances. The *System Configuration* adapter can be found in the **X4 Tools** category.

#### Properties

Operation	<p>Operation executed by the adapter</p> <p><b>Possible values:</b></p> <ul style="list-style-type: none"> <li>▪ <code>List Configurations</code>: List all configurations of the system</li> </ul>
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	<ul style="list-style-type: none"> <li>Get Configuration by configurationName: Output configuration with the specified name</li> </ul>
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### 6.1.11 File System Adapter – improved information for targetPath

Sometimes users confuse the `path` and `targetPath` parameters in the *File System* adapter. Therefore, a comment has been added to the `targetPath` parameter:

targetPath	<p>Additional path to a file or folder in the file system of the X4 server or to a connected Windows or Samba network drive. To do this, the X4 server requires appropriate permissions on the destination folder.</p> <p><b>This parameter is used only for Move and Copy operations.</b></p> <p><b>Possible values:</b></p> <p><b>Any string, if necessary, including placeholders and file extension, e.g. %USER_COLLECTION%/Data/Input.xml</b></p> <ul style="list-style-type: none"> <li>c:/: Access the Windows system partition C:\.</li> </ul> <p>Any UNC network drive specification according to the scheme <code>\\\\Server\\share\\public\\folder\\</code> with any spaces and special characters, e.g. <code>\\\\SP-PM-01\\share\\Public Folder\\</code></p>
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### 6.1.12 Deployments Adapter – ReST API for refreshing contents of X4DB

After modifying resources on the file system, they can be refreshed in the X4 database with a ReST service. The ReST service was renamed from "Deployed Processes" to "Deployments" and is available in the **X4 Adapters > X4 Tools > Deployments** category.

*Deployments*: Lists the processes and resources deployed on the server in the X4 repository. The listing also includes processes deployed using X4 Apps.

#### Properties

Operation	<p>Operation performed by the adapter</p> <p><b>Possible values:</b></p> <ul style="list-style-type: none"> <li>List: List all available processes and resources in an XML document.</li> <li>Get Image: Returns an image.</li> <li>Get Image Metadata: Returns the meta data of an image.</li> <li>Reload Repository: Returns a list of all projects and repository types for each element.</li> </ul>
-----------	---

	<ul style="list-style-type: none"> <li>▪ <b>Reload Project:</b> Returns the project and the type of the repository for each element.</li> </ul>
--	---

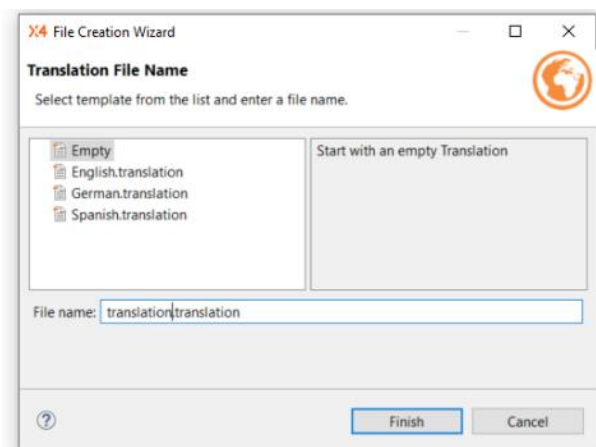
## Parameters

Adapter	<p>Main class of the adapter (do not change!)</p> <p><b>Possible value:</b></p> <ul style="list-style-type: none"> <li>▪ de.softproject.x4.adapter.deployed.app.DeployedAppAdapter (default)</li> </ul>
repository	Repository name
project	Project name
processPath	Path and name of the process

## 6.2 Designer






### 6.2.1 Pre-filled templates for translations available

Pre-filled templates are available when creating a new translation file in a Web App project to facilitate the creation of multi-language Web Apps.



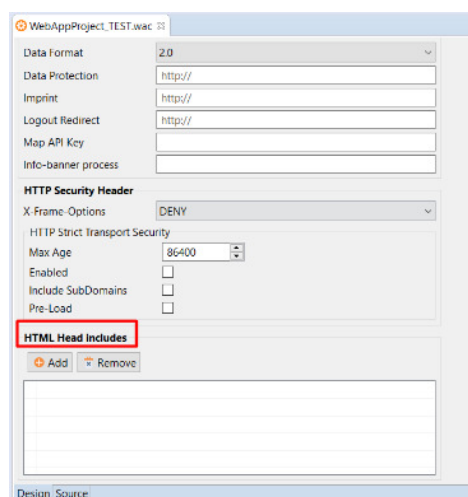
## 6.2.2 Improved output view when debugging

When debugging processes, it is now possible to search, copy, and save the information in the **Output** view.

	Find content
	Copy all content
	Copy selected content
	Save Content
	Format Content

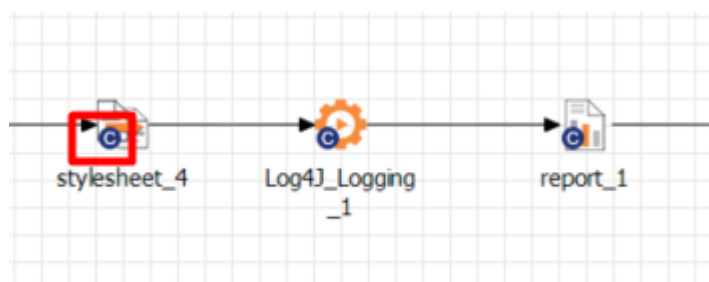
## 6.2.3 Web App Editor – Rename the title to HTML Head includes

In the Web App Editor (.wac Editor), the **Header includes** title for adding a HTML head was renamed to **HTML Head includes** to make the title more comprehensible.



