



PagerDuty

Improve Your Automation and Reduce Toil

Mandi Walls | @LNKCHK
DevOps Advocate, PagerDuty

Hi!

Mandi Walls

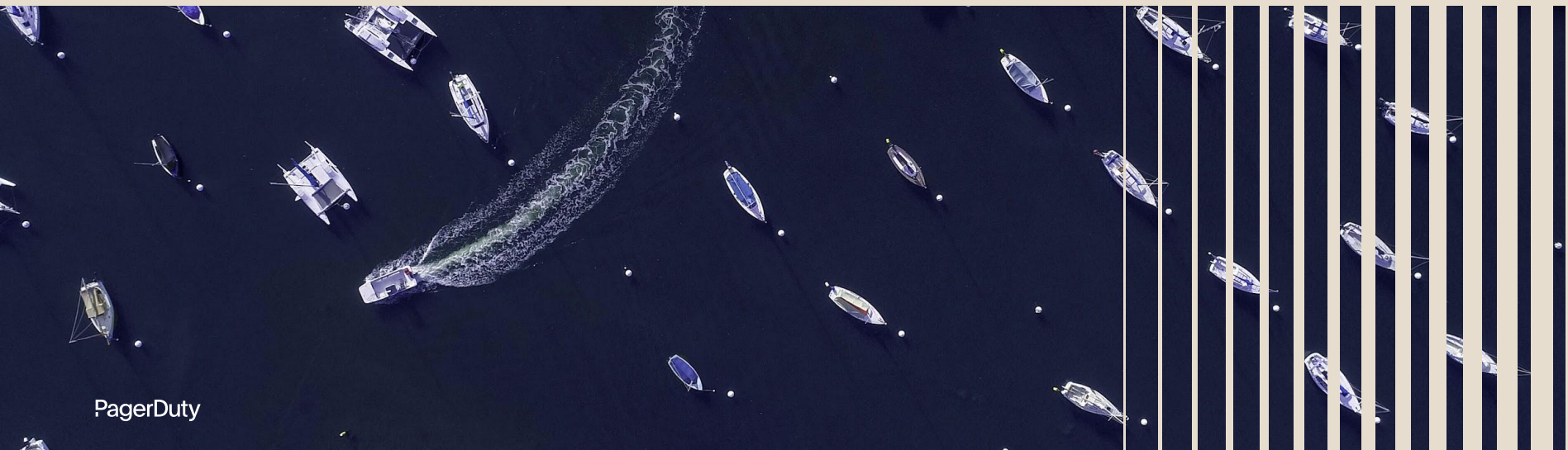
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The Basics





What is Automation?

What is Toil?



Repetitive, tactical work



Increases linearly with environment size - no economy of scale



It has to be done, but does it have to be done by a human?

Why Automate?



