



SymfonyCon
BRUSSELS 2023

I did it ! I broke production !

Sofía LESCANO CARROLL



@SofLesc





Raise your hand if you have the rights to deploy /
make changes in production



Keep it raised if you never broke production



Well, I did ;)



Twice.



Within the same hour.

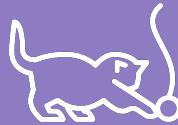
" Discover someone's true
nature when you see how they
react to an incident in
production "

Sofia Lescano Carroll

Senior Software Developer

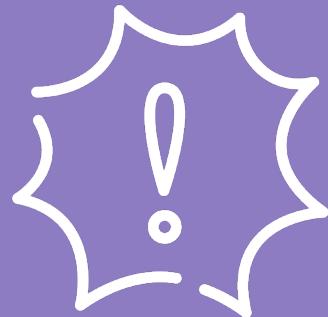


📍 Madrid



 benevity

The Benevity logo consists of a stylized, blue, four-petaled flower or leaf design followed by the word "benevity" in a lowercase, sans-serif font.



Disclaimer



An e-commerce story that brings
together retailers and brands



Our organisation

Our teams

Functional perimeter



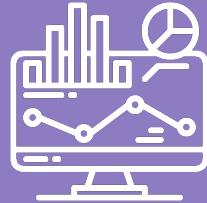
Engineering manager



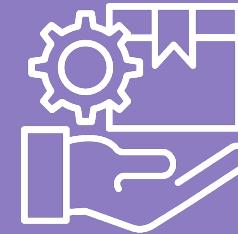
3-8 Software
Engineers (BE & FE)



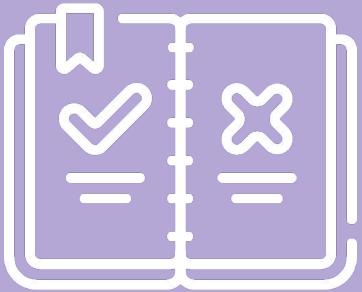
Product designer



Data analyst



Product manager

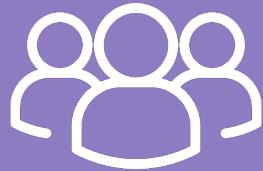


Our guidelines

Our guidelines

Engineering principles
&
Software architecture principles

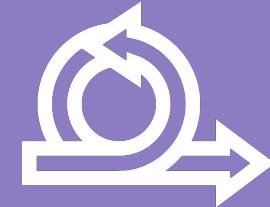
Engineering principles



**Small long-lived
squad**



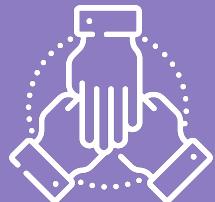
Self-organization



Iterative process



Autonomy



Collaboration



Transparency



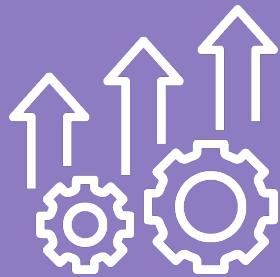
Safety

Engineering principles

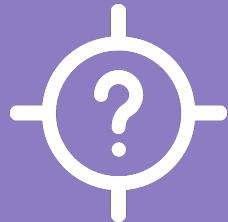
Software architecture principles



Data privacy



Always improve



No deviant system
behaviour



Localisation



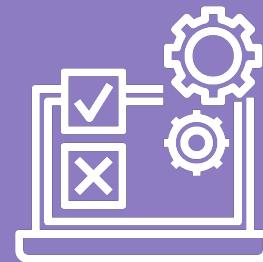
Environment
parity



Documentation

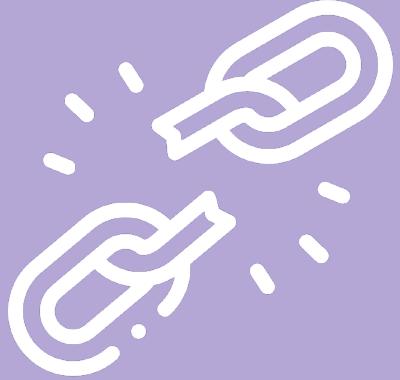


Disposability

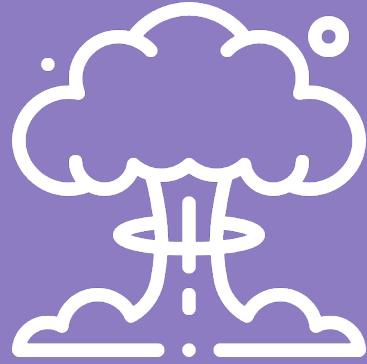


Testing

Software architecture principles



The day I broke production



There are plenty ways of breaking
production ...

Fortunately I didn't break it THAT much ...

BLEND
WEB
MIX

24 & 25 OCTOBRE 2012

Tempête de boulettes géantes (en prod)

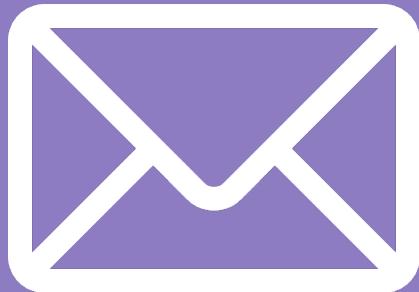
Agnès Haasser
(TEA The Ebook Alternative)

53:42

It was on valentine's day ...



I wasn't much worried about my deployments



I got a message from a colleague ...

2:58 PM

Sofia we've a problem I think you need to revert this PR asap <https://github.com/>

<https://ankorstore.slack.com/archives/C038XNKV9Q/p1676382547856839>

Hi Team! 😊 I've noticed that two Brands can not see any orders in their account at the moment, for example : [https://\[REDACTED\]/22798/show](https://[REDACTED]/22798/show) do you know if this is part of a bigger issue?

Thread in # questions-product-tech | Feb 14th | [View message](#)

I've done it here <https://github.com/>

#29904 Revert "perf: reduce number of queries on account orders"

Reverts #29694

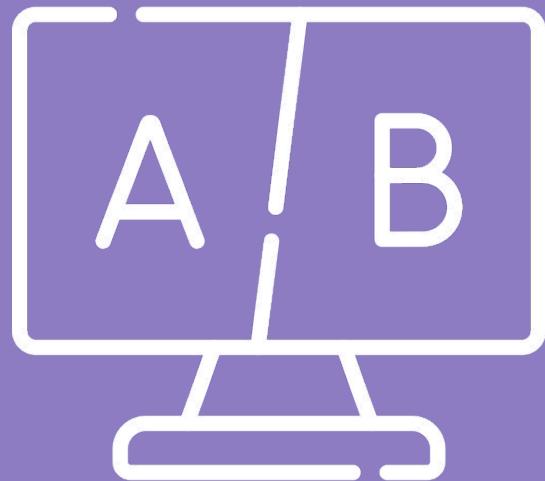
Labels

merge-queue/ready

 ankorstore/ankorstore | Feb 14th | Added by GitHub

- ① Someone spotted an issue in production
- ② My colleague caught it up, triggered an incident and started a fix
- ③ Reached out to let me know so I could manage it

What happened ?



We forgot we had an A/B test ongoing

Consequences

Commandes à valider 1

Commandes à expédier 3

Problèmes de réception 0

Recherche par numéro de commande ou par détaillant

Exporter

⚠ Au moins une commande contient des boissons alcoolisées.
Toutes les expéditions contenant des boissons alcoolisées doivent répondre à des normes d'emballage spécifiques. Vous trouverez plus d'informations sur [ces normes dans notre FAQ](#).