## 6.2.4 Indicate that process step has custom parameters

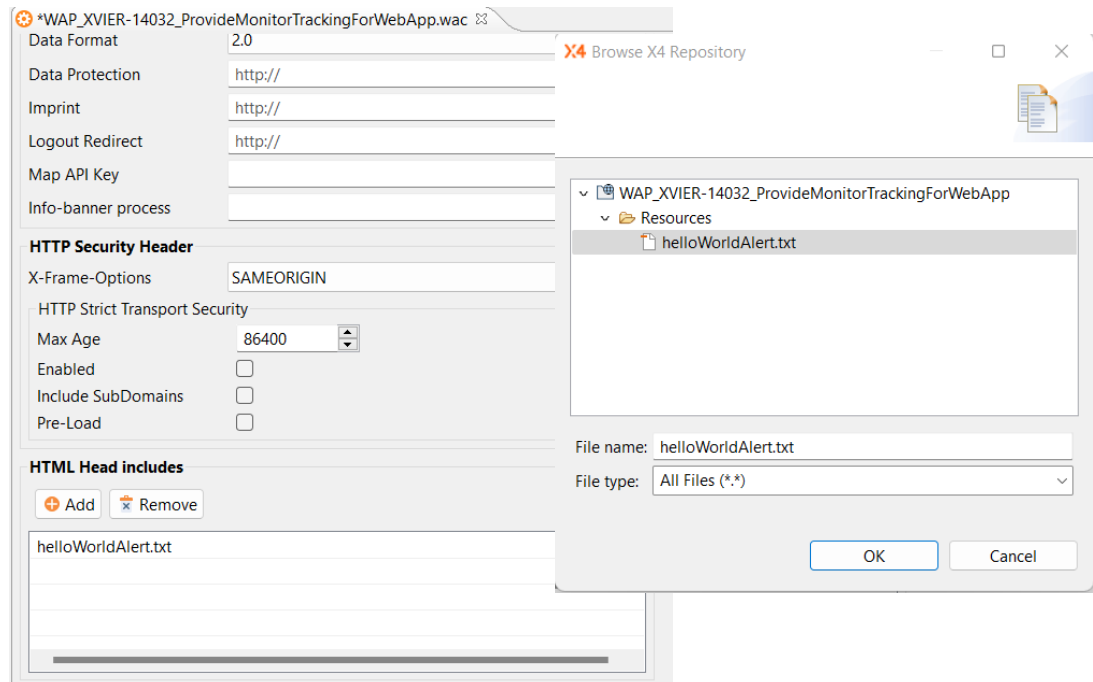
As soon as a custom parameter is defined in an adapter, report, or mapping in a technical process, the X4 Designer marks the process module with a symbol. This allows you to see immediately for which process modules a custom parameter has been defined.



## 6.2.5 Adding JavaScript code to the Web App header

It is possible to add your own JavaScript code in the header of a Web App. The code is inserted directly before the closing `</head>` tag.

The resource file can be added through the `.wac` editor directly.



## 6.2.6 Renaming elements in the X4 Designer

To provide a consistent naming throughout all products and documents, some elements in the X4 Designer relating to the creation of processes in BPM and ESB projects have been renamed as follows:

OLD	NEW
<b>ESB:</b> Process	Technical Process
<b>BPM:</b> BPM Process	Business Process

## 6.2.7 New X4 logo in Designer and desktop icons

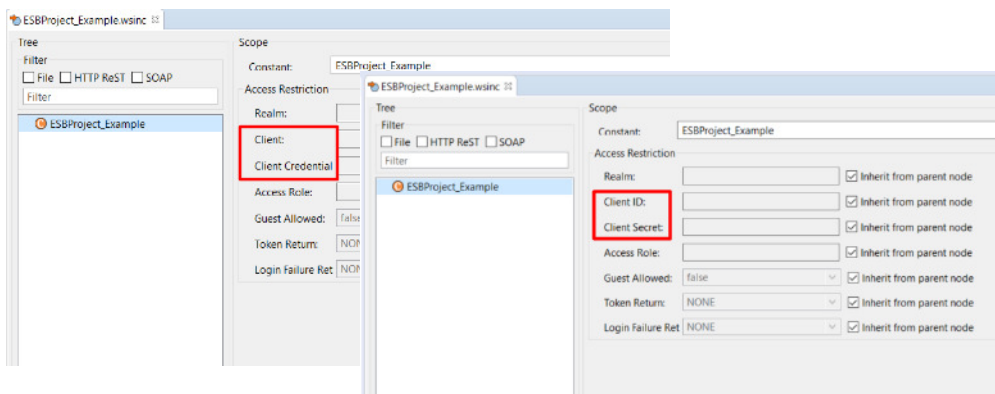


The X4 BPMS logo has been changed and can now be found in X4 Designer, the Desktop icons and in the installation directory.

## 6.2.8 Matching label names for Keycloak settings and X4 BPMS (WSINC/WAC)

To ensure consistent naming conventions in Keycloak and X4 BPMS for defining the Client settings, X4 Designer names for WSINC and WAC have been renamed

OLD	NEW
Client	Client ID
Client Credentials	Client Secret





## 6.2.9 Clean X4 Common Library

The templates and process libraries available in the X4 Common Library were cleaned up, e.g. unusable files were removed.

## 6.2.10 Hide entries in the Problems view

In the Problems View, it is now possible to hide entries that will not be fixed but ignored, such as mandatory parameters set via dynamic parameters.

	One or several entries to be hidden
 Show	Unhide entries

## 6.2.11 Add X4 Designer for macOS

The X4 Designer is now also available for macOS.

## 6.3 Server

### 6.3.1 Replace engine caches by a modern framework and remove the x4config parts

The `<productionMode>` entry to turn on/turn off the production mode and the `<cache>` entry for the definition of the engine cache were removed from the **x4config.xml** file. This ensures a powerful and stable caching which does not require any configuration.

### 6.3.2 Improve Profiling ReST API to facilitate the modification of the profiling configuration

The ReST Service for the Profiling Management is extended to enable the easy modification of the profiling configuration.

The profiling configuration can be updated without having to send the entire object (e.g., when deactivating, it is not necessary to send the entire process list).