Interacting with
complex
systems



Fast-moving
environments

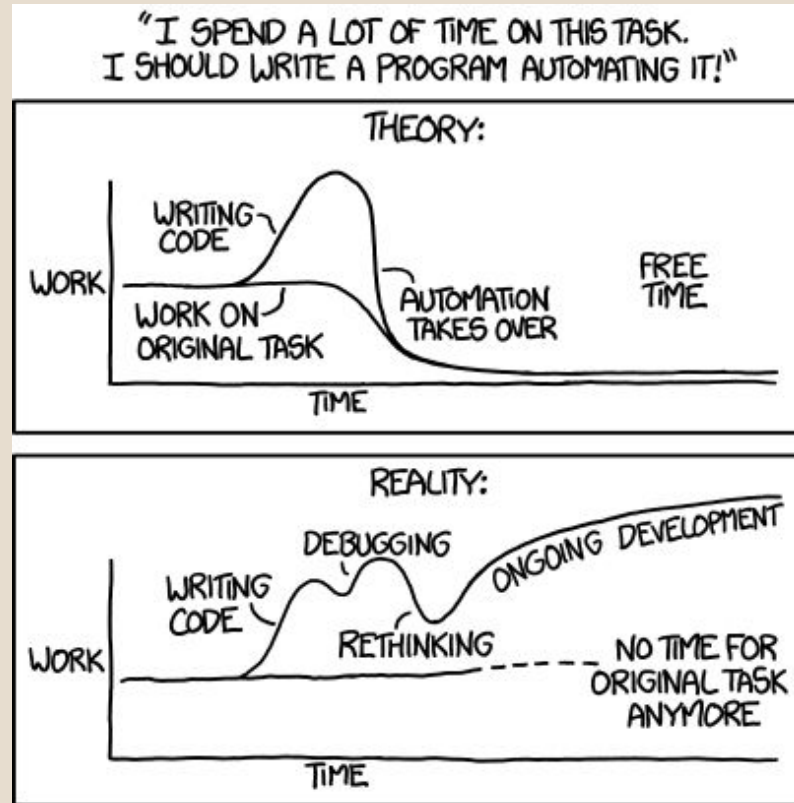


Manual process
are prone to
mistakes



Reduce Toil

Automating Yourself Out of a Job

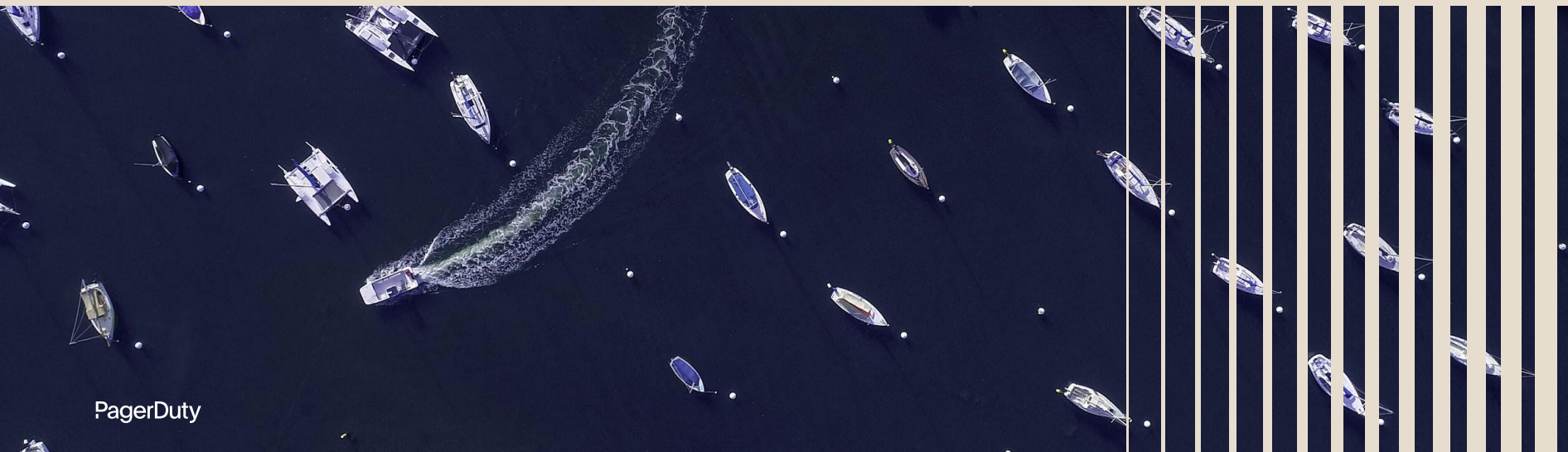


<https://xkcd.com/1319/>

You Don't Have to Know Anything if it's All Automated



Good Automation



Goals for the Automation Itself

*Architecting
for Scale*

Lee Atchison

- **Testable**
- **Flexible** and implemented for future improvement
- **Reviewable** by someone else as a check
- Put under **version control**
- **Applicable** to related resources and not a one-off
- **Repeatable** and **auditable**

The I Word

What is
Idempotency?

What should we automate?