Toutes 5 A accepter 1 A envoyer 3 Envoyées 1 Problèmes de réception 0 Annulées 0 Terminées 0

Filtres: Priorité ▾ Type de commande ▾ Tout effacer

5 Produits

Client	Priorité	Statut	Référence	Date de création	Montant net	Suivi	Origine du stock	Type de commande
[redacted]	En retard	Commande à valider	#2350906	12 juin 2023	106,01 €	>		
[redacted]	En retard	Commande à expédier	#2350901	31 mai 2023	106,01 €	>		
[redacted]	En retard	Commande à expédier	#2350896	21 mai 2023	106,01 €	>		
[redacted]	En retard	Expédiée et en attente d...	#2350891	31 mai 2023	115,65 €	>		
[redacted]	En retard	Commande à expédier	#2350881	26 mai 2023	106,01 €	>		



PagerDuty EU APP 2:59 PM

Resolved: #569 Brands unable to access order list in brand BO

Assigned: Triggered by: Slack

↑ High Urgency

Priority: P2 Service: Global

Resolved by [REDACTED] (@ [REDACTED]) | Feb 14th

More actions... ▾

Acknowledged #569: Brands unable to access order list in brand BO by [REDACTED]

(@ [REDACTED]) | Jump

Status update

4:05

Message: http://[REDACTED]
the culprit as [REDACTED]

Resolved: #570 Operations involving invoice generation, uploads and file handling are experiencing errors

Assigned: Triggered by: Slack

↑ High Urgency

Priority: P2 Service: Global

Resolved by [REDACTED] (@ [REDACTED]) | Feb 14th

More actions... ▾

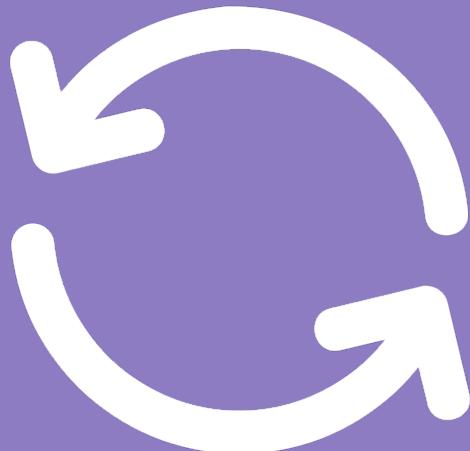


Sofia LESCANO CARROLL 4:04 PM

i hope its not me again the incident

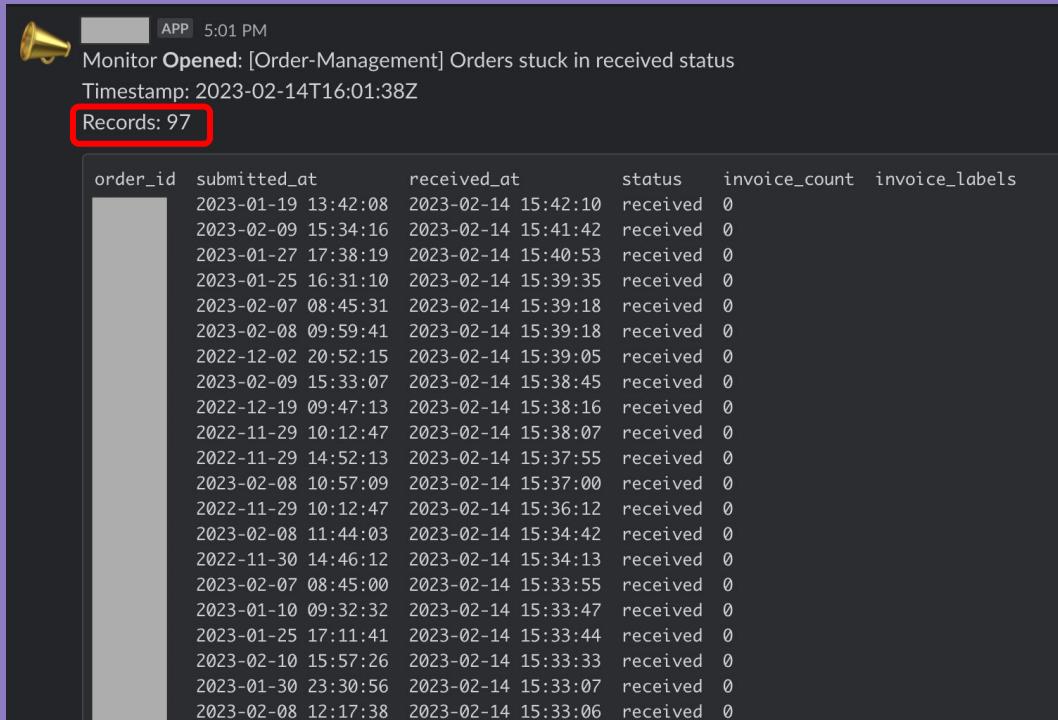
I passed the sentry PR

What happened ?



Updated a library that had incorrect dependencies

Consequences



A screenshot of a terminal window with a dark background. At the top left is a gold trophy icon. Next to it are three small gray squares. To the right of the squares is the word "APP". Further right is the time "5:01 PM". Below this, the text "Monitor Opened: [Order-Management] Orders stuck in received status" is displayed. Underneath that is the timestamp "Timestamp: 2023-02-14T16:01:38Z". At the bottom of the message area, the text "Records: 97" is shown, enclosed in a red rectangular box.

order_id	submitted_at	received_at	status	invoice_count	invoice_labels
2023-01-19	13:42:08	2023-02-14 15:42:10	received	0	
2023-02-09	15:34:16	2023-02-14 15:41:42	received	0	
2023-01-27	17:38:19	2023-02-14 15:40:53	received	0	
2023-01-25	16:31:10	2023-02-14 15:39:35	received	0	
2023-02-07	08:45:31	2023-02-14 15:39:18	received	0	
2023-02-08	09:59:41	2023-02-14 15:39:18	received	0	
2022-12-02	20:52:15	2023-02-14 15:39:05	received	0	
2023-02-09	15:33:07	2023-02-14 15:38:45	received	0	
2022-12-19	09:47:13	2023-02-14 15:38:16	received	0	
2022-11-29	10:12:47	2023-02-14 15:38:07	received	0	
2022-11-29	14:52:13	2023-02-14 15:37:55	received	0	
2023-02-08	10:57:09	2023-02-14 15:37:00	received	0	
2022-11-29	10:12:47	2023-02-14 15:36:12	received	0	
2023-02-08	11:44:03	2023-02-14 15:34:42	received	0	
2022-11-30	14:46:12	2023-02-14 15:34:13	received	0	
2023-02-07	08:45:00	2023-02-14 15:33:55	received	0	
2023-01-10	09:32:32	2023-02-14 15:33:47	received	0	
2023-01-25	17:11:41	2023-02-14 15:33:44	received	0	
2023-02-10	15:57:26	2023-02-14 15:33:33	received	0	
2023-01-30	23:30:56	2023-02-14 15:33:07	received	0	
2023-02-08	12:17:38	2023-02-14 15:33:06	received	0	

We were doing so well till then...

1 incident in 9 months

" Only people that do nothing break
nothing ;) Good luck ! "

- William, senior developer

"We are not a team because we work together. We are a team because we respect, trust and care for each other"

If we fail, we fail as a team

Managing incidents is
good, preventing them
is better.

