



PagerDuty

# What is Runbook Automation?



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# Introduction

Runbooks are an old/common standard in IT operations. **Runbooks** are a set of standardized, written procedures for completing repetitive operations processes within a company. They have evolved over the years to be applicable to newer technologies like cloud computing.

The idea of runbooks is great in concept, however there are challenges that many associate with runbooks. For example, if your runbooks exist on the company wiki you have to hope the documentation is up to date, or that you know how to use the scripts in the agreed upon shared script location, or that environment details are current... the list goes on.

Enter runbook automation.

## What is runbook automation?

With runbook automation, engineers can standardize operating procedures, define automated jobs incorporating existing automation, and safely delegate these processes as APIs and self-service requests to other stakeholders.

Now end users and team members can perform tasks that previously only subject matter experts could perform.

Popular runbook automation use cases include incident response, service requests, business continuity, or just spreading the operational load amongst colleagues.

## What will runbook automation do for your operations?

- Less waiting and quicker turnaround times — Replace “open a ticket and wait” or dig through the wiki to find the runbook with “here’s the button to do it yourself.” Reduce lead times from days to minutes.
- Fewer interruptions and escalations — Cut down on the repetitive requests that disrupt your overworked subject matter experts and delay other work. Reduce predictable interruptions by 40%.
- Enhance operational quality — Standardize operations with automation to minimize opportunities for human error.

# Life with manual runbooks

Your company likely already has most of the tools, scripts, and manual commands that will copy artifacts, manipulate files, call APIs, etc. However, the knowledge needed to invoke and leverage those tools, scripts and manual commands usually lives in the heads or laptops of only a few people.

That leaves everyone else in your organization with a few unsatisfactory options when they need an operations task completed:

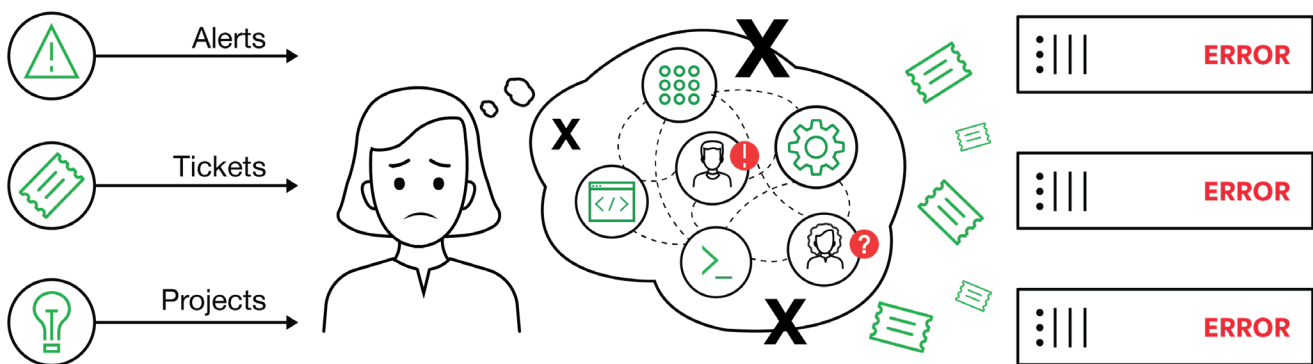
- **Brave the wiki** — Search for the correct docs and try to decipher what the writer intended (likely wondering the whole time if it is up-to-date and accurate). Of course, this assumes they have been granted access to the environments in question.
- **Dive into ad-hoc script/tool usage** — Look in previously agreed-upon locations for shared scripts and hope your knowledge of the correct usage and environment details is current.
- **Escalate! — The most likely option.** Open a ticket and send disruptive interruptions into your organization. Then bide your time while you wait for a response.

A lack of up-to-date knowledge, or insufficient access privileges, blocks others from participating directly in operations activity.

