

Better permissions management

Instead of giving every developer permissions to deploy, you can give solely the CI server those permissions (especially for the production environment). It's a lot easier to enforce good security practices for a single server than it is to do for numerous developers with production access.

Promotion across environments

If you're using immutable infrastructure practices, the way to roll out new changes is to promote the exact same versioned artifact from one environment to another. For example, if you have dev, staging, and production environments, to roll out v0.0.4 of your app, you would do the following:

1. Deploy v0.0.4 of the app to dev.
2. Run your manual and automated tests in dev.
3. If v0.0.4 works well in dev, repeat steps 1 and 2 to deploy v0.0.4 to staging (this is known as *promoting* the artifact).
4. If v0.0.4 works well in staging, repeat steps 1 and 2 again to promote v0.0.4 to prod.

Because you're running the exact same artifact everywhere, there's a good chance that if it works in one environment, it will work in another. And if you do hit any issues, you can roll back anytime by deploying an older artifact version.

A Workflow for Deploying Infrastructure Code

Now that you've seen the workflow for deploying application code, it's time to dive into the workflow for deploying infrastructure code. In this