Incidents have a cost



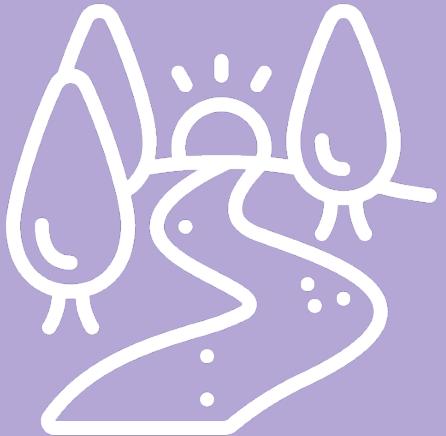
Monetary



Company image
and trust



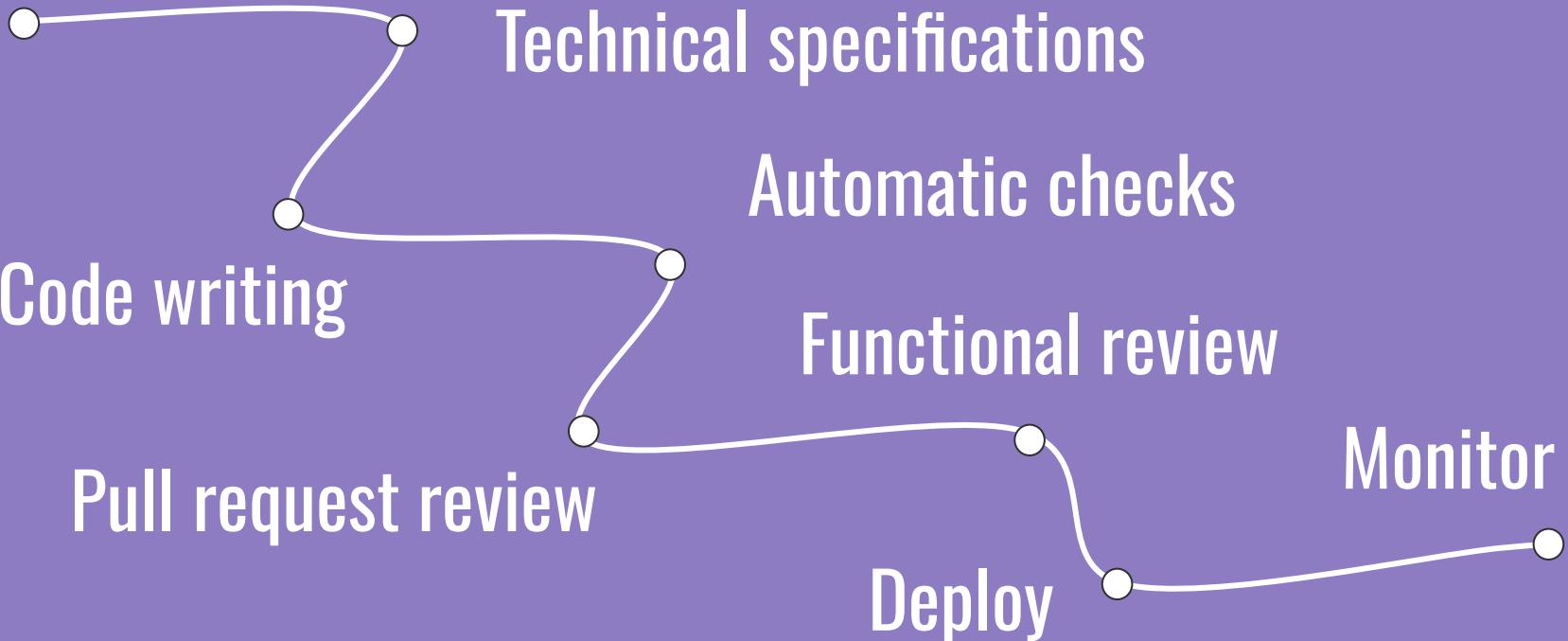
Employees
health



How do we deliver a
feature and prevent
incidents ?

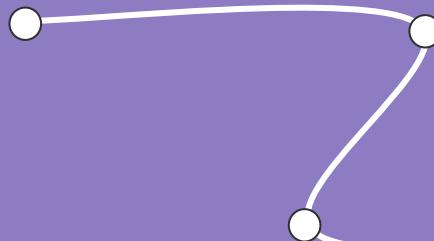
Journey of a feature

Product need definition



Journey of a feature

Product need definition



Technical specifications

Code writing

Automatic checks

Functional review

Pull request review

Deploy

Monitor

Technical specification



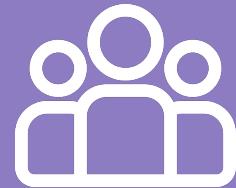
Context



Technical
investigation,
edge cases



Define
acceptance
criteria



Team review

Journey of a feature

Product need definition



Technical specifications



Code writing

Automatic checks



Functional review



Pull request review

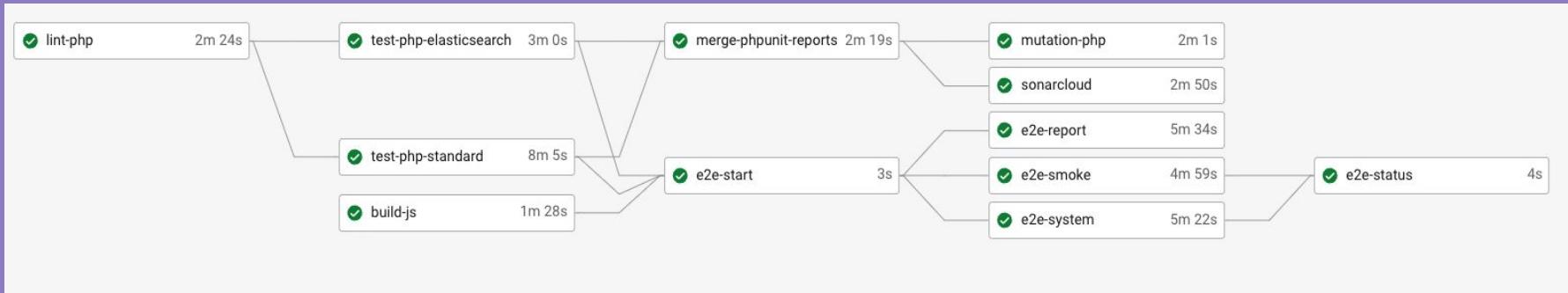
Deploy



Monitor



Automatic checks on PR



Automatic checks on PR

Linter:

- code-style
- phpstan : static analysis
- deptrac : dependency analysis

SonarCloud :

- test coverage
- code duplication
- code smells

Tests:

- unit
- functional

E2E:

- scenario simulation

Mutation testing:

- quality of tests

Automatic checks on PR



Pre-commit

```
→ ankorstore git:(feat/oxp-1087-update-nafo-on-fulfillment) ✘ git commit --amend
Trim Trailing Whitespace.....Passed
Fix End of Files.....Passed
Check Yaml.....(no files to check)Skipped
Check JSON.....(no files to check)Skipped
Check Xml.....(no files to check)Skipped
Check for merge conflicts.....Passed
Check for added large files.....Passed
Forbid new submodules.....Passed
Detect Private Key.....Passed
Check that scripts with shebangs are executable.....Passed
Check for case conflicts.....Passed
ShellCheck v0.8.0.....(no files to check)Skipped
git-keep-removal.....Passed
php-cs-fixer.....Failed
- hook id: php-cs-fixer
- exit code: 1
- files were modified by this hook
deptrac-layers.....Passed
route-names-check.....(no files to check)Skipped
deptrac-domains.....Passed
phpstan-changes.....Failed
- hook id: phpstan-changes
- exit code: 1
```

Wow.
Where do I start ?