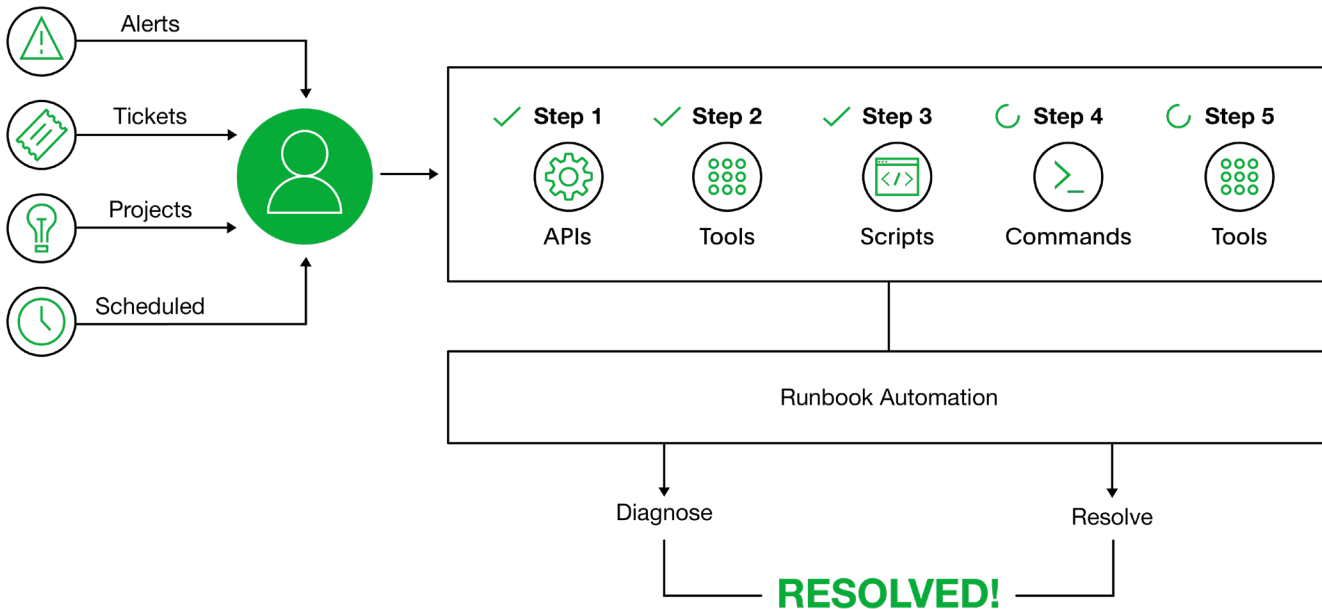
Consequently, everything (provisioning, incident management, diagnostics, maintenance, reporting, etc.) falls to already overworked and bottlenecked experts.

This inability to allow more people to participate in operations leads to expensive and painful problems:

- Bottlenecks form around your subject matter experts and those experts start to experience burnout.
- Incidents are longer than they need to be because only a limited number of people know how to take the correct action or even diagnose the problem.
- Escalations are rampant, causing more disruption and interruption. This can crowd out planned business improvement work.



# Benefits of runbook automation

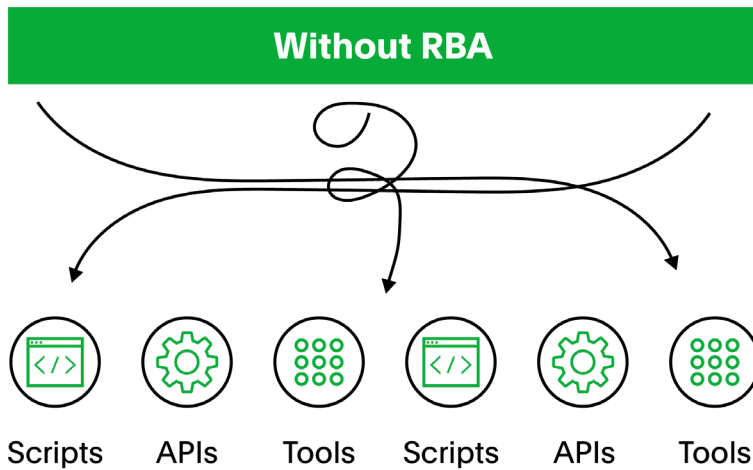


Runbook automation is essential to your operations because:

