



FEATURE OVERVIEW

New Features in x-gen 4.17

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About this Document

This document describes in short most of the new features that will be included in x-gen release 4.17. For more comprehensive explanations and the list of bug fixes, please refer to the Release Notes, part of the x-gen release.



1 General

Operating Systems

- Windows Server 25 is newly supported. Windows 10 is no longer supported. (XGEN-8644)

Databases

- Oracle 23ai is newly supported. (XGEN-8644)
- PostgreSQL 17 is newly supported. (XGEN-8644)
- MariaDB 11.4 is newly supported. (XGEN-8644)

Queuing Systems

- IBM MQ 9.4 is newly supported. (XGEN-8644)

Other

- Java was upgraded to JRE 17.
- Flow Environments, a legacy configuration mechanism for flow object properties, are not supported anymore. A wizard in the XRD helps to semi-automatically replace flow environment settings with profile parameters. The backend does not execute flows with environments. (XGEN-8897 et al.)
- OpenSSL was updated to version 3.5 (LTS release). (XGEN-9166)
- SSL encryption (https) is now the default for XWA and XDE. x-gen contains a self-signed certificate that will trigger browser security warnings. Either the customer replaces this certificate by their own (recommended), or the browser can be configured to accept the default certificate. (XGEN-9510)

2 XRD

Tracing

- Trace navigation in meta flows has been simplified. In a meta flow trace overview, you can filter the source message of the parent flow. Moreover, messages of meta ports are displayed. (XGEN-9331)
- Option to track the trace path of a single message after message splitting. (XGEN-9332 et al.)
- In the message view, meta fields are displayed in alphabetical order. (XGEN-9343)

Negated profile parameters

It is possible to configure profile parameters of type Logical as negated. If set as negated, for example, in a property, the value “true” is applied if the profile parameter value is “false”, and vice versa. (XGEN-9233 et al.)

Git Improvements

- Support for cherry picking. (XGEN-3207)
- Even if the pull command results in no updates, it’s still checked if a merge is possible. (XGEN-8095)
- Option to check out a file or folder from a different branch. (XGEN-8812)
- Option to change the branch in Git Log viewer and open snapshot from another branch. (XGEN-8980)

Subversion

Subversion is no longer supported. (XGEN-8224)

References

New option to export references of a linked project to a CSV file. (XGEN-8689)

3 XDE

General

When opening a document, the XDE automatically adapts the stored version of dependent documents to the actual version, e.g. for mappings or meta flows used in flows, or meta operators used in mappings. (XGEN-5785)

The “technical name” of a message definition (e.g. “pacs.008.001.01”) is displayed in Workspace Explorer, Item Explorer and other places. Message definitions will be found when searching by technical name. (XGEN-9263)

There’s a new privilege “xgen:workspace_file_read” that allows opening documents in read-only mode. (XGEN-9430 et al.)

Application Framework

The application now has a title bar, and the width of the activity bars has been reduced. All activities (Workspace Explorer, Item Explorer, Problem View, Git View, Properties Area, x-gen companion, and Description Sidebar) can be placed arbitrarily to the left, right, or bottom. (XGEN-9018, XGEN-9512)

The “Cut” command is available in Workspace Explorer. The cut documents and/or folders can be pasted anywhere. (XGEN-7221)

The new Description sidebar displays the description of a flow, a flow item, an operator etc. when clicking on it. (XGEN-9368)

Diagram Editors (Flows and Mappings)

The mini map is integrated into the respective editor on the right. (XGEN-9409)

Git

- Adding a project to Git. (XGEN-9195)
- Checking out a branch, commit, or tag. Checking out missing files. (XGEN-8903)
- Creating branches and tags. (XGEN-8905)
- Committing new, changed, or deleted files. (XGEN-8904)
- Rolling back local changes. (XGEN-9035)
- Displaying Git log with filter options. (XGEN-8902)
- Pushing and fetching. When communicating with the Git server via https, the Git credentials are stored for the XDE session. (XGEN-8907)
- The Status Bar displays the current branch and the commits behind/ahead. (XGEN-9034)

x-gen companion



The new x-gen companion, an AI-based chatbot, is integrated into the XDE. It is supposed to answer questions about concepts, development, and operation of x-gen.

- In the companion sidebar, the user types a question (prompt), and the system will provide an answer.
- A chat history can be retrieved and continued.

Note that an agreement with valantic FSA must be signed and the x-gen license file must be updated to allow using the x-gen companion. (XGEN-8287 et al.)

4 Adapters

Email source adapter

The adapter supports the retry mechanism introduced in x-gen 4.16 when processing of a message has failed in the flow (property "Max. processing attempts"). (XGEN-8317)

FIX adapters (client and server)

The FIX adapters have been reworked. In this context, the structure of FIX repositories has changed, thus, FIX message repositories must be created anew. Moreover, the FIX adapters now support the retry mechanism introduced in x-gen 4.16 when processing of a message has failed in the flow (property "Max. processing attempts"). (XGEN-4889 et al.)

FIX client adapter

The FIX password is now an encrypted property. For existing adapters, it must be configured new. (XGEN-8634)

Flow adapters (client and server)

There's a new property to not skip locked records when reading messages from a channel. Setting this switch guarantees that messages are processed in the same order as they were added to the channel. (XGEN-8675)

Kafka adapters

New property to specify the content type of transported messages with options "Kafka Record" and "x-gen Message". In this context, information about the Kafka record is delivered as meta field. (XGEN-8857 et al.)