Automatic checks on PR

Linter:

- code-style
- **phpstan : static analysis**
- ~~deptrae : dependency analysis~~

SonarCloud :

- test coverage
- ~~code duplication~~
- ~~code smells~~

Tests:

- unit
- functional

E2E:

~~scenario simulation~~

Mutation testing:

~~quality of tests~~

Test your code

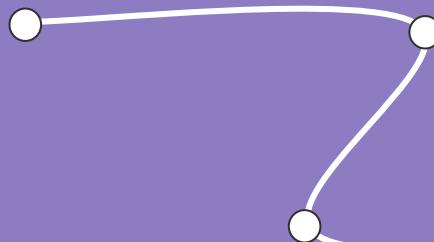
A screenshot of a GitHub pull request comment thread. The conversation is as follows:

- sl-carroll** on 7 May: Is this tested? 😕
- [REDACTED]** on 11 May Author: Since this happens on `kernel.terminate` it's a bit harder to test.
- sl-carroll** on 11 May: even a unit test? 😕
- [REDACTED]** on 11 May Author: You were so right!

At the bottom, there is a button with a smiley face icon and the number 1.

Journey of a feature

Product need definition



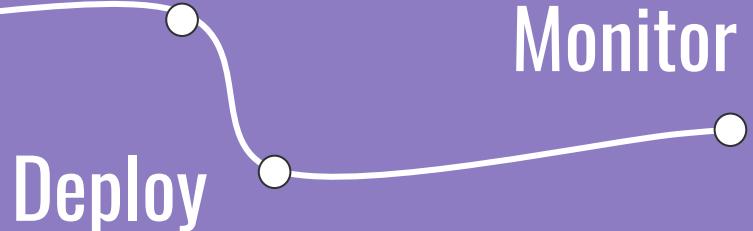
Technical specifications

Code writing

Automatic checks

Pull request review

Functional review



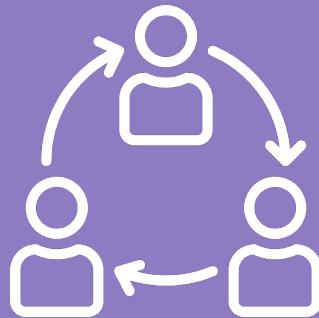
Deploy

Monitor

Pull request review



At least one reviewer



Knowledge share



Coherence,
edge cases

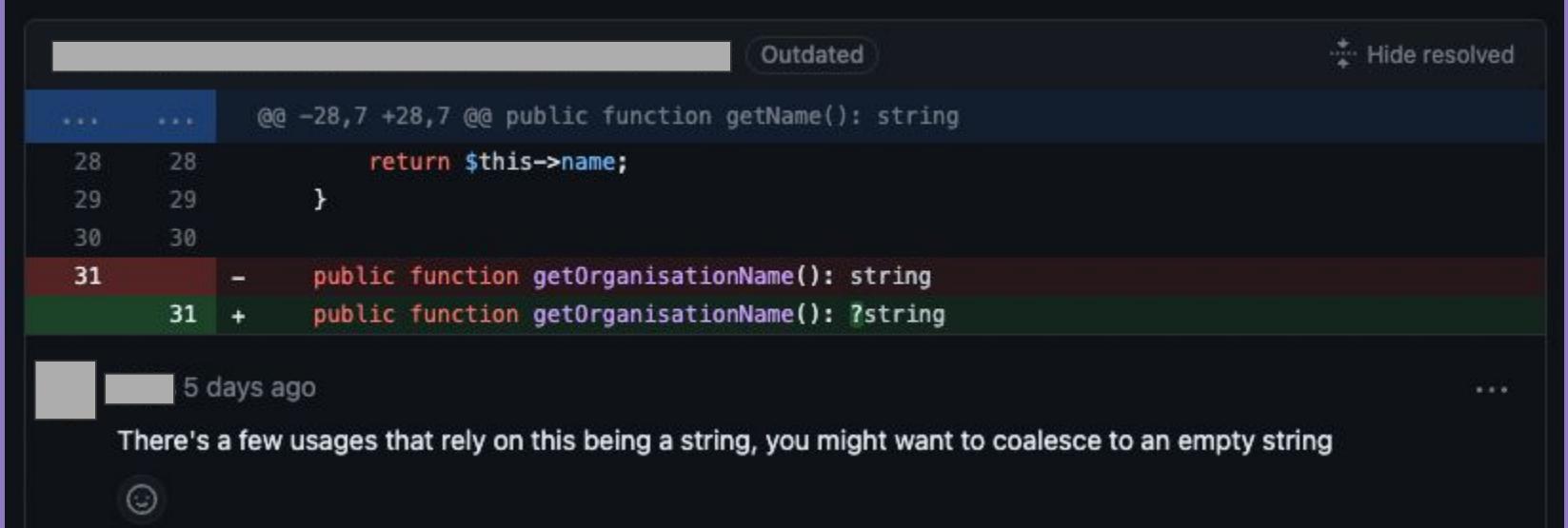
...



Accept



Pull request review



Outdated Hide resolved

```
@@ -28,7 +28,7 @@ public function getName(): string
28   28     return $this->name;
29   29 }
30   30
31 -  public function getOrganisationName(): string
31 +  public function getOrganisationName(): ?string
```

5 days ago

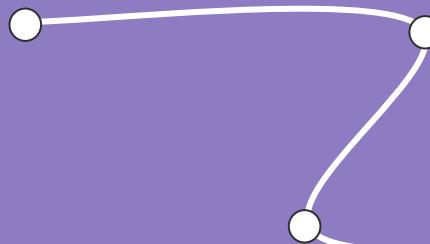
There's a few usages that rely on this being a string, you might want to coalesce to an empty string

...

Hotfix

Journey of a feature

Product need definition



Technical specifications

Code writing

Automatic checks

Functional review

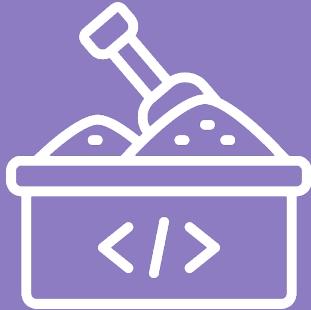
Pull request review

Monitor

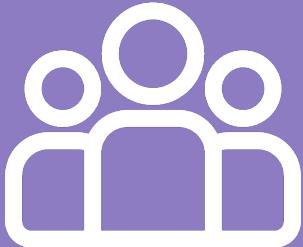
Deploy



Functional review



Code deployed on sandbox



Every team member is invited



Verify acceptance criteria



Can be done asynchronously

Functional review

feat: add test for [REDACTED]

Merged

[REDACTED] merged 14 commits into develop from OXP-301 [REDACTED] on Sep 21, 2022

Conversation 13

Commits 14

Checks 5

Files changed 6



[REDACTED] commented on Sep 16, 2022 · edited

...

i What problem does it solve?

