# Turning the Quality of Your Deployment Pipeline Into a Team Task
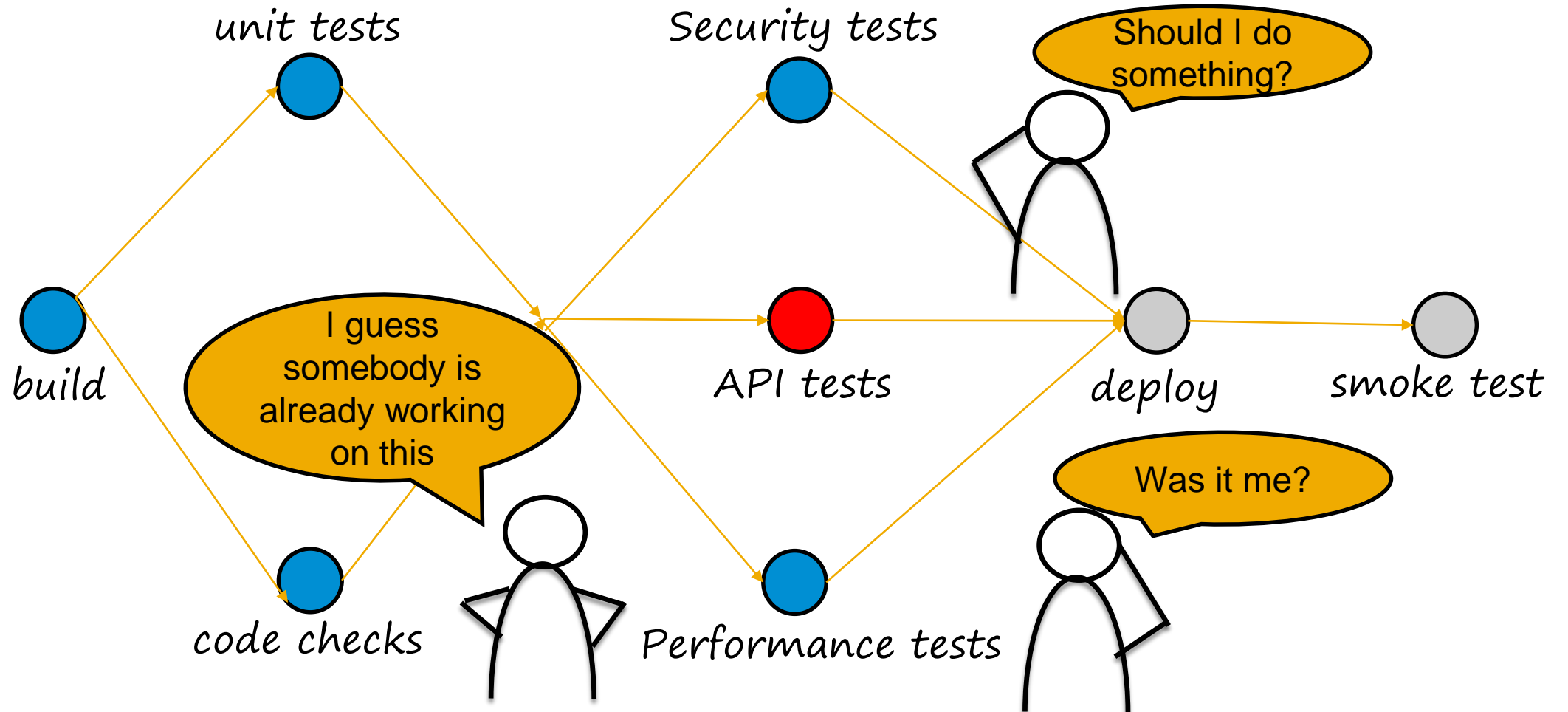
Areti Panou, SAP
June 12th, 2020