#### Note:

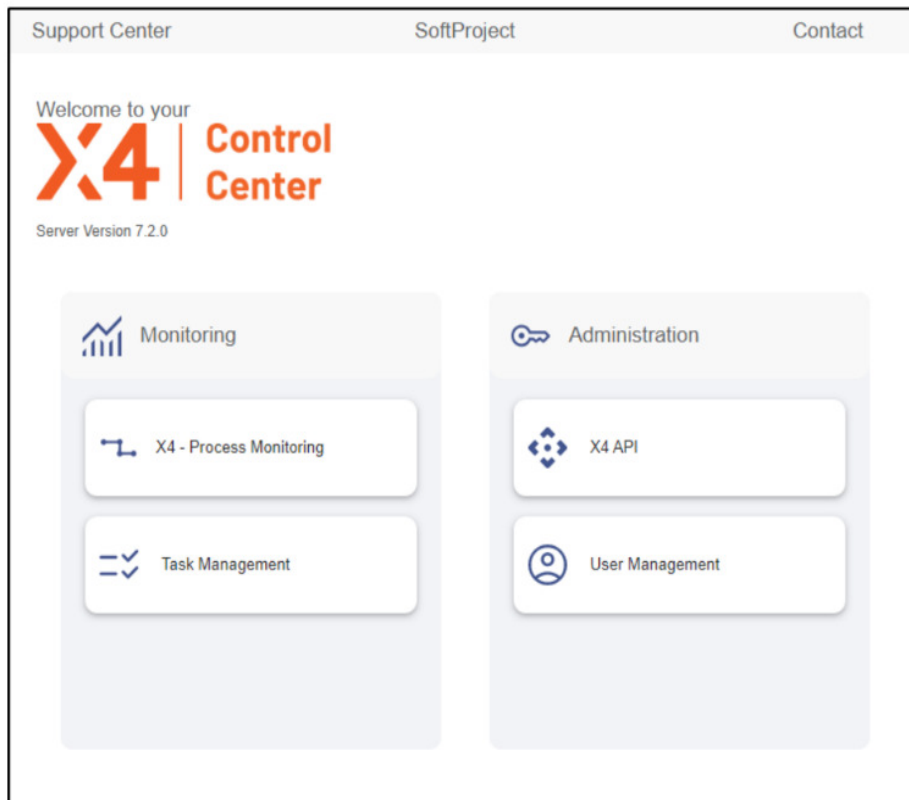
The ReST API differs from the Adapter API.

The following ReST endpoints are available:

Profiling Management <small>Update or list Profilings which are located in the X4 Repository or in a Project</small>			^
GET	/rest/profilings/{id}	Returns the project profiling for the given id	✓ 🔒
PUT	/rest/profilings/{id}	Updates the project profiling for the given id	✓ 🔒
GET	/rest/profilings/{id}/active	Returns the profiling active status for the given id	✓ 🔒
PUT	/rest/profilings/{id}/active	Updates the project profiling active status for the given id	✓ 🔒
GET	/rest/profilings/{id}/processes	Returns a list of the processes for the given profiling id	✓ 🔒
PUT	/rest/profilings/{id}/processes	Adds the named processes to the profiling processes list for the given id	✓ 🔒
DELETE	/rest/profilings/{id}/processes	Deletes the process(es) for the given profiling id	✓ 🔒
GET	/rest/profilings/{id}/processes/filtertype	Returns the filter type for the processes of the given profiling id	✓ 🔒
PUT	/rest/profilings/{id}/processes/filtertype	Updates the profiling processes filter type for the given id	✓ 🔒
GET	/rest/profilings	Returns a list of project profilings	✓ 🔒

### 6.3.3 New Welcome Page at X4 BPMS Root URL

A new Welcome page has been created for the X4 BPMS root URL (e.g. localhost:8080) now called the X4 Control Center.



### 6.3.4 Scheduler – Improve Scheduler ReST API

The ReST service for the scheduler has been extended in order to allow the simple modification of the scheduler configuration.

The scheduler configuration can be updated without sending the entire object.

**Note:**

The ReST API differs from the adapter API.



The following ReST endpoints are available:

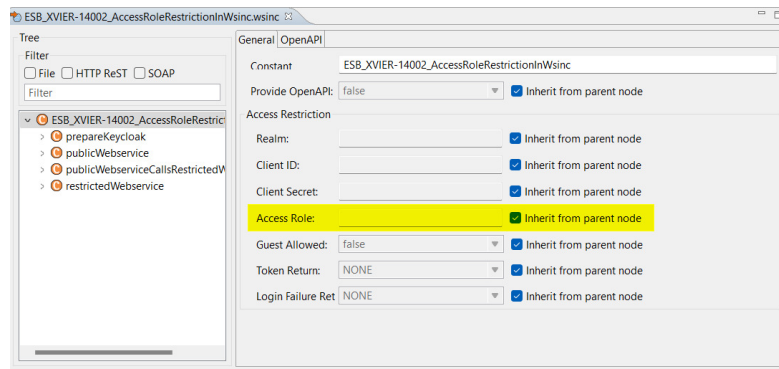
Schedule Management <small>Update or list schedules which are located in the X4 Repository or in a Project.</small>			^
GET	/rest/schedules/{id}/startups/{startup}/active	Returns the schedule startup active status for the given ids.	✓ 🔒
GET	/rest/schedules/{id}/crons/{cron}/parameters	Returns the schedule cron parameters for the given ids.	✓ 🔒
GET	/rest/schedules/{id}/startups/{startup}/parameters	Returns the schedule startup parameters for the given id.	✓ 🔒
GET	/rest/schedules/{id}/crons/{cron}/expression	Returns the schedule cron expression for the given ids.	✓ 🔒
GET	/rest/schedules	Returns a list of project schedules	✓ 🔒
GET	/rest/schedules/{id}	Returns the project schedule for the given id.	✓ 🔒
PUT	/rest/schedules/{id}	Put the project schedule for the given id.	✓ 🔒
PATCH	/rest/schedules/{id}	Patch the schedule for the given id.	✓ 🔒
GET	/rest/schedules/{id}/crons/{cron}	Returns the schedule cron execution for the given ids.	✓ 🔒
PUT	/rest/schedules/{id}/crons/{cron}	Put the cron active status for the given ids.	✓ 🔒
PATCH	/rest/schedules/{id}/crons/{cron}	Patch the crons for the given id.	✓ 🔒
GET	/rest/schedules/{id}/crons/{cron}/active	Returns the schedule cron active status for the given ids.	✓ 🔒
GET	/rest/schedules/{id}/crons	Returns the schedule cron executions for the given id.	✓ 🔒
PUT	/rest/schedules/{id}/crons	Put the cron executions for the given id.	✓ 🔒
PATCH	/rest/schedules/{id}/crons	Patch the crons for the given id.	✓ 🔒
GET	/rest/schedules/{id}/startups	Returns the schedule startup executions for the given id.	✓ 🔒
PUT	/rest/schedules/{id}/startups	Put the startup executions for the given id.	✓ 🔒
PATCH	/rest/schedules/{id}/startups	Patch the startups for the given id.	✓ 🔒
GET	/rest/schedules/{id}/startups/{startup}	Returns the schedule startup execution for the given ids.	✓ 🔒
PUT	/rest/schedules/{id}/startups/{startup}	Put the startup active for the given id.	✓ 🔒
PATCH	/rest/schedules/{id}/startups/{startup}	Patch the startups for the given id.	✓ 🔒
GET	/rest/schedules/jobs		✓ 🔒

➔ For more information, such as the input and output structures as well as possible values, see the X4 ReST API at [localhost:8080/X4/X4Api/](http://localhost:8080/X4/X4Api/).