- [REDACTED] /OXP-301

This PR adds Unit test for [REDACTED]

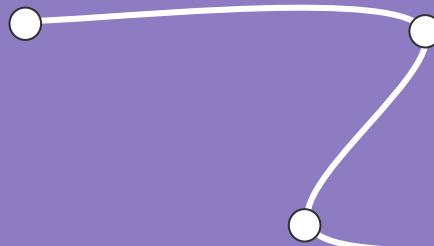
Was changed :

- Using Repositories + Factory within [REDACTED] -- Replaced static calls from Models



Journey of a feature

Product need definition



Technical specifications

Code writing

Automatic checks

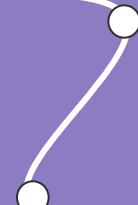
Code writing

Functional review

Pull request review

Monitor

Deploy

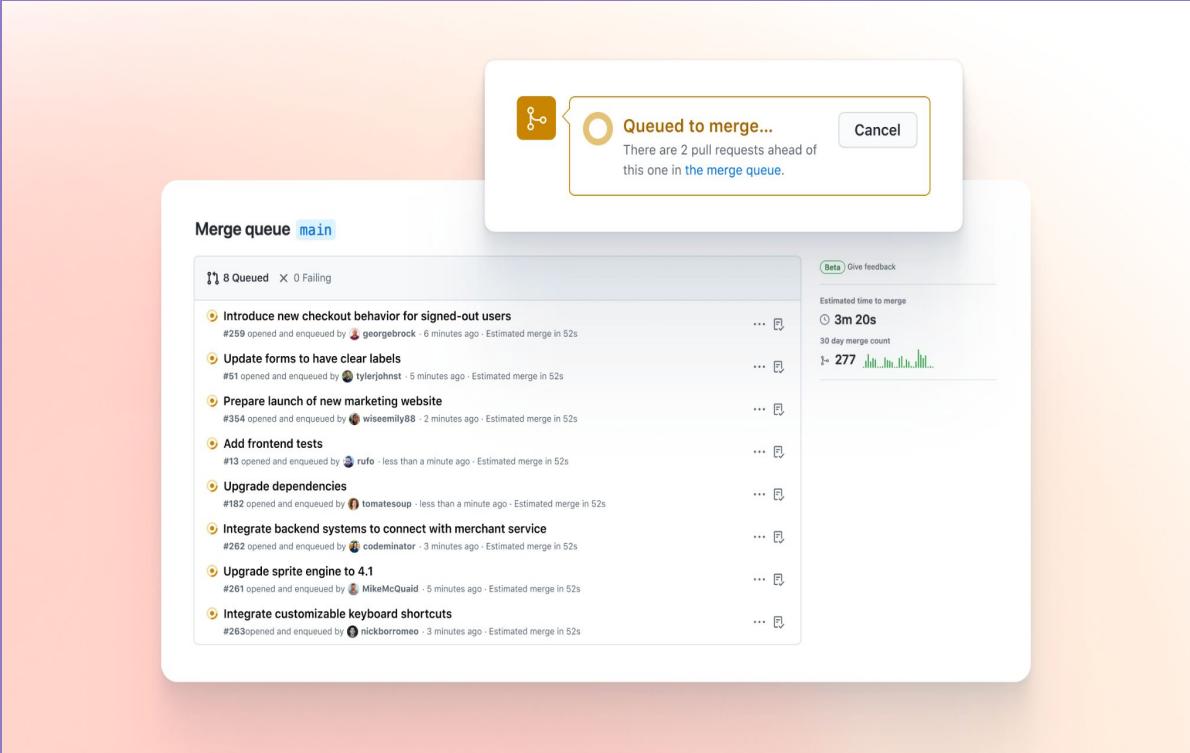


Deploy

Every developer is autonomous to deploy
his/her code to production.

Autonomy goes hand in hand with
accountability and ownership.

Deploy: Github merge queue



Deploy



A PR can be added
to the queue if CI
is ok



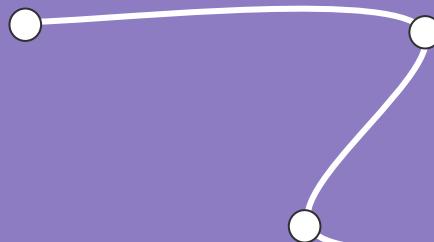
CI checks can be
bypassed with
authorisation of
L4+



Deploys only done on
working hours

Journey of a feature

Product need definition



Technical specifications

Code writing

Automatic checks

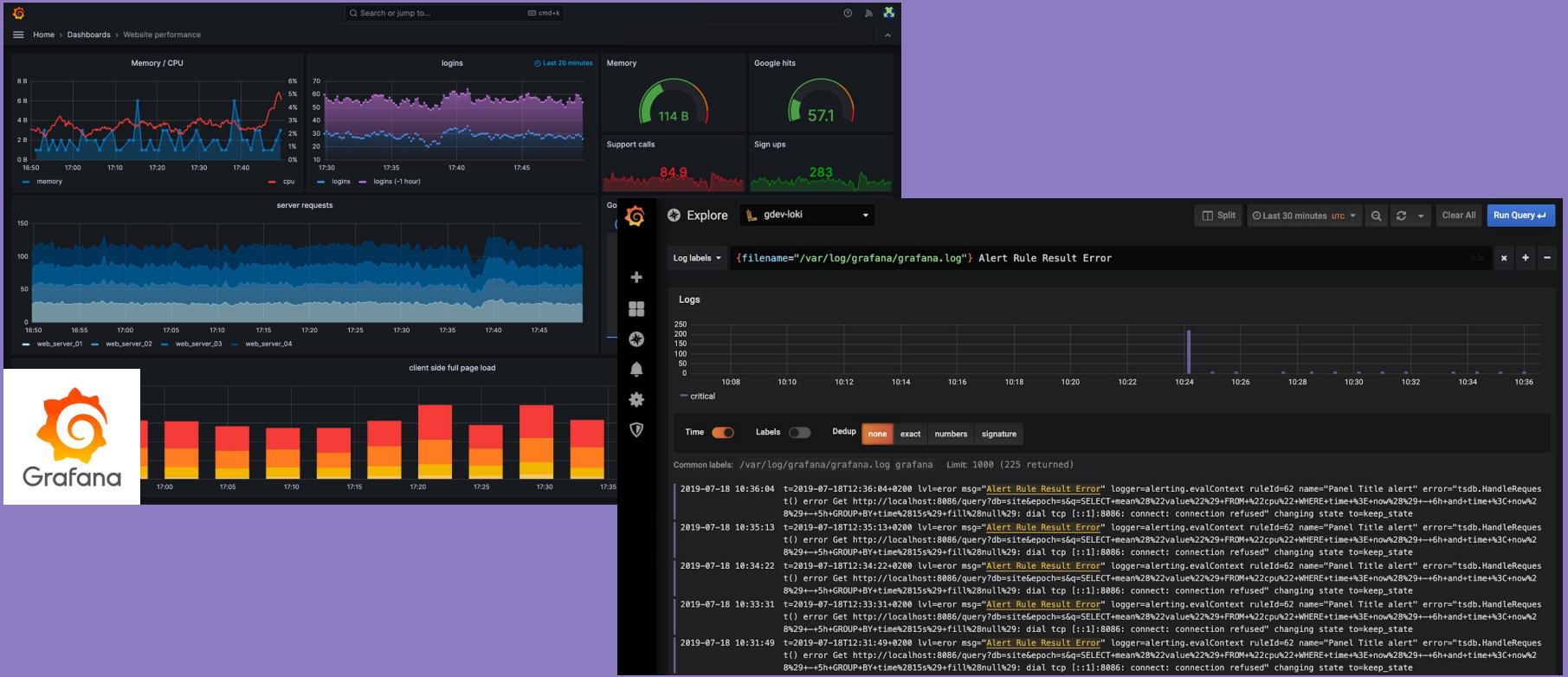
Functional review

Pull request review

Deploy

Monitor

Monitor



Monitor

Order Management Squad

Manage folder dashboards and permissions

Dashboards Panels Alert rules Permissions Settings

Search for dashboards and folders

Filter by tag Starred

- External API Metrics
 - Order Management Squad
- Public Integrations
 - Order Management Squad
- Queue Logs
 - Order Management Squad