PUBLIC

THE BEST RUN **SAP**

# Who is fixing the failing pipeline steps?
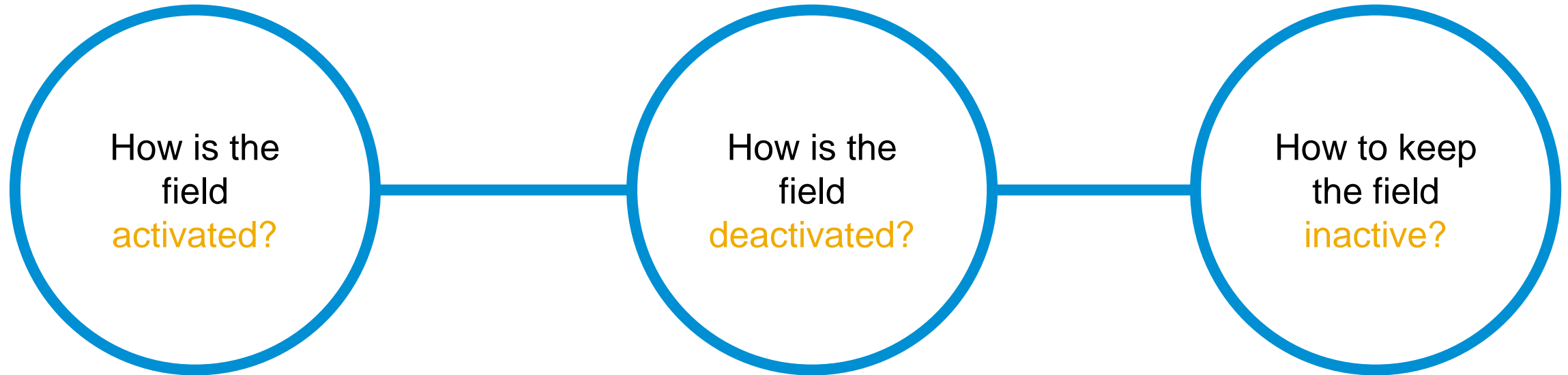


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# The bystander effect

"The Somebody Else's Problem field... relies on people's natural predisposition not to see anything they don't want to, weren't expecting, or can't explain"
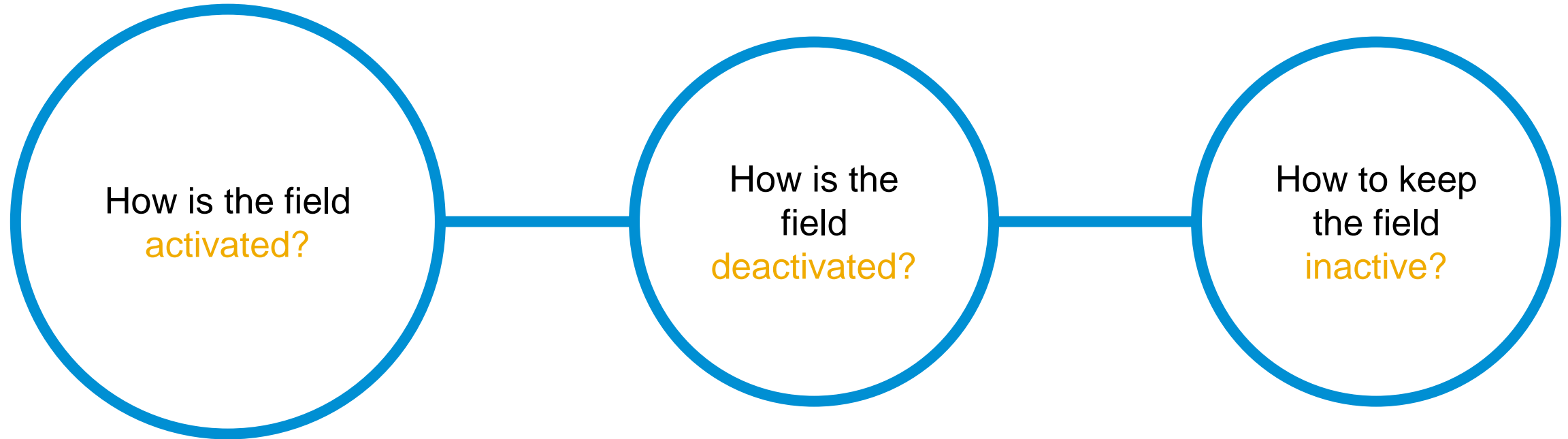
**Douglas Adams**

**Life, the Universe and Everything**

# Addressing the "Somebody Else's Problem" (SEP) field

How is the field **activated?**

How is the field **deactivated?**

How to keep the field **inactive?**

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# Addressing the "Somebody Else's Problem" (SEP) field

How is the field activated?

