

# Spacelift's Flexibility Unlocks Faster Scaling for Duolingo Within Months

spacelift

duolingo

## 5 days

Time it used to take to apply  
500 directories in Atlantis

## A few hours

Time it takes to apply 500  
directories in Spacelift

### Summary

Before Duolingo moved to Spacelift in October 2024, it took five days to apply 500 directories (GitHub repos) in Atlantis. With the Spacelift platform in place, the same work can be completed within hours. As Evan Strat, Senior Platform Engineer at Duolingo, explains: "The thing that really sold Duolingo on Spacelift was the fact that it is deeply customizable. Duolingo is really particular about some things, so if there's something that the Spacelift platform can't do directly, there's always been a way to pivot slightly and do whatever we want. Having that flexibility makes it very easy to extend and customize the platform. And that's really nice."

### About Duolingo

Duolingo ([www.duolingo.com](https://www.duolingo.com)) is the most popular mobile learning platform and the most downloaded education app worldwide. The app makes learning new languages, math, music, and chess fun with bite-sized lessons that feel like playing a game. The company's mission is to develop the best education in the world and make it universally available. Duolingo offers lessons in music, math, chess, and language with over 250 total language courses from Spanish, French, German, and Japanese to Navajo and Yiddish.

### Duolingo's IaC challenge

Before they adopted the Spacelift platform in October 2024, the Duolingo team managed Terraform with Atlantis, but it was difficult to keep Atlantis stable at scale and implement new features.

Some specific challenges included:

- PR lock workflow slowed things down painfully
- Limited support for merge-before-apply workflows
- Inability to scale past four concurrent plans and one concurrent apply
- Issues with storage when running Atlantis on ECS in a standard microservice format
- Difficulty writing Terraform policy
- Problems using Atlantis with multiple AWS accounts

### Duolingo's Spacelift experience

Duolingo had been finding workarounds for some of its Atlantis issues — for example, adapting it to use a persistent file system to counter storage issues — but trying to scale with Atlantis was hugely labor-intensive. As Evan explains, "We had to update Atlantis versions manually, but with Spacelift, I have not thought about how it actually runs Terraform in several months because we tuned our worker instance size, and it just hasn't been a problem since — and that frees us up to solve actual interesting problems!"



Spacelift provides the right kind of hooks for us to add our customizations without having to worry about the core Terraform.

**Evan Strat**

Senior Platform Engineer at Duolingo

### Spacelift's impact on Duolingo

As the Duolingo team expands its Spacelift experience, they are discovering the ease with which they can adapt the platform to the way they do Terraform. As Evan Strat concludes:

"If you need to deeply customize your Terraform workflow, Spacelift is a great option. Duolingo has some very particular Terraform workflows, and we've been able to perfectly customize Spacelift to fit our needs."

## This could be your story

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