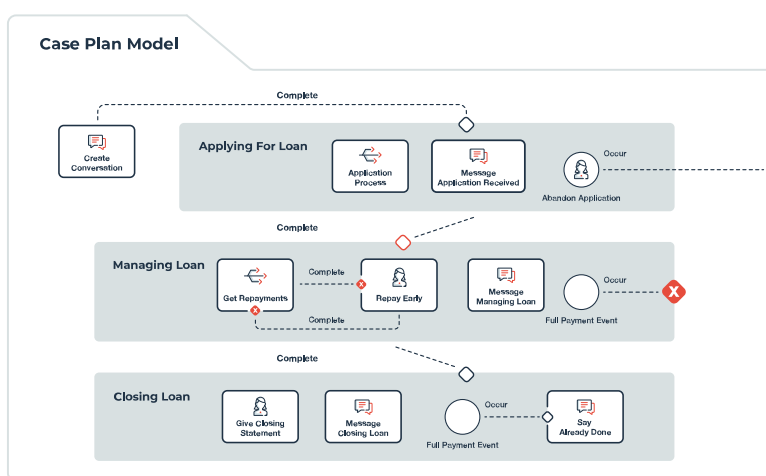


# Flowable Orchestrate

## SERVICE ORCHESTRATION

Flowable is the leading provider of open source Intelligent Business Automation solutions that combine the power of Case, Process and Decision support into a single platform. Used by many of the world's leading organizations to quickly build and deploy business applications that increase business efficiency, deliver outstanding customer experience and drive operational excellence.

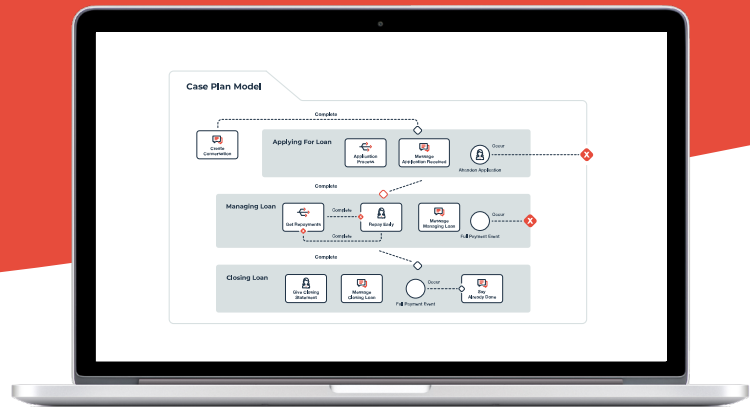


# content:

**Flowable Orchestrate** is a flexible technology for delivering process automation solutions. Many infrastructure problems faced by organizations these days can be addressed by solutions based on Case Management and Business Process Management technology. An integral part of any digitalization strategy.

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# Service Orchestration



Flowable delivers service orchestration of end-to-end business automation that can handle lightning fast straight-through processing as well as longer lived activities, using the same technology. With automation models based on open standards, **Flowable Orchestrate** can provide solutions that need microservice coordination, with or without human interaction. From use cases that include order management, provisioning, data pipe-lining, to handling claims, complaints or incident management in general, Flowable has the tools to deliver.

## Case and process services

Start cases and processes and then query them with flexible and extensible APIs to discover their active state and any tasks or actions that may be available to the user. Full control of how submodels are executed for decisions, cases and subprocesses.

## Task services

Query for tasks available to the current user based on assignment or their group membership, regardless of whether part of a case or process instance. Queries can be constrained and sorted by a wide set of criteria, including status, category, due date and priority.

## Process migration

Perform complex batch and individual process migrations between model versions. Flowable's architecture enables unparalleled migration possibilities.

## True parallel execution

Parallel paths in processes can actually be executed in parallel rather than the traditional approach of serialized emulation.

## Multi-Tenant aware

All the services can operate in a multi-tenancy configuration, giving isolation of processes, cases and users. A special tenant is also available to provide common case and process models to all tenants.

## Dynamic process injection

Unique to Flowable, additional process fragments can be inserted into a running process instance to handle scenarios not anticipated in the original process model. For example, finding late in a specific instance that a credit or security check is needed for exceptional reasons.

## External worker tasks

Safely and efficiently allow external services to query for available tasks to execute. This enables external systems to act as service task execution engines.

## Graphical representation of status

Generate images of the current state of execution of any process or case instance. Visually show what steps have been completed and those currently active.

# Open Source and Open Standards



**Flowable** Driving the heart of Flowable are open source engines that efficiently execute case, process and decision models defined by open standards. This avoids vendor lock-in for Business Automation models and transparency of execution code. The Flowable open source project has a vibrant community providing feedback and contributions. All code that goes into Flowable open source is managed by the Flowable engineers, which ensures product quality and security.