### 6.3.5 Add access role restriction to wsinc definition

To restrict access in Web Services definitions, a new **Access Role** field was created. It relates to a role in Keycloak and the user needs to be assigned to have access to the service.

The role is inherited from the parent node and if a user has no role access the "403 forbidden" message is issued. If the user has invalid token access, "401 unauthorized" is returned.



### 6.3.6 New placeholder for process ID

To use the new process UID in processes, a new placeholder, `%PUIID%`, is available. The existing `%PID%` placeholder is still available as number.

<code>%PID%</code>	<p>ID of the current Technical Process instance as integer number that is unique within an X4 Server instance. Subprocesses are executed with the same Technical Process ID. This does, however, not apply to processes that have been started using the <i>Process Starter</i>.</p> <p>Example: 1628696804892237809</p> <p>If multiple instances of the X4 Server are executed simultaneously within one application server, it is recommended to use the unique placeholder <code>%UID%</code> instead of <code>%PID%</code>.</p>
<code>%PUIID%</code>	<p>Outputs the unique UUID of the start process.</p>

### 6.3.7 Keycloak ReST-API user replaced with a service user

The Keycloak System user is replaced by a so-called service user. The "Keycloak ReST-API User" is removed.

The server now works with so-called service accounts, using the **Client ID** as the account's username and the **Client Secret** as the account's password.

The new Keycloak configuration file will have the following structure:

```
{
  "connection": {
    "realm": "X4Realm",
    "auth-server-url": "http://localhost:8085/auth/",
    "resource": "X4",
    "credentials": {
```

```

        "secret": "60304a13-8fa6-4899-94a2-0c10562768ec"
    },
    "service-account-credentials": {
        "username": "Test",
        "password": "D9iRpVhaqMeTrBzBZdz2MWD7mAtapvua"
    }
}

```

The `service-account-credentials` dictionary is optional.

By default, if this key is not present in this configuration file, the server will use `connection > resource` as the service account ID and `connection > credentials > secret` as the service account secret. If the file is not deployed in the server (under the **configurations** directory) or if there is no `connection` data, the credentials will be set to X4 and 60304a13-8fa6-4899-94a2-0c10562768ec by default.

This mechanism allows the system administrator to override the default service accounts if needed, but also offering the possibility to avoid maintaining two sets of Keycloak credentials (the one in `connection` and the one under `service-account-credentials`).

If any changes are made to the Keycloak configuration file, the server must be rebooted.

### 6.3.8 Install tool for installing X4 BPMS and Keycloak as a service

X4 Server and Keycloak can be installed as a service when running the default installation. The creation of the service is done automatically, as well as the cleaning after uninstalling X4.

- ➔ For more information, see the X4 BPMS Installation Guide on the Download page of the SoftProject website at [www.softproject.de/en/downloads](http://www.softproject.de/en/downloads).

### 6.3.9 Docker compose file installing X4 BPMS and Keycloak

A docker file is available for the download of the X4 BPMS Server and Keycloak Installation Release 7.2.

- ➔ For more information, see the X4 BPMS Installation Guide on the Download page of the SoftProject website at [www.softproject.de/en/downloads](http://www.softproject.de/en/downloads).

### 6.3.10 X4 Update Tool is simpler for patch releases

The Update Tool has been enhanced to facilitate the update of minor versions. The user can create a copy of the existing version as backup. Within patches, it is not necessary anymore to migrate existing projects.

The Update tool updates the following components in the running installation:

- ear
- x4 WildFly modules

### 6.3.11 X4 Server supports Keycloak 19.0.0+

The X4 Server now uses Version 19.0.1 of the authentication provider Keycloak.

- ➔ For more information, see the System Requirements on the Download page of the SoftProject website at [www.softproject.de/en/downloads](http://www.softproject.de/en/downloads).

### 6.3.12 Keycloak – Create default user

The new Keycloak version does not allow to have a default Admin User. At first use, the user needs to create an Admin User manually by going to `http://localhost:8085/auth/` and create a user in the Control Center via User Management.

## 6.4 X4 Web Apps

### 6.4.1 Customizable border colors in List Component

The border color for the border in the List Component can now be configured with the new `borderColor` attribute in the List Component. Possible values are hexadecimal color values, e.g. `ff5a00`, or color codes from the color palette of the Web App, e.g. `A200`.

### 6.4.2 HTMLDocument control should allow configuring the sandbox mode

The security level of the sandboxed iframe is defined by multiple flags on the `HTMLDocument` control as attributes.

<code>allowForms</code>	Allows embedded content to submit forms.
<code>allowPopups</code>	Allows embedded content to open a web page in a new window or tab.
<code>allowPointerLock</code>	Allows embedded content to interpret mouse movements directly as an input method.
<code>allowSameOrigin</code>	Allows embedded content to share memory if the origin of the embedded content is the same as the origin of the host web application.
<code>allowScript</code>	Allows embedded content to execute JavaScript.
<code>allowTopNavigation</code>	Allows embedded content to open a web page in the same window or tab.
<code>allowModals</code>	Allows embedded content to display modal dialogs.

### 6.4.3 Logout action in Web Apps

A new action type was added (`LogoutAction`) and it is possible to call a process before logout (optional). When the Action is executed and a process is specified, the process will be executed first. Afterwards the user will be logged out and the page will be reloaded.

**Note:** The action does the same as the actual logout button in the standard Web App header.

### 6.4.4 Multiselect mode in Grid Component behaves like single-selection mode

Row selection without clicking on the checkbox is now possible in multiselect mode as well as it was possible before in single-selection mode.

The selection is prevented if external links or editable cells are clicked.

### 6.4.5 Define borders on four sides of Web App elements

The Web App elements `Image`, `BoxLayout`, `TextBox` (multiline) and `Card` can have borders on any side independently. One element can have a border only on the bottom or top or left or right of an element instead of always having a border around the complete element.

New attributes have been defined which can either be `true` or `false`:

- `borderTop`
- `borderBottom`
- `borderLeft`
- `borderRight`

**Note:** The `border` attribute overrides the values of side-specific attributes (top, bottom, ...).

```
<Card border="false"
borderTop="true"
borderLeft="true"
borderRight="true"
borderBottom="false"
>
<BoxLayout></BoxLayout>
</Card>
```

### 6.4.6 Resizing cards on forms

Cards added to a form take just the space needed to include elements inside them. The standard cards do appear smaller now.