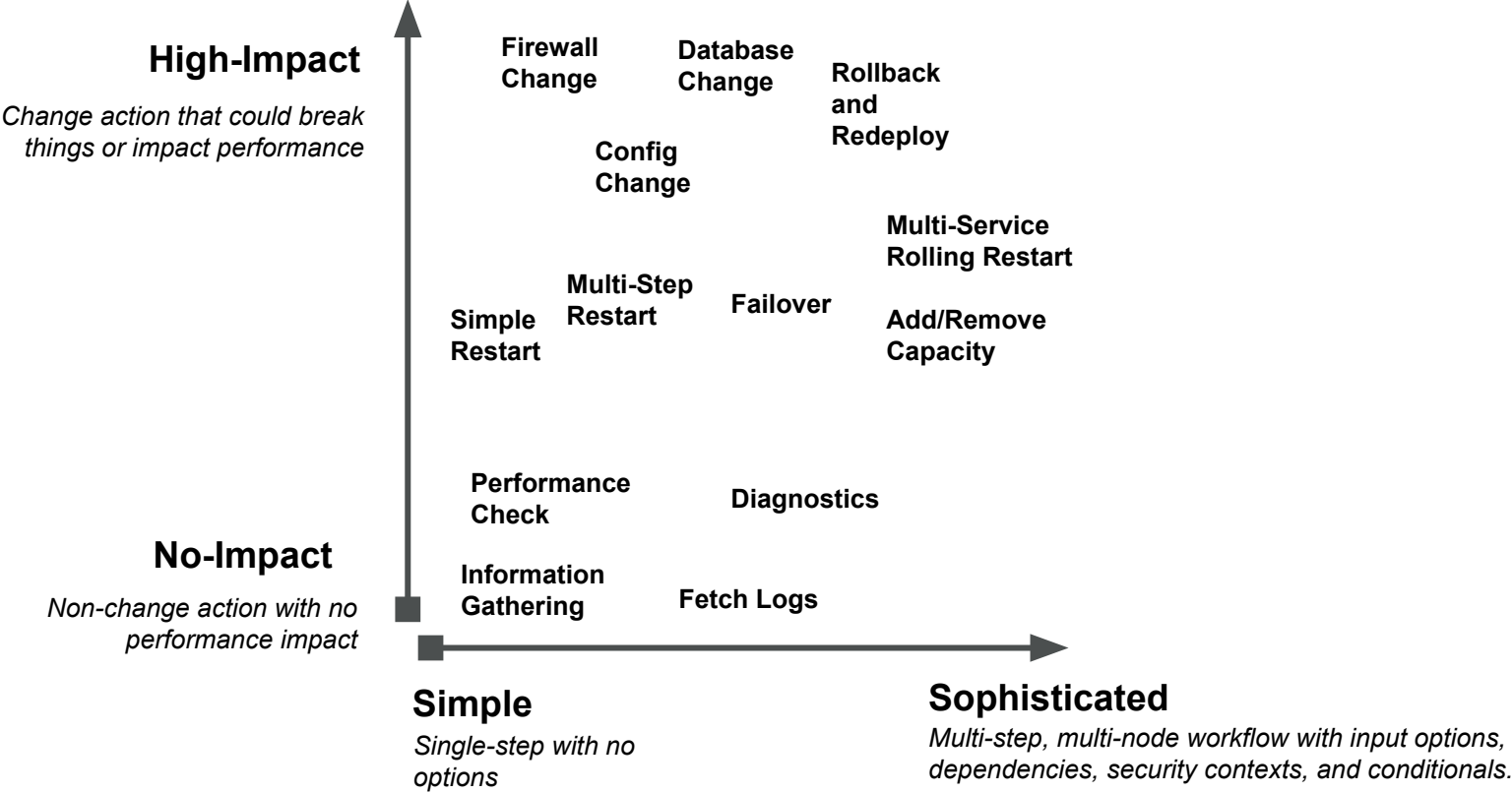
HOW LONG CAN YOU WORK ON MAKING A ROUTINE TASK MORE EFFICIENT BEFORE YOU'RE SPENDING MORE TIME THAN YOU SAVE?
(ACROSS FIVE YEARS)