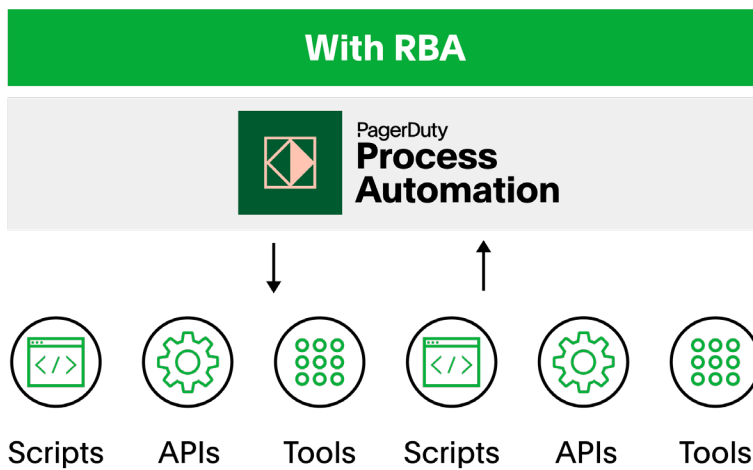
- Completing tasks in operations takes more than just executing a single command. You are routinely dealing with multi-step procedures that cross system silos and span multiple systems, tools, and command lines.
- Not everyone has access to every system. Without the proper access to tools, information, and systems, you will see negative outcomes such as prolonged resolution times, inefficiencies around remediation, and less time for SMEs to focus on high-value work.
- Knowledge transfer is challenging. You have to convey what to do, the correct sequence, and how to evaluate the output at each step.
- The pace of change and complexity has increased exponentially and will continue to do so. Timely and accurate knowledge transfer via meetings or written text is increasingly infeasible.

Runbook automation helps support the demands of DevOps and Digital Transformation by enabling anyone to safely execute self-service operations tasks that previously only subject matter experts could perform.

## Runbook automation leverages your existing skills and investments



The role of runbook automation is *not* to replace your existing tools, scripts, API calls, or manual commands.



The role of runbook automation is to automate the workflows that span and invoke your existing automation and manual commands.

Runbook automation quickly becomes the human-to-tool interface for your operations procedures.



# ROI of runbook automation

Calculating the ROI of runbook automation is dependent on the activity. There are two general categories: incident response and service requests.

## Delegate self-service requests



**Less waiting.** Get out of people's way. See shorter lead times and speed up SLAs since stakeholders spend less time waiting, and can get on with their primary work.



**Fewer interruptions.** Protect the limited capacity of subject matter experts. Give your subject matter experts more time to work on the projects that move the needle for your business by avoiding interruptions from repetitive requests.

## Incident response



**Shorter incidents.** Incidents cause lost revenue, opportunity cost, and damage to your reputation. By responding quicker and enabling a broader set of colleagues to respond, incidents are resolved quicker, and potential damages are decreased.



**Fewer escalations.** Your people are your most expensive assets. Adding runbook automation to your incident response enables people closer to the issue to diagnose and resolve the issue, avoiding highly disruptive escalation chains that interrupt other work for subject matter experts.



**Improved incident response efficiency.** Where does your organization spend its time? Shorter incidents and fewer escalations means fewer people can handle more issues, leaving more of your team's time available for engineering work.

# Critical capabilities of a runbook automation solution

Runbook automation is an interface to a workflow that connects people to tools and infrastructure; however, there are a few essential capabilities needed for a successful solution.

- 1 Orchestrate workflows.** A runbook automation solution orchestrates and connects any scripts, tools, and or APIs into a workflow. It needs to work with any scripting language or tool and allows you to leverage your organization's existing skills and investments.
- 2 Connect to anything.** Integrations to common infrastructure and systems used by your team are necessary. If one team loves Ansible, drop in their playbooks. If another team uses PowerShell, drop in those scripts. Plug in what you've already got and then use simple configuration to define the desired workflow.
- 3 Control access and provide guardrails.** Guardrails provide users with safe and controlled access to smart choices. These guardrail features are important when delegating out potentially complex workflows to folks who are not experts. Access control features constrain what users are allowed to do and provide a clear audit trail.



- 4 Integrated security and built-in logging.** A runbook automation solution should integrate with SSO and LDAP for authentication and access control and secrets management systems. Additionally, it should have built-in logging that provides an audit trail of all job runs and outcomes.
- 5 Dynamically map everything.** A Dynamic Infrastructure Map keeps track of the details by integrating with other "sources of truth" in your environment (CMDBs, config management, cloud/VM managers, monitoring tools, and more). This ensures the targeting of your automation and variables in your automation automatically stay up-to-date.

