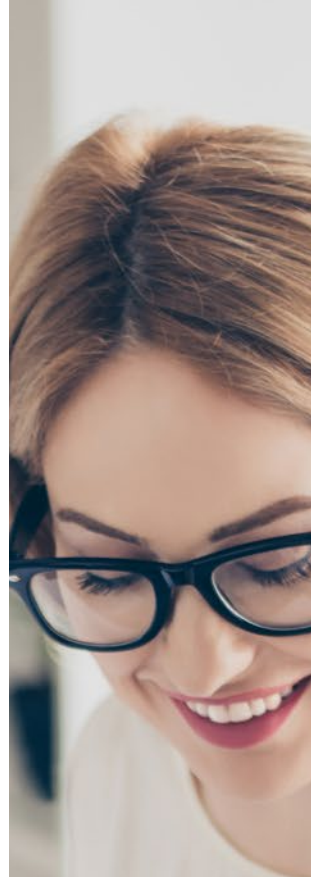


Customer Reference



High-Performance Linguistics for Digital Customer Services

DATEV has implemented a centralized basic search service for its numerous cloud services. IntraFind's linguistics plugin for Elasticsearch delivers comprehensive and relevant search results.



INTRAFIND

The Challenge: High-Performance Search to Cope with the Flood of Financial Information

DATEV offers tax consultants, auditors, lawyers, and companies a range of comprehensive services from the cloud. A high-performance search function is critical to many of these applications. "The flood of financial information means that search and find is increasingly a basic prerequisite but also essential feature when it comes to providing users with the right information in the right format," explains Alexander Wicklaus, Product Owner Collaboration Platform at DATEV. "In addition, search is increasingly becoming an integral part of automating and managing processes."

The Solution: Modern Linguistics for Optimized Search Results

To meet these requirements, DATEV implemented a centralized search tool based on the Elasticsearch search engine. Since Elasticsearch can be easily operated across multiple computing nodes, the service stands out for its flexible scalability as data quantities grow. In addition, it is extremely feature-rich and highly customizable. This allows DATEV to tailor the service specifically to the different application scenarios through configuration options instead of programming. It is integrated into the user interfaces of the company's various cloud services via an application programming interface (API).

Project Overview

Industry: Software vendor

Challenge: Support for German linguistics for heterogeneous search scenarios in a wide variety of cloud services

Solution: Linguistics plugin for Elasticsearch

Users: Internal customer service employees, employees of external call centers, over the long term, more than one million users

Customer Profile

DATEV eG is the third-largest provider of business software in Germany and one of the major European IT service providers. Through its software, cloud solutions, and expertise, the Nuremberg-based company provides the basis for digital collaboration between small and medium-sized businesses and the tax advisors who take care of their business needs. Through this community, DATEV supports a total of 2.5 million companies, self-employed individuals, municipalities, associations, and institutions.

With more than 8,200 employees, the company is helping guide around 450,000 customers through the digitization of their business processes. In doing so, data protection, data security, and tax compliance are the company's top priorities. Founded in 1966, the cooperative association for the tax consulting profession generated revenues of 1.16 billion euros in fiscal 2020.

The linguistics plugin for Elasticsearch from IntraFind forms an integral part of this basic search service. Using state-of-the-art linguistic text indexing techniques, this solution ensures that the service delivers exhaustive and highly relevant search results. "For our search scenarios, we need excellent support of German linguistics. On the basis of an extensive catalog of requirements, we scoured the market and evaluated a few shortlisted solution providers in detail," says Wicklaus. "We ultimately found the perfect partner in IntraFind that not only met our professional and technological requirements, but also proved to be an outstanding company to work with."

Lemmatization, Composite Decomposition, and Ontology Ensure Maximum Relevance

IntraFind's plugin combines various linguistic text analysis methods to normalize inflected words to their basic forms (lemmatization) and to decompose compound terms into their basic components (composite decomposition). These processes result in more complete search results and more relevant

hits. For example, they ensure that when searching for “Häuser” or “Häuser” (“houses”), the term “Haus” (“house”) is also found, or when searching for “Kinderfreibetrag” (“child tax credit”), the terms “Freibetrag Kinder” (“tax credit child”) or “Freibetrag für Kinder” (“tax credit for children”) are also found. In addition, an ontology is also integrated into the basic search tool via the IntraFind Thesaurus service for Elasticsearch, which is maintained by DATEV itself. This ontology establishes connections between words and thereby ensures, for example, that the system also returns matches for the fully written out term “Steuerberatungsgebührenverordnung” (“Tax Consultancy Fees Ordinance”) when searching for its abbreviation “StBGebV.”

“IntraFind specifically enhanced both the linguistics plugin and the thesaurus service to meet our individual needs. They then integrated the solutions into our basic search tool within a very short time,” the product owner is pleased to report. “Now, after the initial rollout, we continue to work with IntraFind to improve the quality of the solutions.”

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Alexander Wicklaus

Product Owner Collaboration Platform
DATEV eG

From Geo-Based to Document-Based to Case-Based Search Scenarios

The basic search tool is currently integrated into more than ten DATEV cloud services and supports a wide range of search scenarios. For example, it is used in the “LEXinform” information system, which offers tax consultants a comprehensive source of information with around 600,000 legal texts, commentaries, and a

Key Benefits

- + Intelligent search and find as a key component of coping with the flood of financial information
- + Providing relevant information to customers, employees, and support staff
- + Search as an integral part of automating and managing processes
- + Significant reduction in support staff workload by enhancing self-service processes

vast array of business information. Since legal certainty plays a fundamental role in all tax advisory processes, there is a clear focus on precision. The company’s “SmartExperts” cloud service helps both private and business users find tax advisors, lawyers, or auditors who best meet their specific requirements. In addition to professional expertise, geographical proximity to the client also plays an important role.

But the search tool also supports digital processes at tax consulting firms, such as those handled by the cloud service “Meine Steuern” (“My Taxes”). In this context, it not only makes documents searchable; by classifying documents and extracting key information, it also makes it possible to further automate the entire collaboration process between tax advisors and clients. Last but not least, DATEV’s customer service employees also use the search tool. If users have a question that they can’t answer themselves using the help documents, they can contact DATEV’s support team. For this purpose, they have access to an intelligent tool to search for solutions across all internally available sources. Based on these searches, a case-based reasoning method was developed to expand the search tool into a simple self-learning system. In this way, any new service incidents can be compared with previously solved incidents and the team can offer established solutions.

Several Million Users Expected in the Future

All in all, the search tool is available to every DATEV customer and is also used by all DATEV service employees as well as by employees at external call centers. It currently handles several million searches and about two million indexing operations per week

Search as a core element in many applications, including:

- + "LEXinform" specialized information system for tax consultants
- + "SmartExperts" for searching for suitable tax consultants
- + "Meine Steuern" for the digitization of tax consulting firm processes
- + "Arbeitnehmer online" for the digital collaboration between employers and employees
- + Intelligent troubleshooting tool for customer self-service and internal support

– with peaks of 1,400 searches and 3,000 indexing operations per minute. But this is far from tapping its full potential. As such, DATEV is already planning to further scale the search tool and extend it to most of its products in the online world. "Over the long term, we plan to roll out our basic search tool to our "Arbeitnehmer online" (Employees Online) platform, a portal that allows employers to share personal data such as salary and wage documents with their employees in digital form," says Wicklaus. "Then our search solution will have several million users."

The AI-based linguistics plugin was customized to meet DATEV's requirements and is subject to continuous qualitative enhancements.

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