This was achieved by adding styles in the stylesheet of the `Card` element and the `BoxLayout` element avoiding empty spaces.

### 6.4.7 Send several entries to a Grid Component as preselected

It is now possible to send a series of entries to a Grid Component during the loading process and to display the selected entries in the Grid Component (checkbox checked) so that they can be deselected.

**Example:**

- Receive selected items like `<Item selected="true"></Item>`
- Send them to the Grid Component as preselected.

```

<GridSettings>
  <Multiselect/>
</GridSettings>

```

## 6.4.8 Renamed pie chart attributes

For easier understanding, the following attributes for the `<Pie>` element were renamed:

OLD	NEW
center1	centerHorizontal
center2	centerVertical
radius1	radius
radius2	radiusOuterDonut

## 6.4.9 Add enhanced features to charts

Additional attributes for the `<Chart>` element are now available in X4:

saveAsImage	<p>Enables the download of the charts as image files in SVG format.</p> <p><b>Possible values:</b></p> <ul style="list-style-type: none"> <li>Any string: Defining the file name</li> <li>TIMESTAMP: File name consists of a "Chart_" string and a timestamp</li> </ul>
subtitle	<p>Subtitle of the chart.</p> <p><b>Possible values:</b></p> <p>Any string or data binding</p>
avoidLabelOverlap	<p>Specifies whether to prevent labels from overlapping.</p> <p><b>Possible values:</b></p> <ul style="list-style-type: none"> <li>True: Overlapping of labels is prevented.</li> <li>False: Overlapping of labels is not prevented.</li> </ul>

In addition, zoom sliders are available and the radius as well as the horizontal and vertical position of the chart can be configured.

## 6.4.10 Copying table data in Grid Component

Data can be copied from a table in the Grid Component with CTRL+C and inserted elsewhere (CTRL+V). Even if the table data is not editable (`editable=false`) it should be able to mark cells and copy their content.

### 6.4.11 Show change password link depending on user auth mechanism

When logging in with a user of a social identity provider, it is not possible to change the user password with a Web App. The change password button is not available.

### 6.4.12 Create a datetime picker with customizable format

A new control, `DateTimePicker`, for adding a datetime picker to the Grid Component is available. The date/time can be displayed in different formats in the Grid Component:

- Only date (if data has `<date>` type)
- Datetime with hh:mm
- Datetime with hh:mm:ss
- Datetime with hh:mm:ss.sss

**Note:** For the `<date>` type only dates can be displayed, the `<datetime>` type displays the date and the time as hh:mm.

The existing text boxes with date/datetime are automatically migrated to the new datetime picker.

Date and datetime picker input fields support typing from keyboard as well as picking from the picker popup.

The date format is changing with change of browser language (e.g., 11/22/2021 in the US English locale should be 22.11.2021 in German).

### 6.4.13 Translate all messages from Kendo UI

The texts of the `Grid Component` and of the `ComboBoxAutocomplete` and `DateTimePicker` controls are available in more than 10 languages, including English, French, German, and Spanish.

### 6.4.14 Bindable parameter values in actions

Actions can be extended with the `<Parameters>` element if you want, for example, pass the ID of an item selected via a button in the `ListView`.

Within the `<Parameters>` element, you can set further definitions using the `<Parameter>` element with the following mandatory attributes:

Attribute	Description
key	Name of the parameter Data binding (boolean) possible <b>Possible values:</b> <ul style="list-style-type: none"><li>▪ string or data binding expression</li></ul>



Attribute	Description
value	Parameter value Data binding (boolean) possible <b>Possible values:</b> <ul style="list-style-type: none"> <li>string or data binding expression</li> </ul>

### 6.4.15 ExternalWeb Component allows configuring the sandbox mode

The security level of the sandboxed iframe is defined by multiple flags on the HTMLDocument control as attributes (see allowSameOrigin). All flags are set to `false` as a default.

allowForms	Allows embedded content to submit forms.
allowPopups	Allows embedded content to open a web page in a new window or tab.
allowPointerLock	Allows embedded content to interpret mouse movements directly as an input method.
allowSameOrigin	Allows embedded content to share memory if the origin of the embedded content is the same as the origin of the host web application.
allowScripts	Allows embedded content to execute JavaScript.
allowTopNavigation	Allows embedded content to open a web page in the same window or tab.
allowModals	Allows embedded content to display modal dialogs.

### 6.4.16 LinkControl available in TextBlock component

A link can be added to the `TextBlock` element using the `<Link>` element. To generate the link, an action must be defined.

The following actions are supported:

- UploadAction
- DownloadAction
- SelectAction
- CustomAction

## Example

```
<?xml version="1.0" encoding="UTF-8"?>

<DetailComponent xmlns="http://softproject.de/webapp/1.0">

    <FlowLayout>

        <Header value="Welcome to my new Web App!" />

        <TextBlock>

            <Link>

                <SelectAction

                    process="myProcess.wrf"

                    displayName="Click here"></SelectAction>

            </Link>

        </TextBlock>

    </FlowLayout>

</DetailComponent>
```

### 6.4.17 Replace default header with custom header

It is possible to replace the default header in a Web App with a custom header using the new `<HeaderSection>` element.

The `HeaderSection` is named according to the Web App project und has the file name extension `.headersection`. There can only be one `.headersection` file per Web App project.

The `<HeaderSection>` element creates the header. All layouts and controls of X4 Web Apps can be used in the header section. The custom header overwrites the standard header.

The following attribute can be defined for the `<HeaderSection>` element:

Attribute	Description
<code>process</code>	<p>Path to the <code>.wrf</code> file returning the data for the header. The process needs to be stored in the <code>Services/Processes</code> folder.</p> <p><b>Possible values:</b></p> <ul style="list-style-type: none"> <li>String (URI)</li> </ul>

### 6.4.18 Set HTTP Security Header

For each Web App, you can specify an HTTP Security Header in the Configuration file.

The `HTTPSecurityHeader` element was added to the root element `<Configuration>` of the `.wac` file. It contains configuration definitions for the HTTP Security Header.

The `HTTPSecurityHeader` element creates an HTTP Security Header in the Web App.