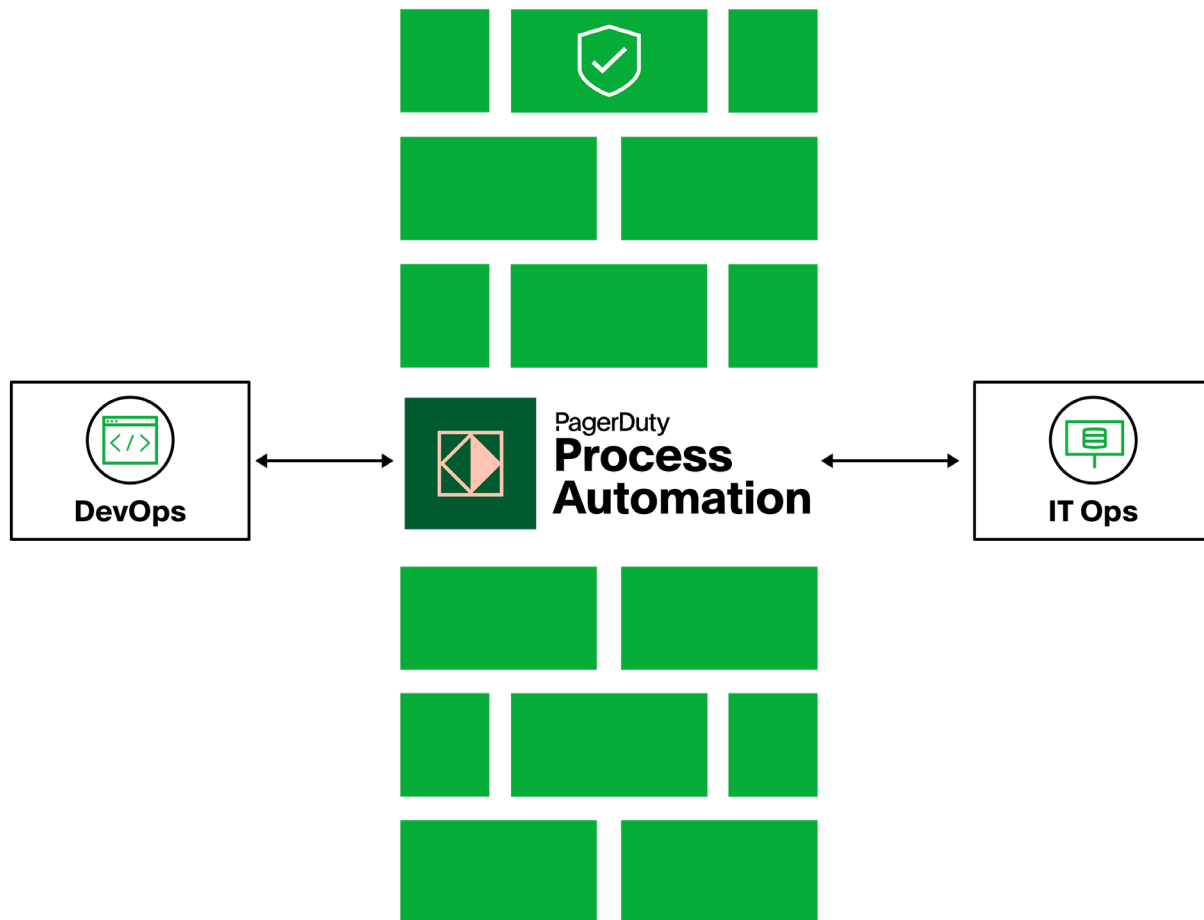


# Runbook automation for DevOps

DevOps inspired ways of working encourage the delegation of operations work to those who are outside the traditional boundaries of operations. For example, allowing Developers to deploy, investigate, and fix their applications in production under a “you build it, you run it” model.

Runbook automation benefits DevOps ways of working in several ways, including:

- Providing self-service access to operations services for developers such as creating new environments or pulling data from production.
- Letting developers author automation and delegate it to others for self-service, such as diagnostics and remediations.
- Providing a secure, auditable platform through which all human-to-tool interaction takes place, making security and compliance comfortable with significantly expanding the number of people doing operations work in production.