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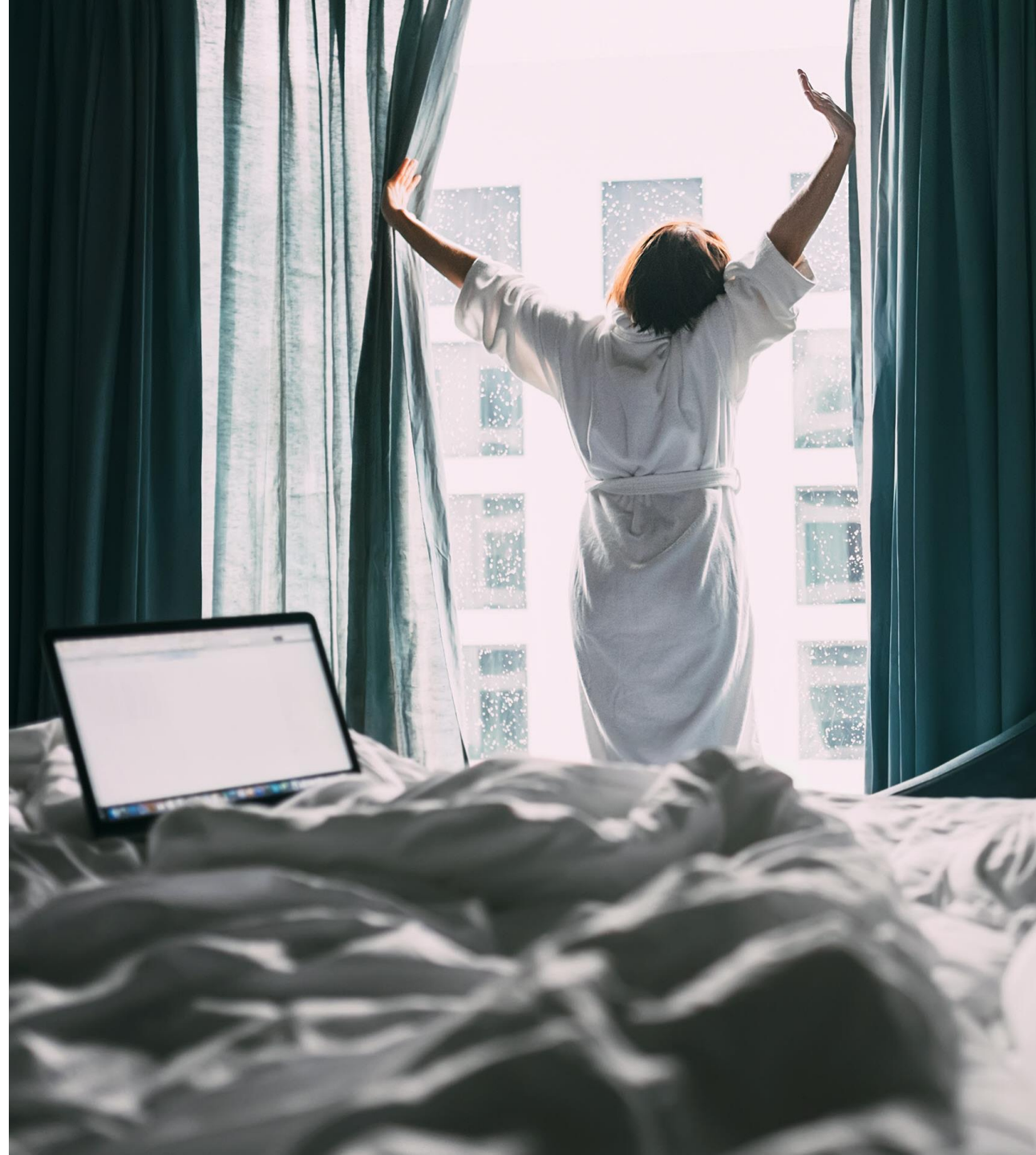
QAs were the messengers making any failure <u>your</u> problem