Element	Description	Possible values
<code>HTTPSecurityHeader</code>	The HTTP Security Header is an HTTP Response Header. The HTTP Security Header is used to protect the Web App against unauthorized attacks.	<p>The element contains the following element:</p> <ul style="list-style-type: none"> <li><code>strictTransportSecurity</code></li> </ul>
<code>strictTransportSecurity</code>	The HTTP Strict Transport Security Response Header informs browsers that the website should only be accessed via HTTPS and that all future access attempts via HTTP should be	

Element	Description	Possible values
	automatically converted to HTTPS.	

You can use the following attribute for the `HTTPSecurityHeader` element:

Attribute	Description	Possible values
<code>XFrameOptions</code>	The X-Frame options in the HTTP Response Header can be used to determine whether a calling browser is allowed to embed the target page in a <code>&lt;frame&gt;</code> , <code>&lt;iframe&gt;</code> , <code>&lt;embed&gt;</code> , or <code>&lt;object&gt;</code> .	<ul style="list-style-type: none"> <li>▪ <code>DENY</code>: The target page is not allowed to be embedded.</li> <li>▪ <code>SAMEORIGIN</code>: The target page is allowed to be embedded.</li> </ul>

You can use the following attribute for the `strictTransportSecurity` element:

Attribute	Description	Possible values
<code>enabled</code>	Sets the status of the HTTP Strict Transport Security Response Header.	<ul style="list-style-type: none"> <li>▪ <code>true</code>: The Strict Transport Security Response Header is enabled.</li> <li>▪ <code>false</code>: The Strict Transport Security Response Header is disabled.</li> </ul>
<code>includeSubDomains</code>	Specifies whether the HTTP Strict Transport Security Response Header settings are also applied to the subdomains of the Web App.	<ul style="list-style-type: none"> <li>▪ <code>true</code>: The settings are also applied to the subdomains.</li> <li>▪ <code>false</code>: The settings are not applied to the subdomains.</li> </ul>
<code>maxAge</code>	The time in seconds for the browser to remember that the Web App may only be accessed via HTTPS.	<ul style="list-style-type: none"> <li>▪ Any integer</li> </ul>

Attribute	Description	Possible values
preLoad	Specifies whether the HTTP Strict Transport Security Response Header is preloaded.	<ul style="list-style-type: none"> <li>▪ <code>true</code>: The HTTP Strict Transport Security Response Header is preloaded.</li> <li>▪ <code>false</code>: The HTTP Strict Transport Security Response Header is not preloaded.</li> </ul>

## 7 Deprecated Features

### 7.1 <Resource Owner Password Flow> authorization flow is deprecated

The `<Resource Owner Password Flow>` authorization flow is deprecated and will be removed with the next major release. A warning message will be issued when using Resource Owner Password Flow.

The `<Authorization Code Flow>` authorization flow should be used instead.

### 7.2 Repository Explorer Adapter – moved to legacy adapters package

The *Repository Explorer* adapter was deprecated and moved to the Legacy Adapters Package. Please contact SoftProject Support if you need additional information.

### 7.3 Dynamic parameterization with iXmap deprecated

Dynamic parameterization in mappings is deprecated and iXmap is marked as deprecated.

### 7.4 Data Format version 1.0 is deprecated in Web Apps Problems view


The Data Format Version 1.0 is deprecated for Web Apps and the support will be removed in version 8 of X4.

If the data format version 1.0 is selected in the `.wac` file a warning is shown in the **Problems** view.

### 7.5 Support <includes> in WSINC data format

<includes> are no longer supported in WSINC files but to ensure the compatibility with X4 BPMS Release 6, existing <includes> will not be removed from the data structure. Although the X4 BPMS Designer has no visual capability to maintain them.

### 7.6 Remove Transfer element from Technical Process palette

The Transfer element  in the palette of the technical process to draw processes is obsolete and was removed.

## 7.7 MSI-Setup de-support for Server Installation

The MSI setup file for installing the X4 BPMS Server and Keycloak is no longer available. Use the ZIP artefact instead.

- ➔ For more information, see the X4 BPMS Installation Guide on the Download page of the SoftProject website.

## 7.8 Webservice (SOAP) Connector will be deprecated

The Webservice (SOAP) Connector will be deprecated with Release 8.0 of the X4 BPMS and will no longer be supported in future releases.

## 8 Bugfixes

If you have reported a bug and would like to know if it has been fixed, please check one of the following tables for this information or contact your X4 Consultant.

If you encounter an error while working with the X4 BPMS, please report it.

Please feel free to use the SoftProject Support Center (<https://supportcenter.softproject.de>) to report bugs. If you do not have a Support Center account yet, please write to [support@softproject.de](mailto:support@softproject.de).

Our development team will take care of a timely resolution of the reported bugs.

### 8.1 X4 Adapter

Key	Summary
<a href="#">XVIER-14439</a>	<code>Exists</code> operation in <i>File System</i> Adapter results in stacktrace
<a href="#">XVIER-14029</a>	<i>Web App Configuration</i> Adapter does not return all options
<a href="#">XVIER-13083</a>	Migration of <i>File System</i> Adapter from Release 6.x creates unusable operations
<a href="#">XVIER-13730</a>	<i>AMQP Publisher</i> – Can't send ACK (QoS: AT_MOST_ONCE)
<a href="#">XVIER-12729</a>	Resolution of error messages occurring during the XSLT execution by means of an update of the <code>aalto</code> third-party library
<a href="#">XVIER-13727</a>	<i>AMQP Subscriber</i> – Parameter descriptions do not correspond to the documentation
<a href="#">XVIER-14756</a>	<i>Microsoft Excel Writer</i> using <code>forceString="true"</code> has no effect
<a href="#">XVIER-13731</a>	<i>AMQP Publisher</i> – Message is always published with <code>durable=true</code>
<a href="#">XVIER-13375</a>	<i>JSON Adapter</i> – <code>JSON2XML</code> operation produces non-compatible output compared to older version/JSON adapter attribute handling is broken for <code>XML2JSON</code> operation



Key	Summary
<a href="#">XVIER-14152</a>	<i>Parallel Process Starter</i> adapter returns <code>java.lang.NullPointerException</code> in 7.x
<a href="#">XVIER-14955</a>	<i>Multipage TIFF Creator</i> adapter generates multiple pages/missing pages
<a href="#">XVIER-14837</a>	<i>Parallel Process Starter</i> and <i>Process Starter</i> adapters cause issues on server shutdown
<a href="#">XVIER-13213</a>	<i>User Identity</i> adapter does not return any roles
<a href="#">XVIER-14588</a>	Incorrect operation of the <i>XML Iterator</i> adapter
<a href="#">XVIER-14525</a>	Cannot subscribe to a node using <code>nodeIdentifierType</code> 'Numeric'
<a href="#">XVIER-13372</a>	<i>FTP Adapter</i> (List) – Modification of the method that retrieves the exact 'modified date' values

## 8.2 X4 Control Center

Key	Summary
<a href="#">XVIER-14223</a>	Column sizes of Technical Monitoring not usable / make no sense like this

## 8.3 Deployment

Key	Summary
<a href="#">XVIER-14448</a>	X4 Service has a max metaspace size of 256 MB which can lead to OutOfMemory errors
<a href="#">XVIER-14018</a>	Update Tool responds with success message when DB Login failed?

