



BaQend



**[HIGH-PERFORMANCE
BACKEND-AS-A-SERVICE]**

BEING FAST IS BEING MORE SUCCESSFUL

A website with a daily revenue of 100.000 USD will lose 2.6 million USD of yearly revenue for every second of loading. Any improvements in load time significantly boost visits, time on site, conversions, revenue and traffic.

AT A GLANCE

We at Baqend help agencies, startups and software companies build data-driven websites and mobile apps with **higher productivity** while at the same time guaranteeing unprecedented performance in terms of **response times** and **scalability**. To this end, our Backend-as-a-Service platform provides ready to use modules for common **enterprise features** including data and file storage, user authentication, push notifications and real-time queries. The unique performance properties come out of the box as Baqend leverages seminal technology from database and web performance research in all its APIs.



Data
Storage



Real-
Time



Query,
Search



Push
Notif.



Users,
OAuth



File
Storage



Access
Control

KEY FEATURES

Higher Productivity at Lower Costs

Ready to use components and automated hosting enable a short time-to-market and substantial cost savings. Your developers can concentrate on user experience and product innovation.

Performance & Scalability

Imperceptible load times out of the box greatly increase user satisfaction as well your business metrics and elastic scalability right from the start enables your application to grow with your customer base.

Available and Always Up-to-date

The Baqend cloud platform keeps pace with the evolution of web technologies and guarantees availability without service downtimes.

Data Privacy and Security

Our authentication and data protection uses state of the art encryption algorithms. Data access can easily be controlled via ACLs. All Baqend cloud servers are hosted in Frankfurt and comply to German privacy legislation.



**Baqend is a cloud-backend to
develop and run your
websites and mobile apps to
make them load fast and
reduce development effort.**

WEB DEVELOPMENT PAIN POINTS

Companies often face projects and applications with challenging use cases and frontends, which often need to be developed from scratch. However, the backend integration implemented time and time again uses quite common features and always has to meet **high performance requirements**. These redundant tasks and the backend specialists needed to ensure performance, scalability and security are extremely time-consuming and expensive.

Over 30 percent of web development teams deliver projects late or over-budget.

Survey by New Bamboo

Challenges:

- Feature reinvention with little standardization
- Many projects need similar backend structures and APIs
- High efforts for deployment and maintenance
- Separate backends for different platforms and frontends of same application
- Scalability often treated as an afterthought
- Need for elaborate performance optimization especially for page load times

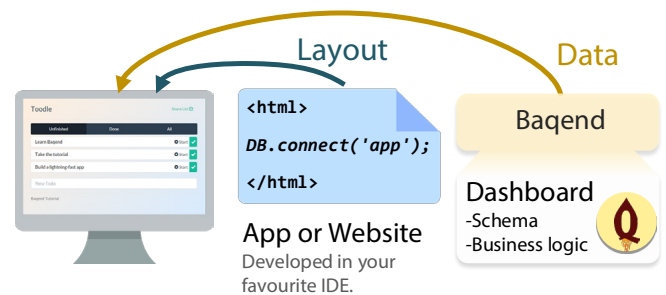
Consequences:

- Productivity loss due to redundant tasks
- Need for expensive backend expertise
- High time-to-market

FOCUS ON WHAT YOU DO BEST

Web developers are great at reinventing the wheel, but with Baqend they can focus on what they do best: creating engaging and appealing applications with a great user experience.

With Baqend, developers use a fully managed backend service with an automatically accelerated **JavaScript API** directly from their single page application (e.g. written in Angular or React). As the platform provides a rich set of **turnkey features** and takes over the responsibility for backend performance, major development efforts are saved and no dedicated backend or database specialists are required.



The end user accesses the website or mobile app built by the developer, which in turn get its data and features from Baqend

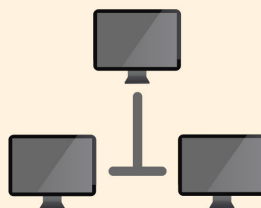
With custom business logic hosted and executed in the cloud, the fully managed service furthermore **decreases deployment and maintenance costs** to a minimum. Guaranteed availability, encryption by default and compliance to German privacy legislation complete the range.



