

Qlik Core™

Qlik's new cloud development platform for building, deploying, extending data driven analytical applications

Qlik recognizes that developers building 'non-BI' data driven applications need to generate insights to drive diverse solutions, consume a wide array of data sets, deliver responsiveness and innovate in presentation, scale, and delivery venues. Qlik Core is a new cloud developer platform from Qlik for building data driven applications leveraging the Qlik Associative Engine. Using an open source distribution model, Qlik Core delivers the Qlik Associative Engine with supporting API and libraries for integration into your projects. These projects can be deployed using Qlik's scalable nodes architecture to deliver best in class technology to achieve massive scale.

Qlik Core allows for highly scalable application development and deployment in modern cloud infrastructures leveraging container technology and open source components

Qlik Core's foundation is the proven, industry leading Qlik Associative Engine and delivers application deployment readiness using proven and emerging web technologies such as Docker, Kubernetes and Linux. Qlik Core is extended with Qlik authored open source components that can be used to develop, deploy and manage applications across a cluster of containers in a standard Docker implementation.

Qlik Associative Difference™

Qlik Core is purpose-built for developers and provides direct access to the Qlik Associative Engine. The Associative Engine provides numerous benefits in modeling, building and data analytics. The associative model provides the following:

- Ability to find associations within large data sets allowing for powerful exploration
- Search and filtering data in a non-hierarchical manner
- Ability to determine relationships in data sets as well as identifying outliers rapidly
- Enables developers to engage in complex analysis

Qlik's Associative Engine fully integrates data from multiple sources, without suffering data loss from executing SQL joins at load time. In working with large, disparate data sets the Associative Engine provides a centralized location to explore data across multiple sources increasing the value of an application through providing incremental levels of insight immediately. Qlik Core provides for data merging using either `halyard.js` or scripting.

One of the key advantages of the Qlik Associative Engine is its ability to provide state management for your application development. The Associative Engine manages and stores the state of functions and objects on the page. The responsive nature of the engine saves a significant amount of time and effort for developers in managing the state in creating interactivity in the application.

Qlik Associative Engine

The Qlik Associative Engine integrates a full set of record level data from multiple sources into its in-memory engine. Qlik provides a robust set of data preparation and integration capabilities for transforming and bringing together disparate data sources, including visual interfaces for loading and transforming data, smart data profiling of relationships and values, and powerful scripting for complex data integration scenarios.

The Qlik Associative Engine was built to provide highly scalable dynamic calculation and association for large numbers of users on massive data volumes. This unique and patented engine technology is Qlik's primary advantage, with over 15 years of innovation and investment.

Qlik authored open source components

Qlik Core includes six open source libraries providing developers a full range of web technology choices:

- **enigma.js** is a JavaScript library that provides interaction with the Qlik Associative Engine. It can be used in a browser or in a Node.js environment. With Enigma.js, a developer can exploit the associative insights that the Qlik engine provides from your data. Using Enigma.js a developer can build logic not only to retrieve data matching certain criteria, but also associative relationships – what is excluded from a particular context, or adjacent to a set of known values. [GitHub documentation](#)
- **halyard.js** is designed exclusively for Qlik's API consumers to get data into the Qlik Associative Engine. The library is split into two pieces making it more flexible and extendable. One part generates script and connection artifacts and the second then takes those artifacts and pushes them to the Qlik Associative Engine through [enigma.js](#). One of the most powerful features in halyard.js is the capability to inline load data without using a connector. This enables the user to load their raw data to a halyard.js table before the actual reload. This gives the users the ability to choose any tool to access their data without having to depend on various custom connectors. One example could be protected web data resources that currently aren't accessible with the web file-connector. [GitHub documentation](#)
- **Mira** is a Qlik engine discovery service for managing how your projects and users are orchestrated across an elastic topology.
- **picasso.js** allows developers to quickly and easily create d3 based Qlik visualizations using a declarative approach. Picasso.js is platform agnostic allowing the developer to create the same visualization code on every other data layer greatly increasing speed of development.
- **Leonardo ui** is used within Qlik providing a variety of graphical UI components. The markup of these components can be used in extensions, mashups and widgets. It works well with popular CSS frameworks such as Bootstrap and Foundation. Using Leonardo-ui can speed up your UI development process and keeps styles in sync with other Qlik Sense assets. [GitHub documentation](#)
- **after-works.js** is a unified testing framework capable of performing unit, component, integration, and end-to-end tests. It is the testing framework used by enigma.js and Leonardo-ui.