## 8.4 X4 Designer

Key	Summary
<a href="#">XVIER-14335</a>	Create new file without suffix possible when using templates
<a href="#">XVIER-14329</a>	Resource path not created correctly in ESB Introduction template
<a href="#">XVIER-14325</a>	File .html is not allowed above a process, but it is in Resources
<a href="#">XVIER-14203</a>	Remove <code>Use global web service configuration</code> property
<a href="#">XVIER-14198</a>	Package as Adapter available when several projects are selected
<a href="#">XVIER-12760</a>	Excluding files + folders with files does not exclude the folder
<a href="#">XVIER-13704</a>	XSLT Editor: line to an attribute should be orange
<a href="#">XVIER-13952</a>	Old logo is used in X4 Designer
<a href="#">XVIER-14468</a>	Remove unsupported themes in X4 Designer
<a href="#">XVIER-13702</a>	Clean-Up Project: deleting file does not close open editor

Key	Summary
<a href="#">XVIER-13032</a>	X4 Designer removes <code>separator</code> attribute silently
<a href="#">XVIER-14518</a>	If a private file is excluded from a project, it cannot be included any more
<a href="#">XVIER-13924</a>	Missing scrollbar for <b>Output</b> view with "too big" message
<a href="#">XVIER-13002</a>	Label of BPM process is not refactored inside process landscape
<a href="#">XVIER-13688</a>	7.1.0 Beta: Output view XML of webservice request not formatted
<a href="#">XVIER-13825</a>	7.x: Condition Editor: Number value field for condition doesn't allow backspace
<a href="#">XVIER-13720</a>	Native Adapter: ADK license present, still shows "not licensed" string in name
<a href="#">XVIER-14318</a>	Rule causes -998 error after migration or renaming
<a href="#">XVIER-14059</a>	Project entry in toolbar is missing
<a href="#">XVIER-14060</a>	Project entry in toolbar is unusable
<a href="#">XVIER-13909</a>	Folders excluded from project when renaming/refactoring it
<a href="#">XVIER-14739</a>	BAM usage is not visible in the designer
<a href="#">XVIER-14836</a>	The list of workspaces in the <b>Select workspace</b> dialog should be sorted
<a href="#">XVIER-14850</a>	Show license ID in X4 Designer and make it selectable and copyable
<a href="#">XVIER-14838</a>	The connected workspace should be displayed somehow in the Designer

Key	Summary
<a href="#">XVIER-13073</a>	BPM Rule: Annotation column wider than screen, can't be adjusted/reset
<a href="#">XVIER-14476</a>	Cannot delete project in X4 Designer
<a href="#">XVIER-14852</a>	Error message in X4 Designer when using the debugging mode
<a href="#">XVIER-13691</a>	BPM - Case States in Human Tasks > Tips with Case State file empty
<a href="#">XVIER-15141</a>	X4 Designer creates awkward JSON files in case of encoding

## 8.5 Documentation

Key	Summary
<a href="#">XVIER-14112</a>	Outdated link in IMAP adapter documentation
<a href="#">XVIER-13961</a>	LDAP configuration/connection does not work
<a href="#">XVIER-14444</a>	Adjustment of documentation of adapters which are translated in German and have boolean parameters
<a href="#">XVIER-14497</a>	WebSphere MQ Connector: wrong documentation of boolean parameters
<a href="#">XVIER-14340</a>	Web Apps: Improve documentation for translation files
<a href="#">XVIER-14336</a>	2x Parallel Process Starter parameter <code>X4processURL</code>
<a href="#">XVIER-14135</a>	Administration Guide: missing prerequisite for RHEL/CentOS
<a href="#">XVIER-13728</a>	AMQP Subscriber – Parameter mechanism is not documented

Key	Summary
<a href="#">XVIER-14567</a>	"Kalender" is Calendar in English not Calender
<a href="#">XVIER-13729</a>	AMQP Subscriber – incorrect summary (AMQP Publisher instead of AMQP Subscriber)
<a href="#">XVIER-13891</a>	Outdated information in documentation regarding WildFly and SSL
<a href="#">XVIER-14091</a>	Update Readme of update tool: add example usage of Oracle Database Update
<a href="#">XVIER-14224</a>	Help page – HTTP(S) Connector invalid possible value for <code>host/vhost</code> parameter

## 8.6 X4 Server

Key	Summary
<a href="#">XVIER-14199</a>	Landing page redirect to localhost and not the IP of the page
<a href="#">XVIER-14181</a>	Missing folders in server directory
<a href="#">XVIER-14305</a>	Designer version check only covers major and minor version, no patch versions
<a href="#">XVIER-14517</a>	Broken project files are not recovered by designer refresh
<a href="#">XVIER-14508</a>	Robustness in the URL of the Keycloak in the <code>keycloak_config.json</code>
<a href="#">XVIER-13846</a>	Improvements for deployable filechange listener
<a href="#">XVIER-13224</a>	Older X4 Service not overwritten by installer

Key	Summary
<a href="#">XVIER-14889</a>	Profiling issue with high load
<a href="#">XVIER-14183</a>	Link to Keycloak on welcome page always leads always to default Keycloak
<a href="#">XVIER-13821</a>	Multiple vulnerabilities in third-party libraries in X4
<a href="#">XVIER-12923</a>	X4 Server does not start when installed in path with spaces
<a href="#">XVIER-13754</a>	X4App build is not working for Linux (.rpm) installer
<a href="#">XVIER-13439</a>	If runtime file is locked, a runtime file with numeric ending is created and not deleted when runtime file is unlocked
<a href="#">XVIER-13194</a>	Deleting 2 projects at the same time leads to Project not found exception
<a href="#">XVIER-14895</a>	Profiling cannot be disabled for native adapter
<a href="#">XVIER-14526</a>	LINUX/RHEL: Analysis: Selecting language in Keycloak login page does not transfer to X4 web apps language
<a href="#">XVIER-14854</a>	Deadlock when scheduled processes are executed and projects are reloaded
<a href="#">XVIER-13150</a>	Timeout for <i>Antivirus</i> Adapter is not configurable