QAs didn't trust developers to make failures <u>their</u> problem
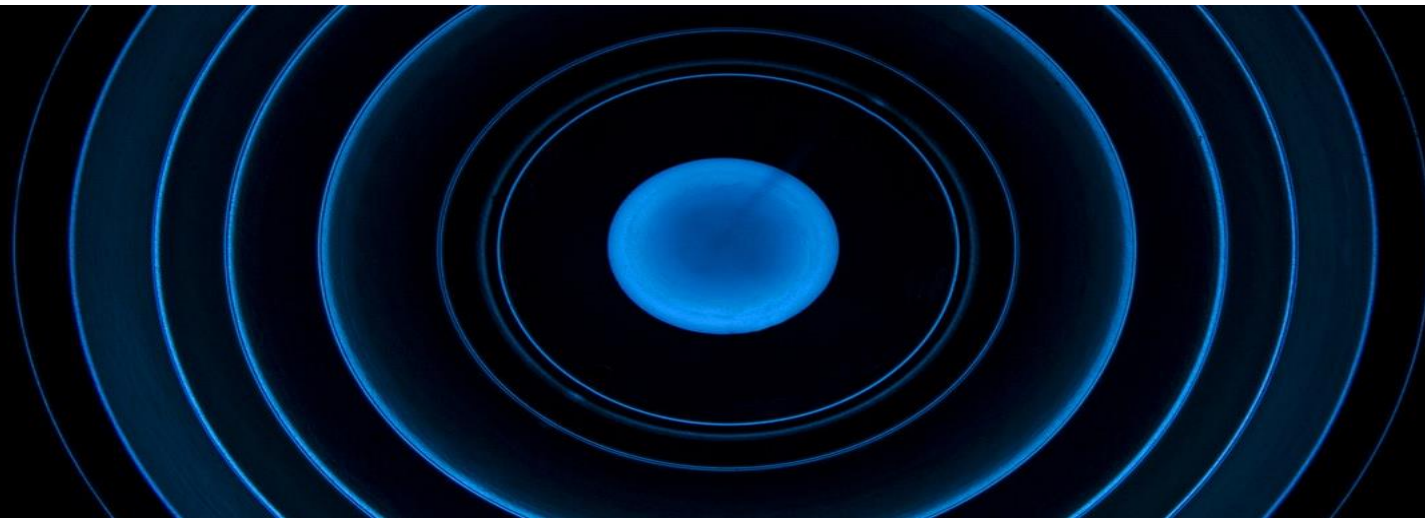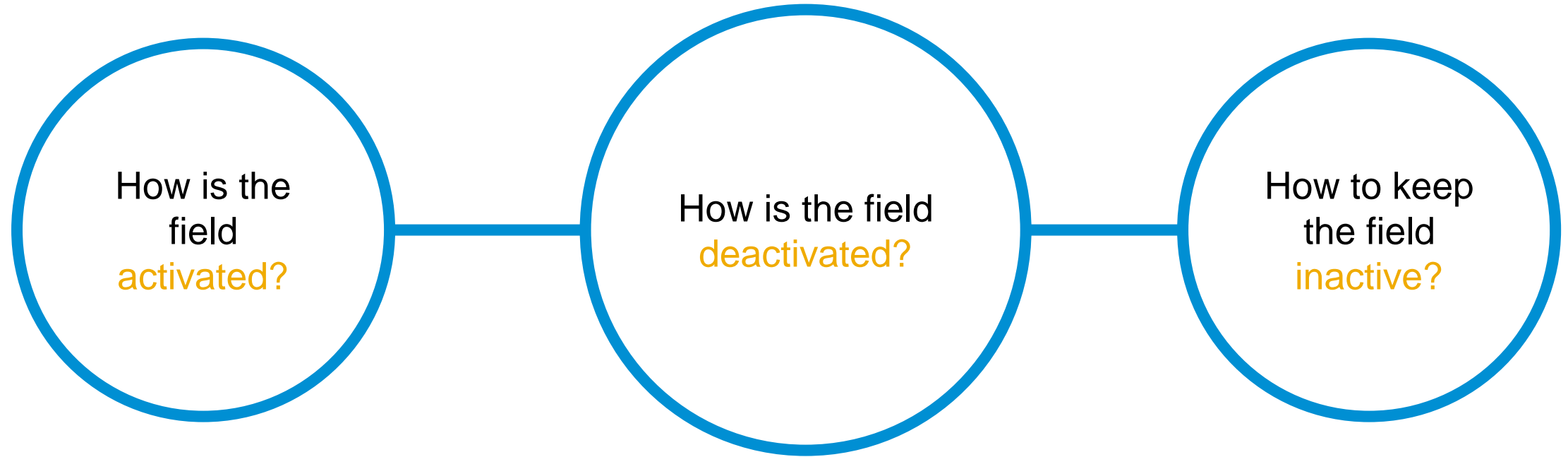
Unless personally assigned, developers believed that pipeline step failures were <u>somebody else's problem</u>