Infrastructure on demand – Docker and Kubernetes

Qlik Core delivers the components necessary to deploy and manage data driven applications across a cluster of containers in a standard Docker implementation. Docker is the only container platform provider to address every application across the hybrid cloud. A Docker container image is a lightweight, stand-alone, executable package of a piece of software that includes everything needed to run it: code, runtime, system tools, system libraries, settings and runs the same whether Linux or Windows-based applications. Containers and virtual machines have similar resource isolation and allocation benefits, but function differently because containers virtualize the operating system instead of hardware. Containers are more portable and efficient. Docker containers are based on open standards and run on all major Linux distributions, Microsoft Windows, and on any infrastructure including VMs, bare-metal and in the cloud.

Docker containers isolate applications from one another and from the underlying infrastructure. Docker provides the strongest default isolation to limit app issues to a single container instead of the entire machine. Qlik Core also utilizes Kubernetes, a portable, extensible open-source platform for managing containerized workloads and services that facilitates both declarative configuration and automation. It has a large, rapidly growing ecosystem. Kubernetes services, support, and tools are widely available.

Qlik Core as developer platform and embedded engine component

Qlik Core enables the developer to build an unlimited variety of data driven applications. Once the data is ingested into the Qlik Associative Engine, there are unlimited possibilities for solutions. These application types could include any of the following:

- Workflow
- Search
- Data presentation
- Analytics and visualizations

Developers are looking for flexible, open, componentized type of platform pieces or a toolkit approach to help serve the growing number of digitally driven use cases, especially those requiring huge scale and needing to exist across a variety of stacks. Developers with minimal to no SQL experience can rapidly build, assemble and deploy an application once the data resides within the Qlik Associative Engine.

Qlik Core advantages:

Embed Anywhere



Organizations today require the ability to embed analytic capabilities at these points all along business processes and parallel workflows that are the backbone of both enterprise and ecosystem. Qlik Core allows developers to embed the Qlik Associative engine within a pre-existing stack solution – providing simple, familiar building blocks for crafting a spectrum of analytics solutions and capabilities for any size organization. Docker technology makes readiness and deployment simple allowing Qlik Core to be plugged into the target application infrastructure without having to consider proprietary concepts or server scaling requirements. The Qlik Core-powered component is ready to scale with your cloud-based infrastructure.

Enterprise scale and elasticity



Qlik Core's Linux-based engine allows for easier scaling and deployment. The use of Docker containers allows for elastic expanding and contracting of your topology based on usage, size of applications or spikes in demand. Organizations can unify large numbers of data sources for analysis, handling complex data integration scenarios without the need for external tools or data warehouses.

Qlik Associative Engine difference



The Qlik Associative engine maintains a unified context for analytics in an application. For a developer this means that the objects or elements of an application tied to a single data model in the engine will be automatically synched and maintained in the same state, without having to introduce specific code. This responsive nature of the engine can save time and effort in creating interactivity in apps allowing development efforts to be re-deployed.

With Qlik Core, Qlik provides a single platform which is 'integration ready' to quickly build, assemble and deploy data driven applications in the cloud at tremendous scale. By bringing the power of Qlik Core as a hosted platform, developers are freed from having to purchase, install, and manage the additional infrastructure. Developers can quickly explore possibilities of the Qlik Associative Engine through a hosted ecosystem giving them access to leading edge contributors, new ideas, concepts and a managed platform for development and deployment.

The Qlik Product Family:

Qlik Sense® Enterprise

The full version of Qlik Sense, Qlik's next-generation application for self-service oriented analytics, supporting the full spectrum of BI use cases across an organization.

Qlik Sense® Cloud

Qlik's cloud based, SAS (software-as-a-service) offerings of Qlik Sense, providing visualization, exploration, and collaboration online, available in free and business editions.

Qlik Core™

Qlik Core, Qlik's developer platform, allows for highly scalable data driven application development and deployment in modern cloud infrastructures with container technology.

QlikView®

Qlik's first generation data discovery product for rapidly creating and deploying interactive guided analytics applications and dashboards.