Alerts

APP 6:29 AM

 **JOB FAILURE** 

Error
503 Service Unavailable: upstream connect error or disconnect/reset before headers.
retried and the latest reset reason: connection failure

name	tries
[REDACTED]	1

queue id
[REDACTED] 7edb133e-354a-4316-9b51-e8c0fc16942f

uuid link
[REDACTED]

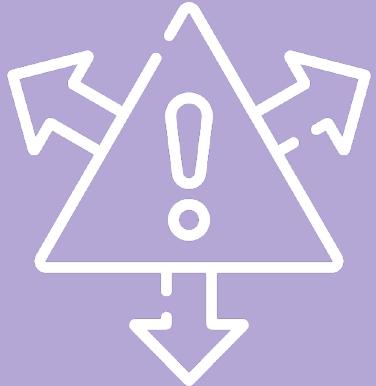
APP 6:28 PM

 Monitor **Firing:** [Order-Management] Checkouts with incoherent order statuses

Timestamp: 2023-06-05T16:28:51Z

Records: 1

checkout_id	submitted_at
[REDACTED]	2023-05-30 14:34:28

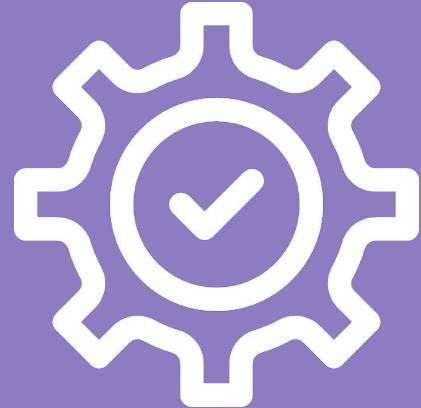


How do we manage incidents ?

Incident management is the process of
identifying, responding to, and
resolving anomalous conditions that
result in service degradation or
outages.



These events require human intervention to restore service to operational status and are always given immediate attention.