# Addressing the "Somebody Else's Problem" (SEP) field

How is the field **activated?**

How is the field **deactivated?**

How to keep the field **inactive?**

# How is the field deactivated?

*"Keep only those things that speak to the heart, and discard items that no longer spark joy."*

*Marie Kondo*

Remove things **you don't want to see**

Remove things **you don't expect to see**

Remove things **you can't explain**

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# How is the field deactivated?

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# Things you don't want to see



**Flaky steps**



**Long running steps**



**Complicated-to-fix steps**

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# "Place any non-deterministic test in a quarantined area. (But fix quarantined tests quickly.)"

Martin Fowler (@martinfowler)

Eradicating Non-Determinism in Tests (2011)

# Things you don't want to see



**Flaky steps**

Quarantine, stabilise or remove



**Long running steps**



**Complicated-to-fix steps**

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# Things you don't want to see



**Flaky steps**

Quarantine, stabilise or remove



**Long running steps**

Parallelise to save time



**Complicated-to-fix steps**

# "A 30 minute code change took 2 weeks to get the acceptance tests working"

Sarah Wells (@sarahjwells)

Quality for 'Cloud Natives': what changes when your systems are complexed and distributed (2019)

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# "Introduce synthetic monitoring. This replaced our acceptance tests"

Sarah Wells (@sarahjwells)

[Quality for 'Cloud Natives': what changes when your systems are complexed and distributed (2019)](#)

# Things you don't want to see



**Flaky steps**

Quarantine, stabilise or remove



**Long running steps**

Parallelise to save time



**Complicated-to-fix steps**

Simplify or replace

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# How is the field deactivated?

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Remove things **you don't want to see**

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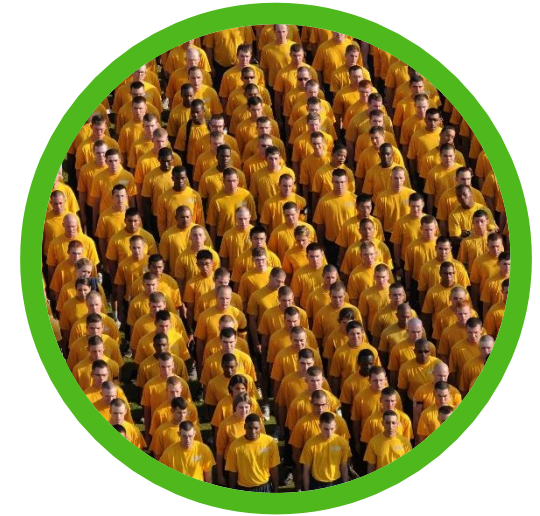Remove things **you can't explain**

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# Things you don't expect to see



