

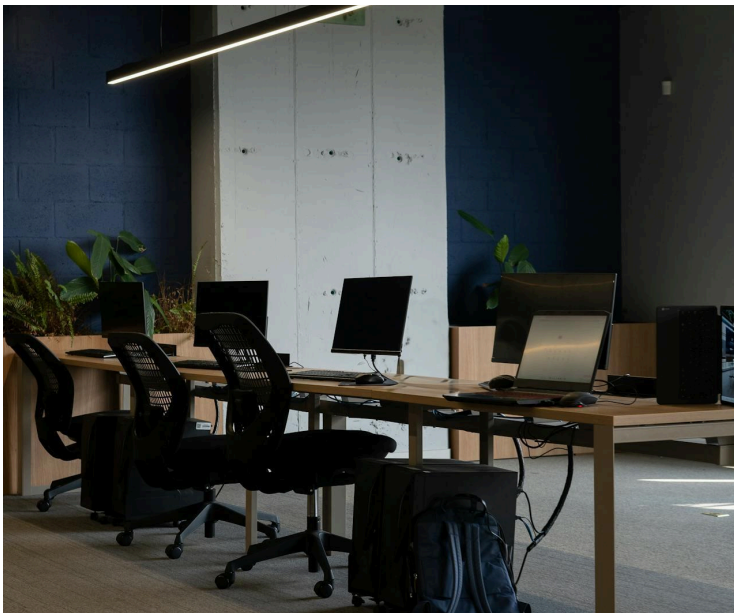
# Development of a Learning Management System for corporate training

## Our Client

A multinational company with operations in the Americas, serving medium- and large-sized businesses. It offers training and development services to all employees, with customized programs, internal certifications, leadership development, and technical courses. It has over 200,000 active users.



## Solución de Rootstack



During the first meeting with the client, they clearly outlined their requirements: **a flexible, scalable LMS platform designed to offer each of their clients an independent portal with their own branding, courses, permission levels, and metrics tailored to their needs.**

The platform must be able to integrate with human resource management systems (HRIS) such as Workday and SAP SuccessFactors, as well as with SSO (Single Sign-On) authentication platforms.

The system also had to support gamification features to encourage participation, learning paths based on professional profiles, automatic certificate generation, and compliance reports for internal and external

audits.

**Rootstack designed and developed a multi-tenant enterprise LMS solution that centralized all training operations under a single platform, while maintaining autonomy and customization for each corporate client.**

## Custom Domains in the LMS

Each company within the platform could have its own domain, logo, color scheme, content structure, and user hierarchies. Through a dynamic role system, administrators for each tenant could manage their own courses, learning paths, user groups, and reports, without affecting other clients.

## Platform Technical Features

The backend was developed with Python and the Django Rest Framework, which allowed for a robust and secure API. The frontend was built with Vue.js, facilitating a fluid and responsive user experience. The MySQL database was structured to support tenant separation through logical partitioning.

A learning path system was built, where users accessed sequential content assigned according to their role, department, or hierarchical level. This included conditional validations for advancement, customized tasks, and continuous assessment modules. This was complemented by a gamification system, with points for participation, digital badges, and individual or group rankings visible on dashboards.

## Reporting Module

One of the key components was the reporting and compliance module, which **allowed each company's Human Resources teams to obtain detailed information on course completion, team performance, and compliance with internal regulations.** Reports could be exported to PDF, Excel, and CSV formats.

Authentication via SSO (SAML/OAuth2) was also enabled, and Twilio and Firebase were integrated to send SMS and push notifications, respectively.

The platform was deployed on Google Cloud Platform, using Kubernetes (GKE) to automatically scale based on demand. Advanced security mechanisms, application firewalls, multi-factor authentication (MFA), and centralized logging for traceability were implemented.

## Technologies

The Rootstack team worked with Python, Vue.js, MySQL, Google Cloud Platform, Twilio, and Firebase.



## Key Features

- Full multi-tenant support with branding and configuration per client
- Learning paths with conditional rules and tracking
- Generation of signed digital certificates with validation
- Compliance dashboards and custom reports
- Integration with HR systems and SSO authentication
- Email, SMS, and push notifications
- Automatic scalability and global availability