HOW OFTEN YOU DO THE TASK

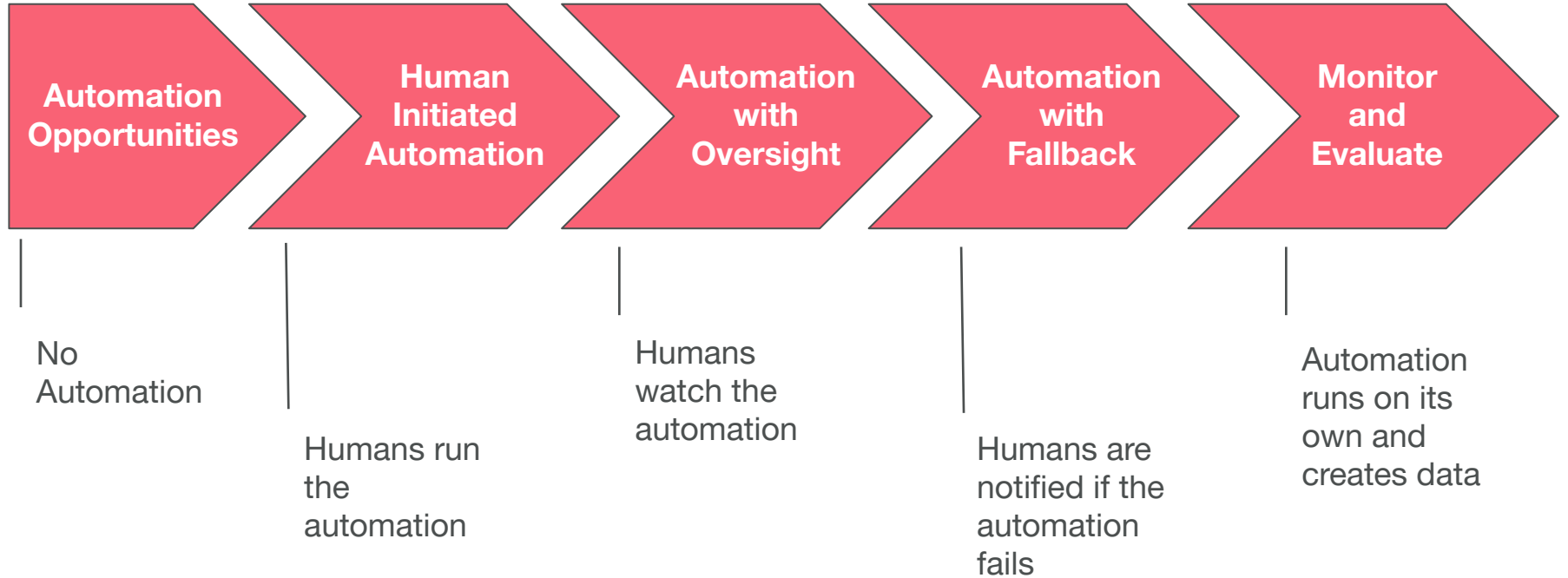
	50/DAY	5/DAY	DAILY	WEEKLY	MONTHLY	YEARLY
1 SECOND	1 DAY	2 HOURS	30 MINUTES	4 MINUTES	1 MINUTE	5 SECONDS
5 SECONDS	5 DAYS	12 HOURS	2 HOURS	21 MINUTES	5 MINUTES	25 SECONDS
30 SECONDS	4 WEEKS	3 DAYS	12 HOURS	2 HOURS	30 MINUTES	2 MINUTES
1 MINUTE	8 WEEKS	6 DAYS	1 DAY	4 HOURS	1 HOUR	5 MINUTES
5 MINUTES	9 MONTHS	4 WEEKS	6 DAYS	21 HOURS	5 HOURS	25 MINUTES
30 MINUTES		6 MONTHS	5 WEEKS	5 DAYS	1 DAY	2 HOURS
1 HOUR		10 MONTHS	2 MONTHS	10 DAYS	2 DAYS	5 HOURS
6 HOURS				2 MONTHS	2 WEEKS	1 DAY
1 DAY					8 WEEKS	5 DAYS