## 8.7 X4 Web Apps

Key	Summary
<a href="#">XVIER-13448</a>	External Imprint cannot be set using the <i>Web App Configuration</i> adapter

Key	Summary
<a href="#">XVIER-13858</a>	Properties ignored after navigation using process inside of MasterDetailComponent
<a href="#">XVIER-14486</a>	Gauge chart – Color of the needle is not adjusted
<a href="#">XVIER-14501</a>	When ComboBox selected on load, SelectAction won't occur
<a href="#">XVIER-14107</a>	DownloadAction does not work with umlaut and HTTPS
<a href="#">XVIER-14072</a>	[Templates] CalendarComponent > Name too large is Over the Event ShortView
<a href="#">XVIER-14071</a>	[Templates] CalendarComponent > Create/Edit Event - Internal Error
<a href="#">XVIER-14144</a>	BoxLayout shows buttons of Card wrong when placed in a ResponsiveLayout
<a href="#">XVIER-13981</a>	GridComponent within Master Detail does not receive properties
<a href="#">XVIER-14408</a>	Wrong height on BoxLayout element
<a href="#">XVIER-14387</a>	Grid Component / List Component: base64-encoded svg images are not displayed
<a href="#">XVIER-14386</a>	Modules logout/login server error
<a href="#">XVIER-14383</a>	Opening of link element in new tab not working
<a href="#">XVIER-14376</a>	Translation of Imprint and Privacy in <code>title</code> attribute do not work
<a href="#">XVIER-14371</a>	Grid Component won't load Overlay for an element if clicked again
<a href="#">XVIER-14370</a>	BoxLayout only admit positive integer for margins and paddings

Key	Summary
<a href="#">XVIER-14351</a>	Grid Component paging reset after sorting and missing sort indication
<a href="#">XVIER-14339</a>	<code>number</code> property causes strange & English error message in frontend
<a href="#">XVIER-14330</a>	<code>&lt;Required/&gt;</code> element in Properties allows empty values
<a href="#">XVIER-14326</a>	[ListView] The content in the component doesn't fit to the space and generate an unnecessary scroll
<a href="#">XVIER-14193</a>	TabGroup in MasterDetail doesn't work if set after a Grid Component but works when set in front of the Grid Component
<a href="#">XVIER-14160</a>	<code>&lt;paddingUnits&gt;</code> element in <code>BoxLayout</code> not working
<a href="#">XVIER-14301</a>	WebApp – responsive – hover color
<a href="#">XVIER-14299</a>	WebApp – responsive – change design
<a href="#">XVIER-14292</a>	Grid component: select single item in multiselect mode does not work
<a href="#">XVIER-14233</a>	Unexpected result using colors after changing theme at runtime
<a href="#">XVIER-13827</a>	New Action in List Component does not clear properties
<a href="#">XVIER-13734</a>	Disabled TextBox can be clicked and changes visually
<a href="#">XVIER-13220</a>	Lower part of letter is cut off (e.g. "g" ist partially truncated)
<a href="#">XVIER-13473</a>	Pop up of calendar entries in first columns are not centered and cut off
<a href="#">XVIER-13802</a>	Menu icon for column of Grid Component shows with the same color as <code>headerBackground</code>



Key	Summary
<a href="#">XVIER-13738</a>	List Component Checkbox alignment is switched for left and right side
<a href="#">XVIER-13643</a>	Overlapping elements in the mobile view for the calendar component
<a href="#">XVIER-13698</a>	WebApp path not updated for 'street lighting' template
<a href="#">XVIER-12858</a>	marginRight of the <BoxLayout> element does not work
<a href="#">XVIER-13978</a>	Calendar Component: Details of events are not aligned correctly
<a href="#">XVIER-14293</a>	Grid Component: inconsistent data returned for multiselect
<a href="#">XVIER-14504</a>	<TabGroup> element in Overlay does not work
<a href="#">XVIER-13553</a>	"Report a street lightning malfunction" template: all components in WAD
<a href="#">XVIER-14210</a>	Some icons are not displayed properly
<a href="#">XVIER-14269</a>	Visible on CustomAction of an empty Card doesn't work properly
<a href="#">XVIER-14242</a>	ComboBox: empty option add padding on top
<a href="#">XVIER-14243</a>	TabGroup: Images don't load
<a href="#">XVIER-14288</a>	RadioButton not selected on the first load
<a href="#">XVIER-14324</a>	In an HTML Document, the content in the link is not shown in the component
<a href="#">XVIER-13845</a>	Several problems with font styling
<a href="#">XVIER-13989</a>	Grid Component: <code>fontSize</code> attribute does not work for footer of grid

Key	Summary
<a href="#">XVIER-14126</a>	ComboBoxAutocomplete options do not have same font size as specified in the combo box
<a href="#">XVIER-13312</a>	SelectAction in a ResponsiveLayout/Cell/Card increases the size of some other cards
<a href="#">XVIER-14409</a>	Not visible save space
<a href="#">XVIER-14514</a>	Space in 100% height overlay is not useable as expected
<a href="#">XVIER-14637</a>	HTML Document add empty space at bottom
<a href="#">XVIER-14441</a>	Leaving page sometimes results in JavaScript-Exception in UI
<a href="#">XVIER-14154</a>	ListView – Background of <BoxLayout> is not as expected
<a href="#">XVIER-13323</a>	Overlay background can't be completely changed
<a href="#">XVIER-14312</a>	HTML element is not getting correct height
<a href="#">XVIER-13747</a>	Local Authorization Code Flow - when Tokens are expired we are redirected to an Error instead of the login page
<a href="#">XVIER-13847</a>	Grid Component does not revalidate changes correctly when automatically updated with the <ReloadTimer> element
<a href="#">XVIER-14322</a>	Manage your customer data template – Error while saving data changing tabs
<a href="#">XVIER-13413</a>	Grid Component: Moving columns with enabled multiselect mode in a GridLayout does not work

Key	Summary
<a href="#">XVIER-13894</a>	Date and DateTime shows different formats in the TextBox
<a href="#">XVIER-15181</a>	Special characters are not accepted by the Keycloak