ED TECH

# Blackboard integrated Kloudless to improve education collaboration and saves $150k in dev costs each year

| 5,000 developer hours saved | $150,000 a year saved | 100 million learners on their platform |

## Background

Blackboard signed up for Kloudless in order to move beyond its inherited, bespoke integration strategy. First, here's some background on the company.

Blackboard supports both educators and students in schools, universities, and higher education institutions. Founded in 1997, Blackboard is among the first to pioneer the space, exploring and innovating new methods to enable technological methods of instruction.

Blackboard's suite of educational products equips teachers and administrators with the tools to ensure that their students have access to a safe, secure, and engaging place to learn. With over 90 million users across thousands of institutions worldwide, Blackboard needed an integrations solution that was effective, secure, and scalable.

Students and educators share files in and out of the classroom. Blackboard's flagship product, Learn, is an educational platform built for both teachers and students to communicate and collaborate outside of the classroom. Yet even with the full suite of platform features, Blackboard Learn was still just one of the many software services found in the average educator's technology stack. Educators and students alike would store their files, assignments, and other assets in any number of popular cloud storage services, such as Google Drive, Dropbox, and Box.

Blackboard's users wanted to be able to access, upload, and edit those files within Blackboard's own platform without their workflow being interrupted.

## The Challenge

Version upkeep for multiple cloud storage services proved challenging. The product team at Blackboard had inherited a bespoke integration for Dropbox and initially sought to build out the rest of the popular file storage services the same way: internally. They started with Microsoft OneDrive, a popular request, but soon ran into a number of issues.

To their surprise, the initial integration was not what required the bulk of their time and effort: it was the maintenance of the integration that proved to be a headache. Over three years of maintaining their bespoke integration, Blackboard's team created more than 600 JIRA tickets and racked up approximately 8,800 hours towards OneDrive integration development and support alone.
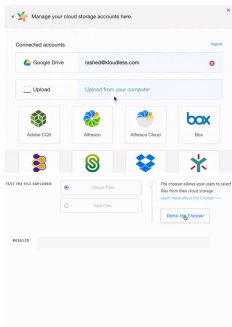
Unpredictable changes that Microsoft made to the OneDrive API would interrupt Blackboard's automated scripts, breaking their meticulously designed integration infrastructure. Each issue would remain open for anywhere from two to four weeks before it was fully resolved. It was starting to distract engineering attention away from the core product, and even began to hurt the confidence that their customers and users —especially the newer ones—had in the Blackboard platform. It was becoming painfully clear that Blackboard needed to find a scalable solution that did not involve building and managing each integration in-house.

## Solution

To solve the problem, Blackboard used Kloudless to code once and integrate many services. The Blackboard team needed a solution to manage their integrations efficiently and effectively without diverting resources from their core product. After evaluating several options, including building directly from the API providers, they selected Kloudless as their new integrations solution. The clean and intuitive developer experience coupled with the depth of features enabled Blackboard developers to quickly and efficiently develop a proof of concept that brought clarity to their decision.
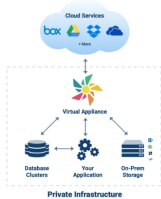
Blackboard uses the Kloudless File Storage API to integrate Blackboard Learn with cloud storage integrations like Box, Dropbox, Google Drive, OneDrive, and SkyDrive. The "one-and-done" approach allows Blackboard to access multiple applications and in a fraction of the time while drastically reducing the need to consistently monitor their integrations for breaking changes.

Here's a snapshot of the Kloudless File Picker.



The open source nature of Kloudless allows Blackboard to take advantage of customizable UIs to scale internationally, prompting users in various languages to select their files and folders in the Kloudless File Picker user interface.

Blackboard manages integrations on-premises.



Doing so ensures the security of data across integrated services.The flexibility of the Kloudless Enterprise on-premise deployment allows the team to easily scale up the instances they needed while simultaneously ensuring that their sensitive data—students' personal information—stays safe and secure. The freedom of scaling even allowed them to successfully reach their product's international expansion goals.

Using a unified API saved Blackboard substantial resources. Months later, Blackboard continues to see meaningful benefits from their investment across the several teams and functions.

Blackboard estimated that maintaining a single in-house integration took up to one-third of a full-time engineer's time, dedicated solely to troubleshooting integration issues for that one service alone. Since Blackboard's core competency as a product is not centered around integrations, it didn't make sense to block the development cycle of the entire product by tasking developers with the challenge of building an integrations solution from scratch. Kloudless allows Blackboard developers to stay on track and focus on what they're good at: improving and expanding their core educational technology product.

## Results

With Kloudless, Blackboard is able to save up to $150,000 and 5,000 hours of developer time a year, while simultaneously ensuring reliable access to the multiple software services they need.

Integrating with multiple services also helped Blackboard catch up in the market. As integrated workflows became more widely adopted, Blackboard saw their competitors expanding their integration offerings to meet user demand. After integrating with Kloudless, they quickly caught up to—and even surpassed—the industry standards by adding five fully functional and stable integrations in mere days after the initial implementation.

With the breadth and depth of integrations supported by Kloudless APIs, Blackboard is considering countless opportunities to enable creative new use cases for their user base to set themselves apart from their competitors.

These results are in line with those experienced by other companies across industries. On average, Kloudless customers deploy applications eight times faster and decrease their maintenance overhead by a factor of four. What's more, Kloudless customers code once and connect additional services twelve times faster than if they had built the integrations from scratch.

Director of Product Management

Sr. Director of Product Management at Blackboard