>250%

Faster Loads

Automatic Scaling



Faster Development

#1

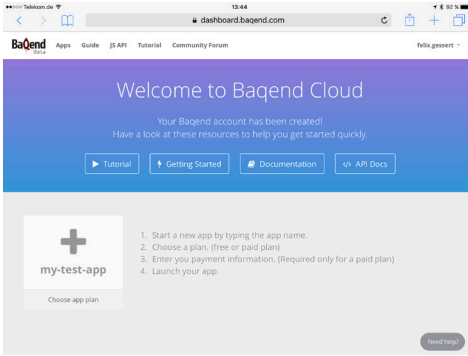
Faster websites and apps make users happier and more productive.

#2

Database and application logic are auto-scaled by Baqend.

#3

Through JSON API, Live-Queries, Push, User & ACLs, OAuth, Backend Code, Search, ...



Baqend Cloud Dashboard: Control Data, Users, etc.

GETTING STARTED

1. Launch a free Baqend Cloud Instance: dashboard.baqend.com/register
2. Follow the Quickstart-Guide: baqend.com/guide/gettingstarted/
3. Develop an awesome user experience and call the Baqend API to handle all the Backend logic, like file and data storing, querying, user authorization, etc.

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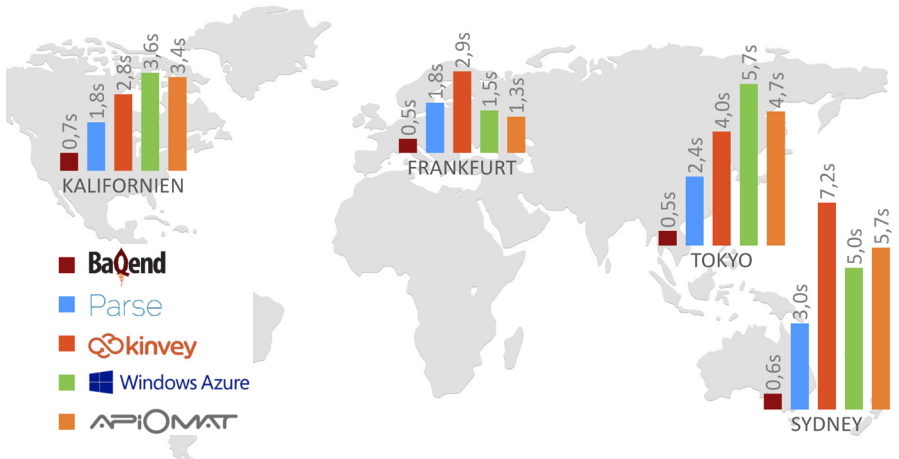
THE VALUE OF FAST PAGE LOADS

Page load times have an immense impact on user behaviour and business metrics.

- **Amazon** found that already 100 milliseconds lost during page load reduce revenue by 1%.
- The **Aberdeen Group** found that if a website takes 1 second longer to load conversions will decrease by 7%, visits by 11% and user satisfaction by 16%.

End users are usually only subconsciously aware of this effect: in A/B tests **Google** compared user behaviour for displaying 10 versus 30 search results. Even though users said they preferred 30 search results, traffic **dropped by 20%** in this group. The decrease was caused by a 500 millisecond slower page load that spread latent dissatisfaction and high bounce rates. And not only users are affected by speed, also search engines now include load time as a primary factor of ranking.

HOW YOU CAN BENEFIT



The benefit of Baqend's high performance service can be visualized with a simple news application implemented on direct competitors. As shown in the world map, Baqend consequently achieves **global load times below one second**.

HOW IT WORKS

Baqend solves load times with its high-performance cloud backend for **web and app developers**. Through 6 years of intensive research and development at the database research group at the University of Hamburg, we derived database and backend techniques to make pages load faster. The technical core of this research is the Cache Sketch method, which we employ to give your (web-)app page load times that are by **factor 2.5 - 8** below those of other platforms.

In Baqend's approach, expiration-based caches (e.g. browser caches and proxies) are kept consistent through a Bloomfilter-based data structure, whereas invalidation-based caches (e.g. content-delivery networks) are proactively updated. As a developer this is totally transparent to you, as it automatically happens in the SDK and cloud-backend (hosted in Frankfurt).



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