## BPMN process models

Open standards based Business Process models ensure processes can be designed in a non-proprietary notation. Wide adoption of this standard in the industry ensures that people, tools and training are readily available for developing and exchanging process models.

## CMMN case models

Open standards based Case Management models ensure case models can be defined and exchanged in a non-proprietary notation.

## DMN business rules models

Open standards based business rule models, defined as Decision Tables, ensure that rules are easily readable by business users as well as being non-proprietary and easily exchanged with other tools.

## Open Source

Flowable Engines are open source, ensuring no vendor lock-in and validation from a wide community of users. Also, additional functionality and improvements are provided by community contributors. Flowable engineers incorporate contributions into the codebase after reviewing and testing.

## Core Public REST API

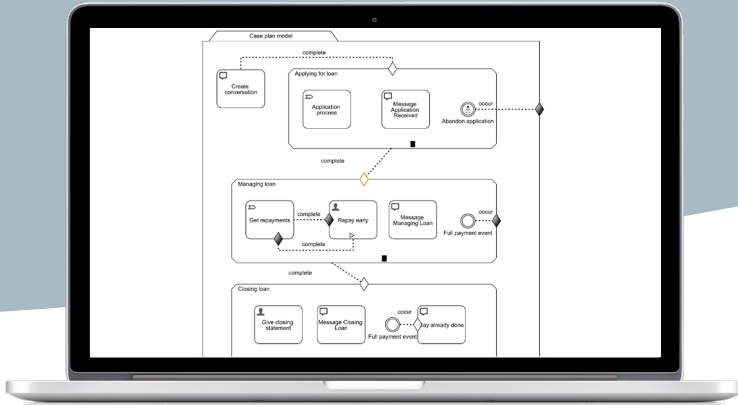
Public REST API to easily integrate workflow automation, Case and Process Management into 3rd-party systems. The API provides access to the core Flowable engines.

## Machine Learning ready

Built ready to integrate into popular ML services.



# Task Management Services



Tasks can be created for users by processes running or cases being managed. Flowable allows users to access all their tasks from a single location regardless of what process or cases created them. Tasks can also be created manually if needed. **Flowable Orchestrate** provides a wide range of API services for task management.

## Task inbox API

A list of tasks for the user with filters to select tasks specifically assigned to the user, or available from a team queue. Completed tasks can also be accessed for reference.

## Task collaboration

An assigned user is responsible for completion of a task, but that may involve other users in working on a task, such as filling part of a form or providing advice through comments.

## Attach documents to tasks

Documents and files can be uploaded and attached to tasks as supporting material for a task, independent of what a task form might require. This supports collaborative task work where one user can provide helpful or reference material for another user working on the task.

## Assignment, priorities and due dates

All tasks can be assigned to individual users, or to a specific list of users, or to any number of groups. Due dates and priorities can also be defined.

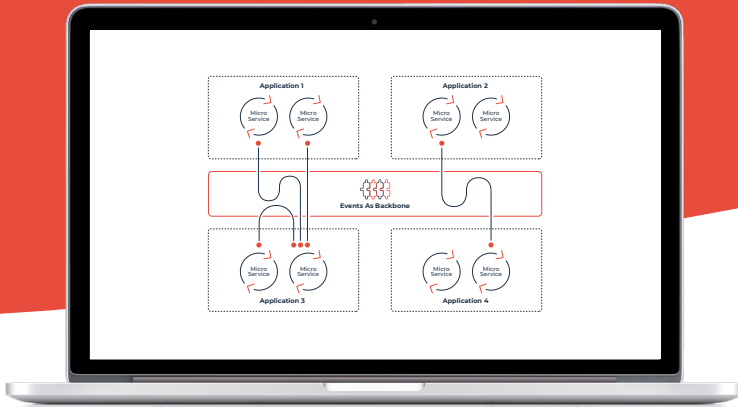
## Subtasks

Any task can also have ad hoc subtasks added by the assigned or collaborating users. These subtasks have all the capabilities of a normal task, including being assigned to other users with due dates. These subtasks themselves can be collaborated around and have their own subtasks. This allows dynamic Task Management to happen without having to anticipate all possible use cases as part of a case or process.

## Ad hoc tasks

Usually tasks are created by a running case or process, but a user can create ad hoc tasks that can have all the collaborative capabilities of standard tasks. These ad hoc tasks can be used as a user's personal to-do list, or to create ad hoc tasks to be assigned to other users.