To be effective, it is essential to have a
clear and agreed process

Roles and responsibilities

GEOC : Global
engineer on-call



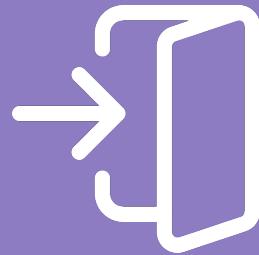
SEM : Squad
escalated member

IM : Incident
manager

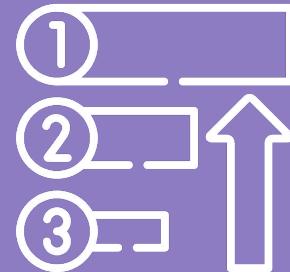
Roles: Global Engineer On-Call



Daily rotation



Entry point



Any incident is
priority



Ensure the issue is
resolved

Roles: Squad Escalated Member



Issue escalated by
GEOC



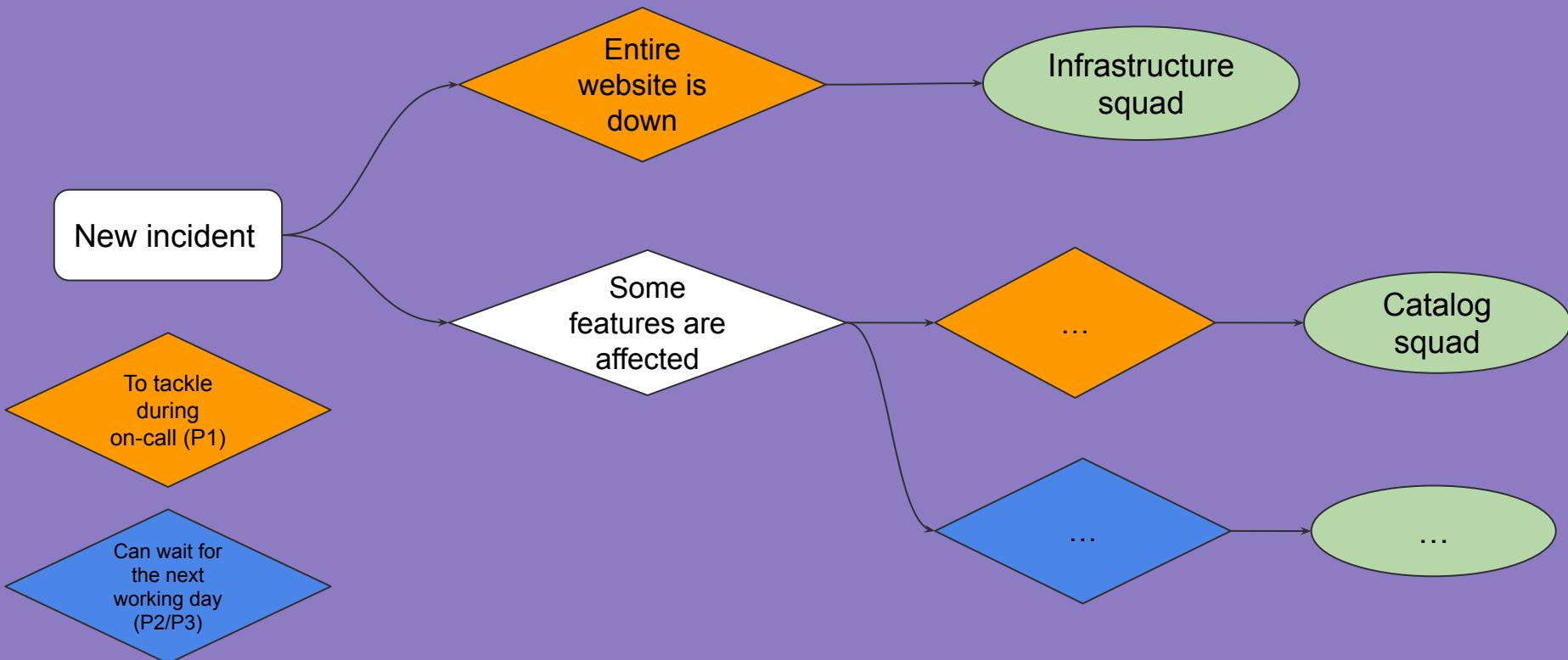
Provide expertise
and help resolve

Roles: Incident Manager

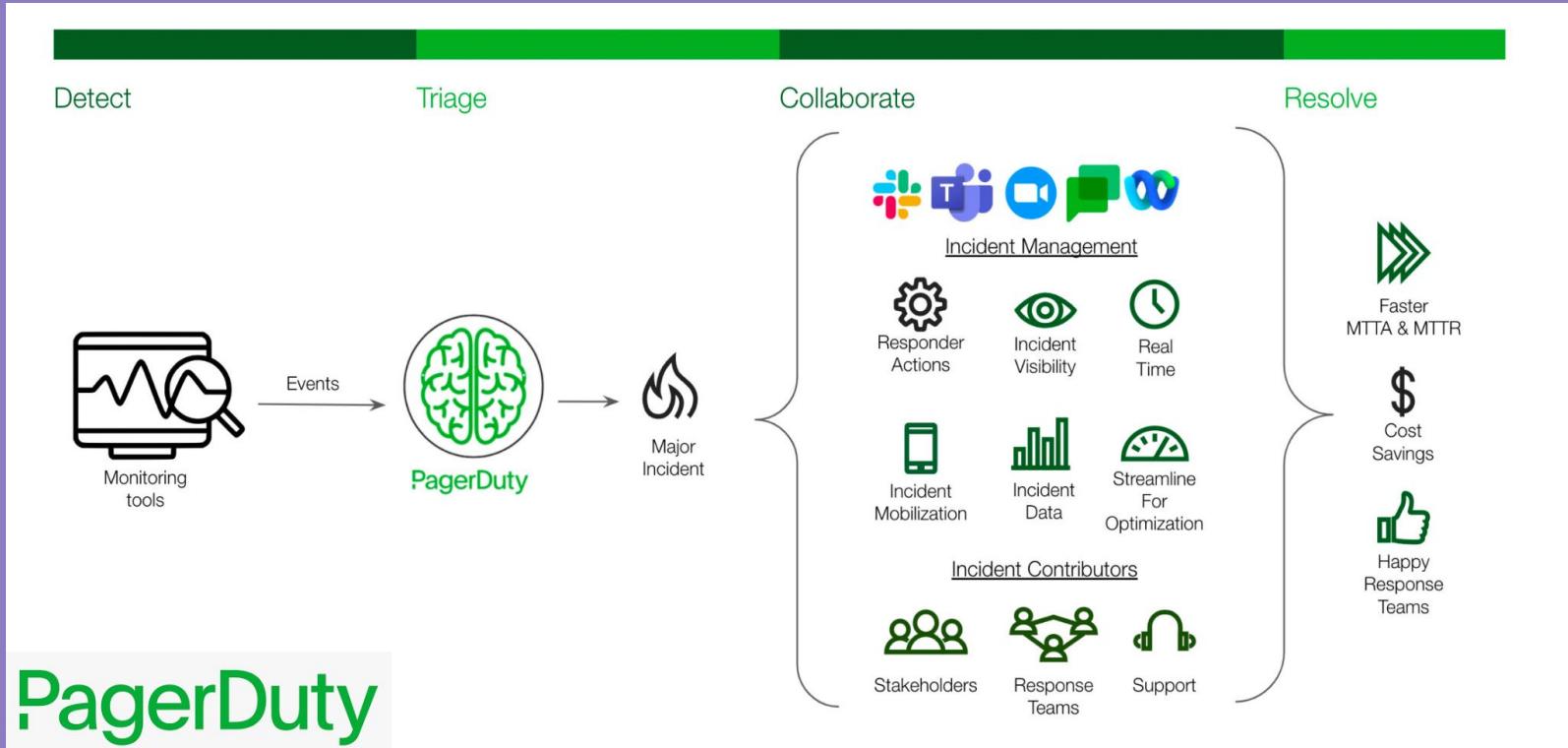


Oversee the incident and communicate with stakeholders

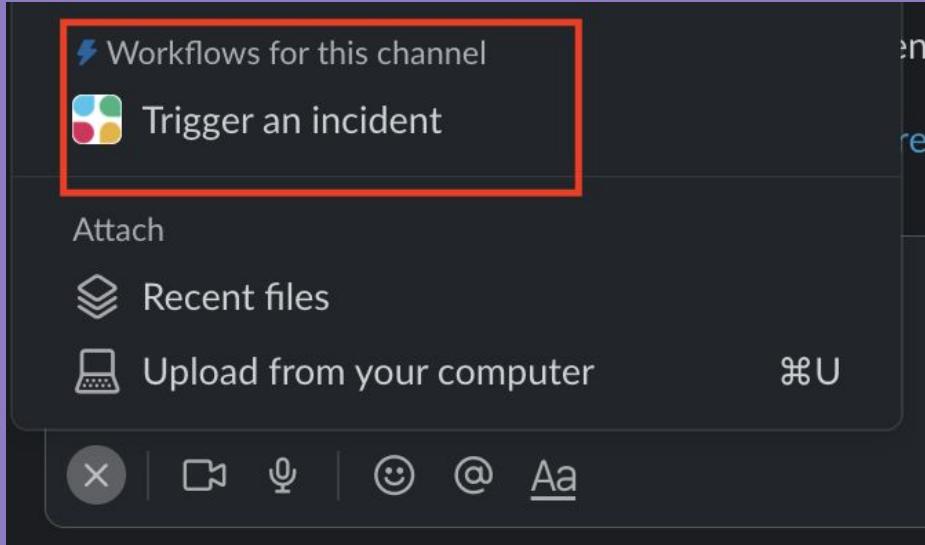
Decision diagram



Tooling : Pager Duty

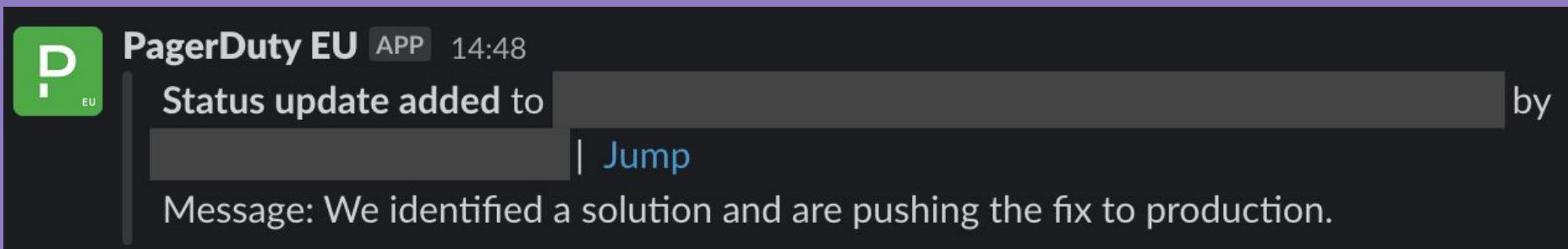


Tooling: Trigger an incident



- 1/ Brand or retailer reaches customer support
- 2/ employee identifies an issue while browsing the marketplace

Communication



- 1/ A global channel **#incidents** to communicate with stakeholders
- 2/ A more technical one **#tech-incidents** to discuss between engineers and resolve the incident

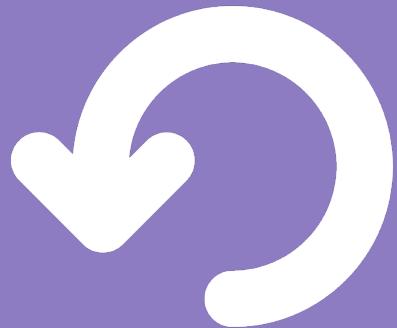
Everyone is welcome

tech-incident ▾ Tech channel for Incidents related talks

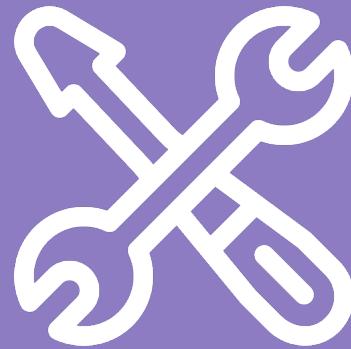
 Situation Room  PagerDuty  How to raise an incident?  Hotfix process  Postmortems  Incident Management - ...  Runbooks & Procedures