HOW MUCH TIME YOU SHAVE OFF

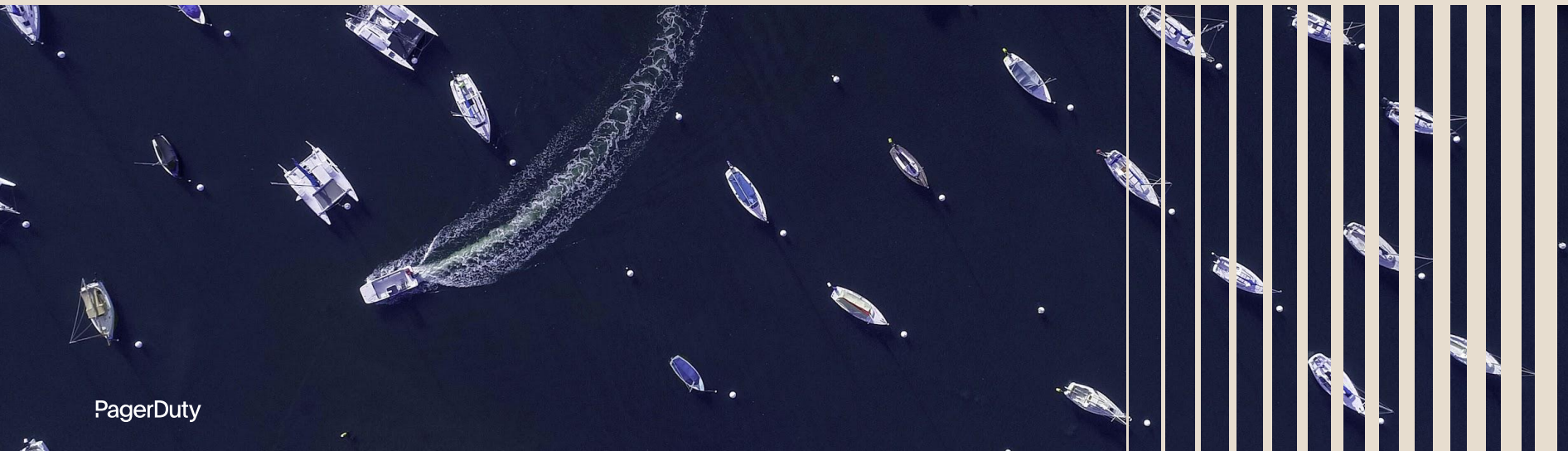
Example Automation Tasks for Incident Response