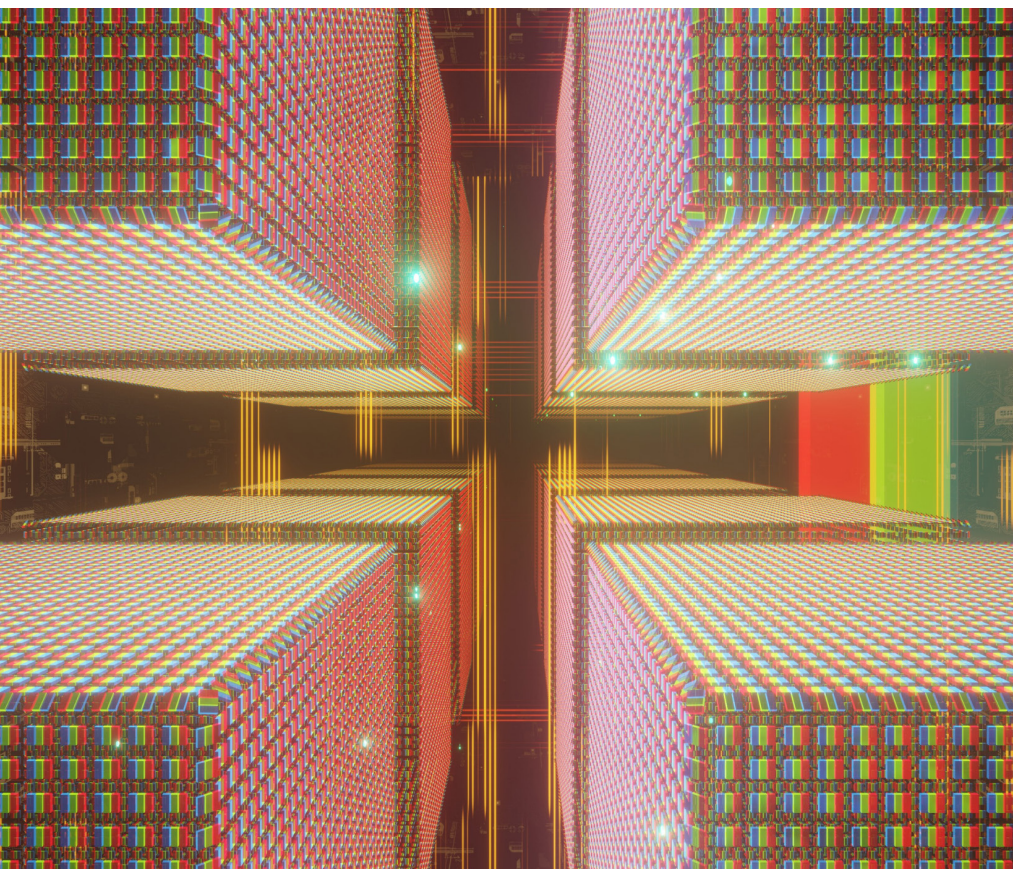


# Runbook automation for SRE

SRE (Site Reliability Engineering) is a significant change in how operations work gets done. SRE emphasizes using software engineering practices to manage and improve the reliability, scalability, and performance of business-critical systems.

Runbook automation helps SRE practices in several ways, including:

- Turning what would previously have been written documentation into executable code managed through a software development lifecycle.
- Delegating automation as self-service actions and enabling operations to be distributed throughout an organization, reducing lead time, idle time, and “toil” (a key SRE metric for measuring efficiency).
- Building and collaborating on automated checklists that improve the speed of diagnosing and resolving incidents.



# Runbook automation for legacy environments

Life in enterprise operations will always be a mixture of “the old” and “the new.” Responding to incidents or doing a provisioning activity could require you to work across multiple generations of technology.

Runbook automation helps operating in legacy environments in several ways, including:

- Capturing the standard operating procedures for all services and ensuring quick and reliable access for anyone responding to incidents or who need something provisioned.
- The ability to move faster, while maintaining ITSM standards, by replacing the need to open tickets for standard changes with self-service automation (that can also automate keeping records in the ticket systems).
- Ensuring operations actions executed were the same as those previously agreed to during change advisory/review (with audit logs that allow you to review what ran, who ran it, and the output/results).



## Ready to learn how runbook automation can work for you?

PagerDuty Process Automation automates and orchestrates the most common IT processes, allowing customers to meet SLAs and lower operating costs. Enhance growth and innovation by eliminating old human-ticket concierge services and replacing them with automated systems that bridge departmental and technological silos. Incorporate security and compliance requirements into automation to reduce risk and expedite change request approval. Reduce incident resolution time by 25 minutes and task completion time by 99%. Process automation helps teams create automated processes rapidly, delegate them as functions and APIs, and schedule, trigger, and invoke them as self-service requests. Customers save 50% on support costs and see 40% fewer escalations to senior engineers.

Find more information, visit [pagerduty.com/platform/automation](https://pagerduty.com/platform/automation)

Schedule a demonstration or trial today at  
[pagerduty.com/contact-us/runbook-automation](https://pagerduty.com/contact-us/runbook-automation)

### About PagerDuty

**PagerDuty, Inc.** (NYSE:PD) is a leader in digital operations management. In an always-on world, organizations of all sizes trust PagerDuty to help them deliver a better digital experience to their customers, every time. Teams use PagerDuty to identify issues and opportunities in real time and bring together the right people to fix problems faster and prevent them in the future. Notable customers include Cisco, DocuSign, Doordash, Electronic Arts, Genentech, Shopify, Zoom and more.

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