Flowfactory Tech Brief

Learn more about the Flowfactory platform

flowfactory

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About Flowfactory

Flowfactory is a general purpose low code platform that enables developers to move quickly from idea to published application. The platform is a full stack solution where applications are built in a visual environment using drag and drop.

Unlike traditional rapid development tools, where you generate a static application using a design tool, Flowfactory instead creates an application definition that is interpreted at runtime by the Flowfactory server. A key benefit of this approach is that bug fixes are done centrally on the server and affects all stored applications and also enables you to publish your application in multiple formats, all from the same definition.

Architecture overview

The developer creates an application definition containing entities, views, and logic which is stored in a database. This definition database is version controlled and can be used to publish multiple versions of the same application.

The Flowfactory server uses this definition to serve a running application to the client runtime which can be accessed through a web browser supporting multiple types of devices and screen sizes.

The data stored by the application is stored in a separate database enabling very flexible application management.
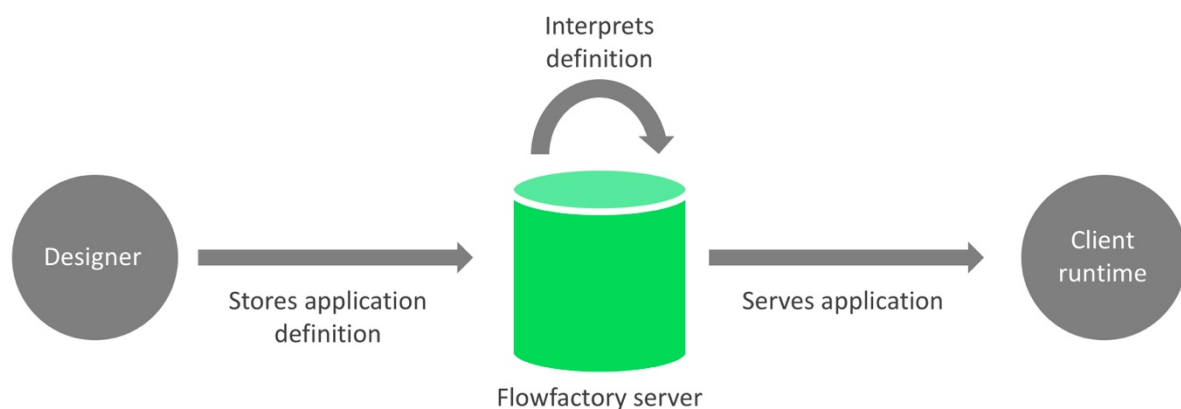
Platform overview

Flowfactory Server

The server is what enables your application to run and access data. This part you don't actually see and interact with. The Server handles loading of applications and serves the client an optimized version of it. It handles all data access and serves as an abstraction layer between the applications data model and the underlying database.

The Studio

You build your application in the Flowfactory Studio. This is where you create and manage entities, views, and workflows for the application. The Studio saves your application as a system definition in the database. This is the definition that is interpreted and executed when your users are running your application.

Web client

Being the main runtime of the application, the Flowfactory web client is what your end users usually see of your application. The web client is served an optimized application definition by the server and executes it. This results in the actual web application that your end users interact with. The web application is responsive and scales well for all different screen sizes, from mobile and tablets up to desktop computers ensuring widest possible audience.

Flowfactory GO

In this portal you manage your applications, the different versions of them as well as the users that have access to your application. Flowfactory GO provides you with powerful but easy-to-use tools to handle versioning and publishing of both test and live systems. Each system can have its own branding and runs in a sandboxed environment enabling white labeling scenarios.

Key parts of a Flowfactory application

A Flowfactory application consists of three essential parts; entities, views and workflows.

Entities

The entity model of an application is what defines what kind of objects and data that are managed by your application.

You create your entity and define what properties it should consist of, both values that are stored in the database as well as properties whose values are calculated; both from functions and workflows.