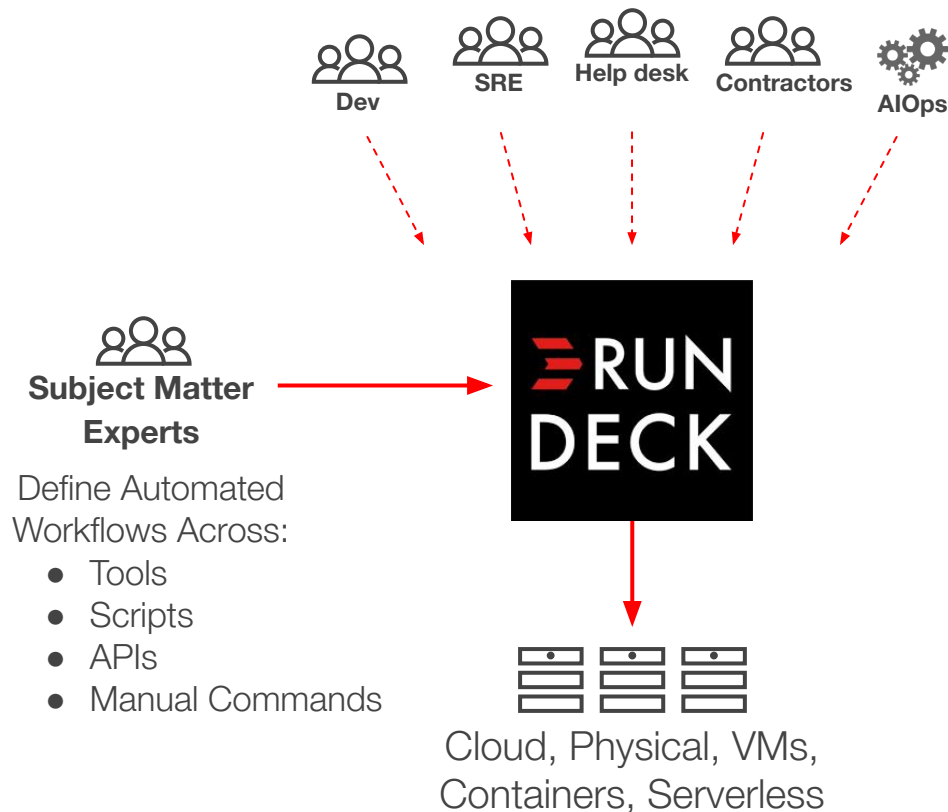
Evolution of Automation



Automation Example: Rundeck



Rundeck is Runbook Automation



Delegate self-service operations to stakeholders.

Curate and publish automation workflows.

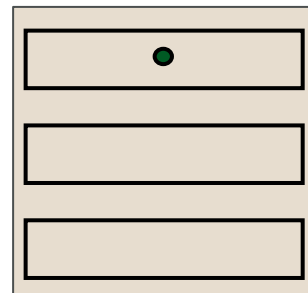
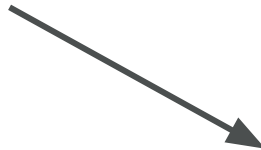
Manage any infrastructure on premise and in the cloud.



Users in your organization
who need you to run a task
RIGHT NOW to fix a thing



Your Rundeck server, configured to
access your nodes and run various
tasks



Users need no access to nodes



DASHBOARD



JOBS



NODES



COMMANDS

Run chef-client on demand

Allows users to run the chef-client on nodes when necessary if they can't wait for the scheduled job to run.

Succeeded 0.00:04 at 5:13 pm

#5

you
a14bc3e6

[Run Again](#)

[Log Output »](#)

Node	Start time	Duration
> node3		0.00:04

Stats		
1 EXECUTIONS	100% SUCCESS RATE	4s AVG DURATION



Welcome Project



DASHBOARD



JOBS



NODES



COMMANDS



ACTIVITY



WEBHOOKS



PROJECT
SETTINGS

5 Executions [any time](#) Search...

Auto refresh Bulk Delete

✓	07/21/2021 5:13 PM Today at 5:13 PM	1 ok	4 seconds	by alice	Run chef-client on demand	#5
✓	07/21/2021 5:10 PM Today at 5:10 PM	1 ok	6 seconds	by alice	sudo chef-client	#4
✓	07/20/2021 1:49 PM Yesterday at 1:49 PM	1 ok	5 seconds	by admin	Run chef-client on demand	#3
✓	07/20/2021 1:47 PM Yesterday at 1:47 PM	1 ok	4 seconds	by admin	sudo chef-client	#2
✗	07/20/2021 1:46 PM Yesterday at 1:46 PM	1 failed	6 seconds	by admin	chef-client	#1

Resources

Rundeck: <https://rundeck.com>

PagerDuty: <https://pagerduty.com>

Ops Guides: <https://pagerduty.com/ops-guides>

Autoremediation Guide:
<https://autoremediation.pagerduty.com>



Thank You

@LNXCHK