# Event-Driven Automation



Modern software infrastructures use event-driven frameworks to communicate between services and systems. Flowable plugs into these frameworks out of the box, providing models that define how low-level events can be mapped into higher-level business events. These business events can then be used throughout the case and process models, so even if the low-level details need to change, the Business Automation models remain consistent.

## Integrated with event frameworks

Out of the box integration with Kafka, AWS SQS, Rabbit MQ, Apache ActiveMQ/JMS. Simply plug and go to start sending and receiving events.

## Send and receive events

Tasks and activities are provided to send and receive events on channels, also event listeners to trigger new processes or behavior in cases.

Special combined send/receive activities ensure safe event handling, ideal for communicating with microservices.

## Efficient and scalable correlation

Key to event handling is knowing which process or case instance should react to a given event. Uniquely matching an event to an instance is known as correlation. Multiple event fields can be used to create event correlations and Flowable's highly efficient correlation algorithm quickly matches events to instances at scale.

## Support for high volume event workloads

When you need automation that can scale to handling of millions of events a day, the options for configuring Flowable mean that the workload can be as high as your event framework can support.

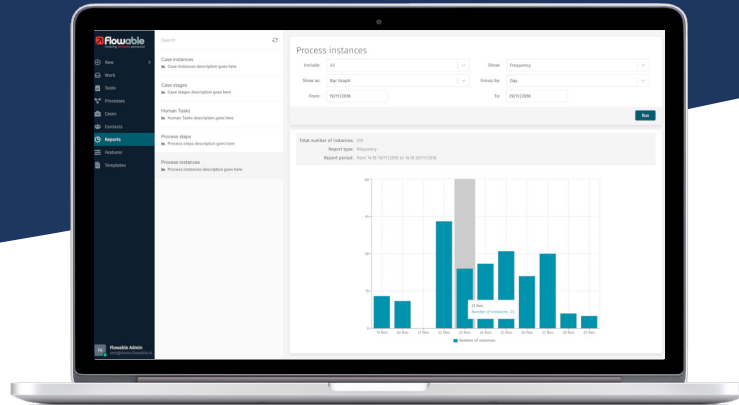


Case **CMMN** models in Flowable provide a natural and powerful way to manage the flow of events to and from a Flowable application. Using case "Stages", define what events are relevant in different situations, even reacting differently to the same events in different contexts.

Flowable **BPMN** processes can be started by events, and in turn can send out events to other systems, waiting for any response if needed. Combine case and process models together to create an event-driven application or service that has all the benefits of low code.



# Performance and Scalability



With Flowable you can scale the use of automation to meet your current and future needs. Flowable's engines are compact enough to operate in small virtual CPUs to provide embedded automation in every microservice. Flowable can also scale horizontally to provide throughput of thousands of process instances a second. Speed and performance are fundamentals in the architecture underpinning Flowable. With over a decade of evolution, the current generation of Flowable technology brings unprecedented capabilities coupled with enhanced performance.

## Stateless horizontal scaling

The Flowable engines keep all case and process state transactionally in the database, so any number of compute nodes can be added to scale out case and process execution. Any node in the compute farm can take the next step in a process or case, making it ideal for elastic cloud based deployment.

## Asynchronous historical data management

All historic data from executing processes can be kept in the database, but this has performance impact on throughput. This capability means all historic data can be published to external data stores, such as analytics engines or NoSQL databases.

## Optimized data model

The data model is optimized for fast response time for users and during workflow execution. Completed and archived cases and processes are stored in separate database tables to improve access time to active case and process data.

## Multi-Tenant support

Users and data can be isolated from each other in multiple tenants, where each tenant appears to be a separate Flowable installation although running on the same infrastructure. Cross tenant models are also supported.

# Support and Administration

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We can help you get the most out of your Flowable solution by assisting you at every step towards success, with administration tools and support. Customer satisfaction is essential for us, as our subscription model means we need to earn your business every year. We provide a range of support services to meet the demands of your business.

Right from the early stages of development all the way through to production, we're here to make sure you succeed. We understand that projects can start small and then grow significantly when they go live. Have confidence in being able to access all the product, knowledge and experience we can offer from the very beginning of your relationship with Flowable.

## Customizable authentication

Pluggable security and authentication using popular frameworks.

## LDAP synchronization

Synchronize data for users and groups from LDAP or Active Directory.

## Server health reporting

Rich set of server node status monitoring provided for popular frameworks.

## Bug fix only releases

Service pack releases of Flowable that contain only bug fixes.

## Production support

Provide assistance in a timely manner for problems when Flowable is running in production.

## Development guidance

Get assistance in how best to use the Flowable capabilities with guaranteed response times from the Flowable development team.

## Informal assistance

Gain help from the Flowable Community through the open source forums.





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