A situation room is always available for anyone that would like to help and in order to meet and solve the incident

Fixing strategy



Revert



Hotfix

Hotfix

```
+ [REDACTED] git:(develop) ✘ make hotfix-init
make DATE=20230621-160902 UPSTREAM_BRANCH=master RELEASE_NAME=hotfix-20230621-160902 create-release-branch-hotfix
Enter passphrase for key '/Users/sofia.lescano-carroll/.ssh/id_ed25519':
Enter passphrase for key '/Users/sofia.lescano-carroll/.ssh/id_ed25519':
- [deleted]          (none)    -> origin/fix/TSD-3955_-_no_vat_rate_check_if_business_is_exempt
- [deleted]          (none)    -> origin/release/hotfix-20230621-152327
- [deleted]          (none)    -> origin/tsd-3967-maltese-tax-number-validator
git checkout -q origin/master
git checkout -b release/hotfix-20230621-160902
Switched to a new branch 'release/hotfix-20230621-160902'
Hotfix/patch branch checked out. Please do you changes here / cherry pick commits and run 'make hotfix-release' instead.
+ [REDACTED] git:(release/hotfix-20230621-160902) ✘ git add -A
+ [REDACTED] git:(release/hotfix-20230621-160902) ✘ git commit -m "fix: make address dto organisation name nullable"
[release/hotfix-20230621-160902 59fb8fdc9e] fix: make address dto organisation name nullable
 2 files changed, 16 insertions(+), 2 deletions(-)
+ [REDACTED] git:(release/hotfix-20230621-160902) ✘ make hotfix-release
make DATE=20230621-160948 create-release-pr-hotfix
git push --set-upstream origin release/hotfix-20230621-160902
Enter passphrase for key '/Users/sofia.lescano-carroll/.ssh/id_ed25519':
Enumerating objects: 28, done.
Counting objects: 100% (28/28), done.
Delta compression using up to 10 threads
Compressing objects: 100% (14/14), done.
Writing objects: 100% (16/16), 1.35 KiB | 231.00 KiB/s, done.
Total 16 (delta 10), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (10/10), completed with 10 local objects.
remote:
remote: Create a pull request for 'release/hotfix-20230621-160902' on GitHub by visiting:
remote:   https://github.com/[REDACTED]
remote:
remote: GitHub found 17 vulnerabilities on ankorstore/ankorstore's default branch (4 critical, 8 high, 5 moderate)
remote:   https://github.com/[REDACTED]
remote:
To github.com:[REDACTED]
 * [new branch]           release/hotfix-20230621-160902 -> release/hotfix-20230621-160902
branch 'release/hotfix-20230621-160902' set up to track 'origin/release/hotfix-20230621-160902'.
gh pr create -B master -f

Creating pull request for release/hotfix-20230621-160902 into master in [REDACTED]
https://github.com/[REDACTED]/pull/33422
```

1/ make hotfix-init

2/ git cherry-pick

3/ make hotfix-release

Postmortem

Summary of the Incident

 **Quick recap.**

eg: "Production was down because of a Database connection env var issue."

Context



Give some context prior to the incident.

eg: "We wanted to release feature X, things broke deployment because of a global missing configuration."

Timeline



Detailed timeline of events.

Embed Slack conversations, stack traces, photos of graphs, anything that can help to understand the timeline of events. Feel free to add mention to coworkers to give context (especially who was in charge, who did what).

Postmortem

How to Improve



Explain what was the main issues you encounter during outage remediation, things that could be improved in order to reduce the reaction time next time.

Preventative Actions



What needs doing to prevent this happening again?

List actions (with Jira tickets) to be taken to avoid reproducing the same incident and above listed pain points in the future.



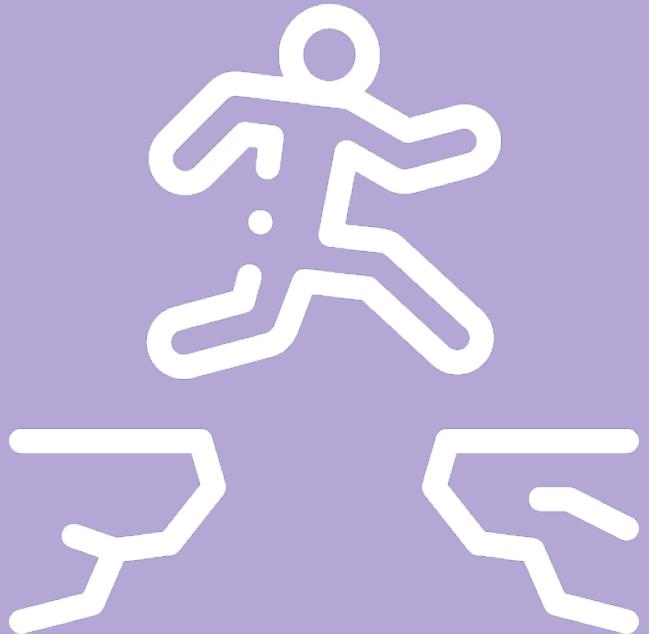
Some numbers

Some numbers

3 incidents in one year in our team
(2 caused by me)

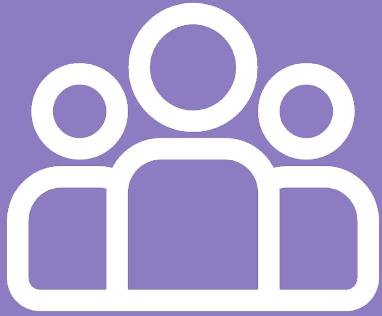
33 engineers on-call - 1 on-call per
month on average

45 min to recover from an incident on
average



Challenges and limitations

Challenges and limitations



Incidents are triggered
by people



A large monolith

Challenges and limitations



On-call was not in our contracts



Training is different than real life



“Looks nice, but it’s not possible !”

Incidents have a cost



Monetary



Company image
and trust

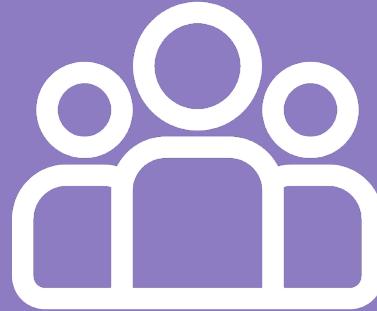


Employees
health

Context



Product company



A lot of developers

How to?



Find your own recipe



Iterate

What says most about you
is not the fact that you
broke prod, but how you
act and learn from it.

juicy_fish

Handicon

Berkahicon

Freepik

Upnow Graphic

lutfix

Rukanicon

Parzival' 1997

**Pixel
perfect**

Iconixar

Wahyu Adam

Geotatah

Thank you ! 

Afian Rochmah Afif

Monkik

nangicon

srip

Smashicons

M Karruly

mynamepong

Icons made by the artists mentioned, from www.flaticon.com



Thank you !



SymfonyCon
BRUSSELS 2023

I did it ! I broke production !

Sofía LESCANO CARROLL



@SofLesc



#fullRemote #lifeInSpain #wannaDoGood #speaker #mentoring