There are also two different kinds of entities; persisted and virtual. Persisted entities are stored in the database whilst virtual are entities that only exist in memory. This enables you to easily create entities that are tailored to specific usage while keeping the persisted model small and concise. This promotes reusability and data consistency.

Views

Views determine how your applications are displayed – the user interface. You create a view and connect it to an entity which will hold the data that is displayed. Next you can add different controls bound to the entities properties.

The designer comes with several controls out-of-the-box but the platform allows you to also add new custom controls, based on specific application requirements.

For each view, you can specify different layouts for different devices, e.g. a more plain UI for a mobile device and a more complex for a desktop.

The view handles a number of different events where you can inject custom functionality; such as view opened, closing etc. Several controls also have events that can be wired to workflows to handle button clicks, grid row selection and much more.

Workflows

In workflows, you add logic to your application. A workflow consists of activities and branches. Activities are the actions that run in your workflow and the branches handle the flow between different activities. Each workflow has a start activity and the branches define how the execution flows through the workflow.

Flowfactory comes with a great number of standard activities which fulfill the most common requirements of an application. Whenever a specific requirement arises, such as a custom integration, the developer has the possibility to add custom activities written in .NET code.

Each activity can have one or more branches connected to it. You use criteria to specify which branch is selected during runtime.

Extension points

One of the key benefits of a low-code platform over a no-code platform is that you have the possibility to add custom code and components if needed. This means you are never limited to the platform, but always have full flexibility.

For custom logic and functions that need to be executed by the application, you create custom activities. These can then be added to the workflow as any other activity.
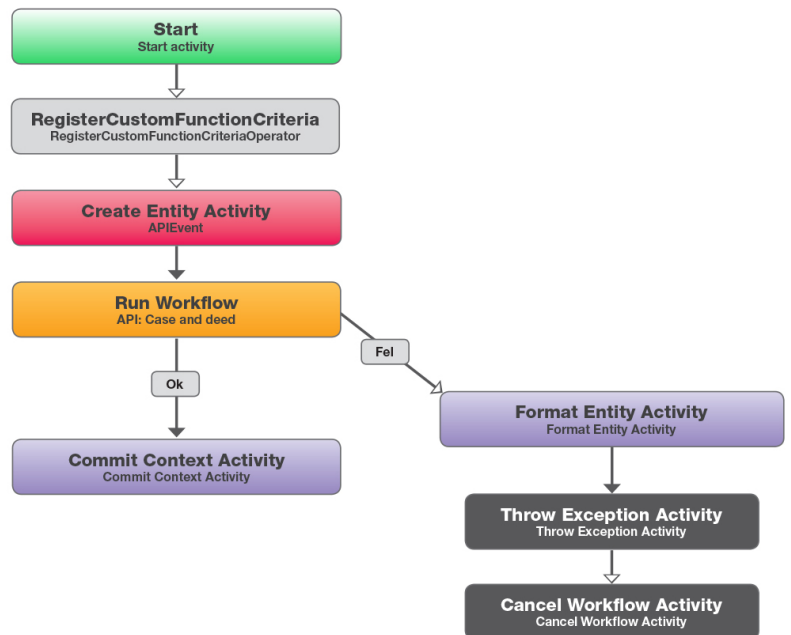
To simplify the development of custom activities you have the possibility to generate a .NET dll with strongly typed classes for your entire data model. Each class contains both properties and relations with other entities.

By using our easy-to-use but powerful API you can build activities covering all possible scenarios.

Hosting environment

Flowfactory is a complete SaaS solution where you can access all parts of the system – Go, The Studio and Web Client Runtime – from the cloud.

All of your data, along with application definitions, are securely backed up. We constantly monitor our environment to make sure that your applications are available and running. Our hosting environment runs at a datacenter located in Stockholm, Sweden.

Technology

Flowfactory uses the Microsoft stack throughout with MS SQL server in the bottom with .NET server technologies in the backend. The frontend is built with HTML5/CSS and uses the latest version of the very popular frontend library Angular with code written in Typescript.

www.flowfactory.se