Kafka destination adapter

Messages that are part of a transaction are not written to the transaction log anymore, leading to a significant performance improvement. (XGEN-8863)

LDAP source adapter

The adapter supports the retry mechanism introduced in x-gen 4.16 when processing of a message has failed in the flow (property "Max. processing attempts"). (XGEN-8318)

WebService adapters

The deprecated WSClient_1 and WSServer_1 adapters have been removed. The WSClient and WSServer adapters, available since x-gen 4.16, must be used instead. (XGEN-8498)

5 Processing Units

WebService PU

The deprecated WS_1 processing unit has been removed. The WS PU, available since x-gen 4.16, must be used instead. (XGEN-8498)

Workflow

Profile parameters are supported in conditions of transitions. (XGEN-9296)

6 Operators

Execution Control Port

In an operator definition, an "Execution Control Port" can be defined to be configurable in the operator. If defined, the operator has a property "Execution Control Port" that can be configured to a port number (or 0 for not applicable). If the configured port number has a NO_VALUE, the operator won't be executed. This applies to meta operators as well as all other custom operators written in Tcl, C++, Java, or Python. Existing operators with an Execution Control Port, e.g. SQLOperator, are automatically converted to the new structure when the respective mapping is opened in the XRD or the XDE. In the XRD it is also possible to convert all mappings of a project or the entire workspace in a single step. (XGEN-9317 et al.)

Logic/Condition_1

The deprecated operator has been removed. The Logic/Condition operator, available since x-gen 4.12, must be used instead. (XGEN-8208)

Security/GenerateSignature and Security/ValidateSignature

These new operators generate/validate digital signatures. (XGEN-8670)

Security/GetAWSRoleCredentials

New operator to retrieve the AWS IAM role if x-gen is running on an Amazon EC2 instance. (XGEN-8791)

Security/GetOAuth2Token

Support of TLS client certificates. (XGEN-8787)

String/Format

There are new options to configure the behavior of the operator in case of NO_VALUE(s) as input. (XGEN-8632)

String/Format_1

The deprecated operator has been removed. The String/Format operator, available since x-gen 4.13, must be used instead. (XGEN-8208)

String/Search

The operator supports multiple regular expressions, and the matches are provided at multiple output ports. (XGEN-8519)

WebService operators

Operators based on the old WebService framework are no longer supported. In the XRD there's a wizard to upgrade existing WebService operators to the new framework (Apache CXF), available since x-gen 4.16. (XGEN-8498)

7 Message Repository

Performance improvement

Number of database queries reduced when applying "ColumnsOverwriteFields". (XGEN-9379)

8 XWA

(Re)Starting and stopping flows

There's a new option to (re)start and stop all flows of a project or process without stopping the process(es) themselves. When starting, all flows with the auto-start flag are started. When restarting or stopping, all running flows are restarted / stopped. (XGEN-8554, XGEN-8838)

(Re)Starting flows with Debug

There's a new option to (re)start a process or flow with a temporary Debug option. For each flow item, the Debug switch can be set individually. The selected flow items will then produce Debug logs as if the "Debug" property would have been switched on. Note that using this option is only effective for the current run of the flow. The flow file itself is not changed. (XGEN-9077 et al.)

View process statistics

Process statistics can be displayed on project or process level, and they can be saved locally in CSV format. (XGEN-8808)

9 XPR

Channel Manager

There's now a lifetime handler to delete expired messages. (XGEN-8277)

10 Command Line Tools

trantool

Added support for direct MQ client configuration instead of using environment variables. (XGEN-4179)

xgenadmin

- There's a new option to (re)start and stop all flows of a project or process without stopping the process(es) themselves. For details, see description in XWA. (XGEN-8554, XGEN-8838)
- There's a new option to (re)start a process or flow with a temporary Debug option. For details, see description in XWA. (XGEN-9077)
- Outputs of xgenadmin can be JSON-formatted, supporting an easy automated processing of the output. (XGEN-8612)

11 Python SDK

Python SDK Enhancement

- Access to input and output messages in Python operators. (XGEN-8874)
- Caching in Python operators. (XGEN-8926)
- Processing units can be implemented in Python. (XGEN-8877)

12 x-gen Modules

User Management

Overriding of the role validation is now allowed. This feature enables x-gen applications to implement their own custom validation in addition to the standard validation. (XGM-1481)

GREE

The ExecutionReport structure now includes RuleType and RuleCategory for each rule set, enabling identification of results for each set of rules. (XGM-1382)

Value Lists

The ValueList Editor supports entity-specific related value lists when xgmEntityFilter is enabled. In this case, the valid entries in the Restriction table are derived from value lists that share the same EntityID. (XGM-1477)

13 XAD

The WidgetControl operator supports repeating group FQNs with fields. (XGM-1420)

Label translations are supported. (XGM-1472)

14 Documentation

New documentation framework

The entire x-gen documentation is based on a new framework. It comes with a new, modern style and provides improved search functionality. The documentation is still available online (HTML) and in PDF format. (XGEN-8802)

New introduction

The x-gen introduction has been rewritten. It concisely describes all relevant components and functionalities of x-gen. (XGEN-7182)



About us

valantic FSA automates the trading and transaction workflows at more than 100 firms in the Financial Services industry.

Our mission is to digitize, augment and evolve the value streams within our clients. This delivers new levels of efficiency, insight, and agility so that our clients can position themselves for maximum impact today and in the future.

Our deep industry expertise is used to assemble these systems from a broad range of proven components and next-generation technologies.

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