

5 cloud app development tips

Expert advice from Red Hat Site Reliability Engineers

Made up of a global team with 2.5 million hours of combined experience, Red Hat® [Site Reliability Engineering](#) (SRE) teams are experts in architecting and implementing scalable automation for the observability and reliability of Red Hat Cloud Services solutions. Businesses can optimize their cloud journey by adopting these SRE best practices.

1 Define metrics that matter

Companies need tools and technologies that help them adapt and evolve to their customers' demands. This means striving to understand their customers' needs and establishing measures to determine if they are being met.

Service level objectives (SLOs) make this process less difficult. An SLO is a numerical goal that defines user experience quality by measuring things, such as availability of an API or web page load time. IT and business teams can use SLOs to define success, spot quality gaps, better prioritize resources, and make informed decisions.

Map out and understand the SLOs that matter most to your business, and choose the best cloud deployment method to achieve them.

- ▶ Are your engineering and marketing teams aligned with cloud development goals and success metrics?
- ▶ Do teams understand the implications of the SLO breach, and what gets prioritized when the error budget is exhausted on issues that have a customer facing impact?
- ▶ Do your alerts cover specific, known causes of problems (causal-based), or do they cover higher level conditions that will have some class of underlying causes (symptom-based)?

2 Minimize toil

Take steps to identify and eliminate [toil](#) before it affects team performance or delivery timelines. Survey your team members to uncover time-consuming activities. Identify any laborious work which creates enduring value, or if it is something that temporarily solves the problem, and additional effort will be required later.

Once toil is identified, seek ways to replace it with automation so your team can work more efficiently.

- ▶ Are your engineering teams focused on tasks that provide value to the organization?
- ▶ Is it taking longer than expected to make progress on engineering projects, scaling services, or launching new features and functions?

3 Inventory your processes

Continually assessing your development practices and making changes where necessary is important.

Consider where your organization sits on the cloud-native adoption curve. This will help determine which cloud projects should be prioritized and how to best approach them. Inventory your DevOps processes to determine which must remain in place and which you're likely to change, either now or in the future.

- ▶ Are your development processes optimized for a hybrid cloud environment?
- ▶ Do you have a clear and consistent process for continually improving your development practices across the organization?
- ▶ Are you using continuous integration (CI) and continuous deployment (CD) practices and processes to speed up development flows?

4 Create an update strategy

Many things factor into the decision on when to update software. Avoiding an update for too long can negatively affect efficiency, performance, and security and can introduce additional elements of risk into the organization.

As you implement your cloud strategy, make it clear who will monitor platforms and applications and the process for implementing updates. Ensure your team has their time and expertise dedicated to observability and reliability, and can conduct regular performance assessments that help them focus on projects that drive business value.

- ▶ Do you have the resources to perform routine software upgrade assessments?

- ▶ Do you have a process in place to identify when and how to manage software updates?
- ▶ Do you have a canary (staging) or A/B testing process to make certain changes and upgrades function as expected before they roll out to your entire production environment?

5 Avoid snowflakes

Snowflakes are custom-built fixes meant to quickly solve a single problem. An environment with too many workarounds will end up creating more toil. Try to avoid using snowflakes because they can slow down application development.

Instead of addressing challenges on a case-by-case basis, aim to create an automated and extensible system that can help you reach your goals with less difficulty. An automated system will help your organization to move faster and with a more reliable deployment method.

- ▶ How many manual tasks are required to maintain your platform?
- ▶ Do you understand the long-term support implications of your solutions, and if it will lead to more technical debt?

The expertise you need

Learn how Red Hat [Site Reliability Engineering](#) teams help you automate the deployment and management of Red Hat clusters and complimentary Red Hat applications and data services so you can focus on developing applications efficiently and at scale.



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