**Unresponsive external services**



**New unannounced steps**



**Being the n-th person notified of the failed step**

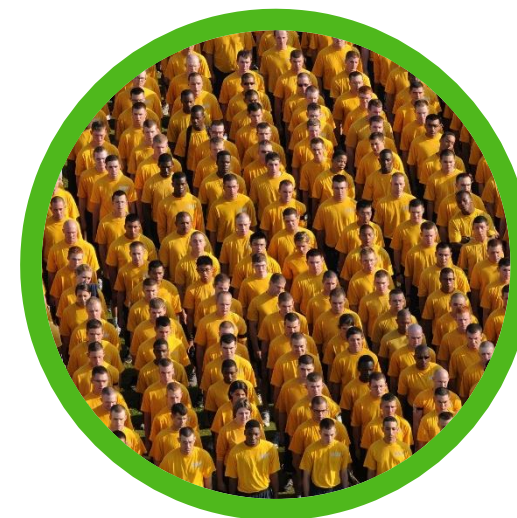# Things you don't expect to see



**Unresponsive external services**

Ping external services before starting the pipeline



**New unannounced steps**



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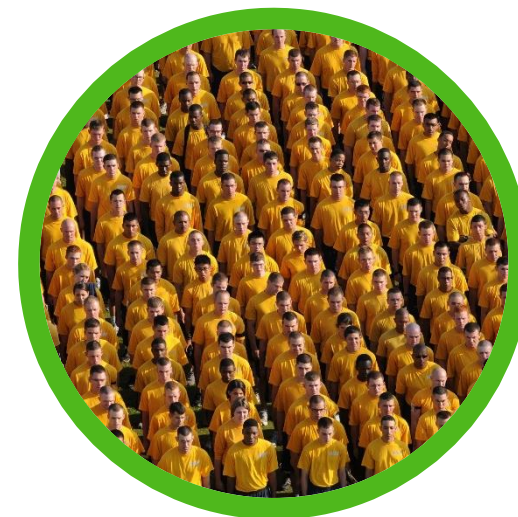
# Things you don't expect to see



**Unresponsive external services**

Ping external services before starting the pipeline



**New unannounced steps**

Establish a new steps ritual



**Being the n-th person notified of the failed step**

# Make transparent who is already working on a fix

| | Build | Date ↑ | Failure Duration | Status | Description |
|---|---|---|---|---|---|
| 🔴 | Backend_Site_Generation_DEV #1129 | 17 hr | 4 days 17 hr | unclaimed | |
| 🔴 | Test_Smoketest_DEV #5019 | 1 day 5 hr | 3 days 5 hr | john.doe@acme.com | |
| 🔴 | Test_Acceptance_DEV #4064 | 1 day 7 hr | 1 day 7 hr | unclaimed | |

Icon: S M L

Legend  🟠 RSS for all  🟠 RSS for failures  🟠 RSS for just latest builds

Claim – Jenkins plugin

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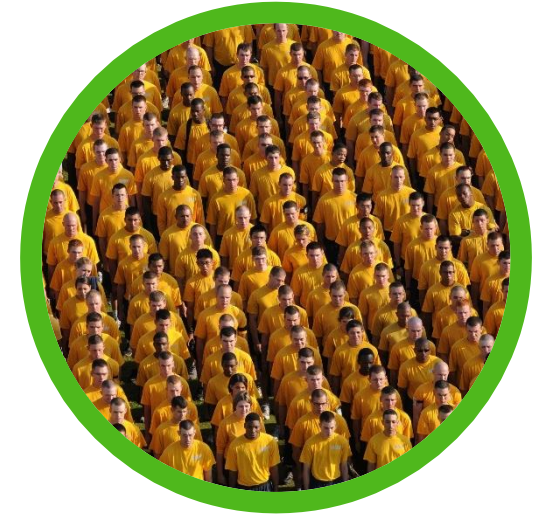
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# Things you don't expect to see



**Unresponsive external services**

Ping external services before starting the pipeline



**New unannounced steps**

Establish a new steps ritual



**Being the n-th person notified of the failed step**

Create public-awareness of who is resolving the failure

# How is the field deactivated?

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# Things you can't explain



**Steps with unclear purpose**



**Steps with unclear failure implications**



**Steps with unclear fix deadlines**

# A good example of a bad step description

# Things you can't explain



**Steps with unclear purpose**

Make the value and information of the step visible



**Steps with unclear failure implications**



**Steps with unclear fix deadlines**

# Things you can't explain







**Steps with unclear purpose**

Make the value and information of the step visible

**Steps with unclear failure implications**

Make the impact and the reasons of the failure transparent

**Steps with unclear fix deadlines**

# Things you can't explain







**<u>Steps with unclear purpose</u>**

Make the value and information of the step visible

**<u>Steps with unclear failure implications</u>**

Make the impact and the reasons of the failure transparent

**<u>Steps with unclear fix deadlines</u>**

Set a time limit for the fixes

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# A better example of a step description

| Name | Security_tests |
|------|----------------|
| Description | Checks that APIs are secure |

**VS**

| Name | Sec_API_Perm_tests |
|------|--------------------|
| Description | Checks that only roles with the right permissions can access the APIs |
| Runs | On commit |
| Severity | Super high – Legal problems if broken |
| Threshold | 1 broken test = no deployment |
| Wiki | //acme/our-wiki/api-perm-tests |
| Contacts | jane.doe@acme.com (CET) |

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# Things you can't explain



**<u>Steps with unclear purpose</u>**

Make the value and information of the step visible



**<u>Steps with unclear failure implications</u>**

Make the impact and the reasons of the failure transparent



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# How is the field deactivated?

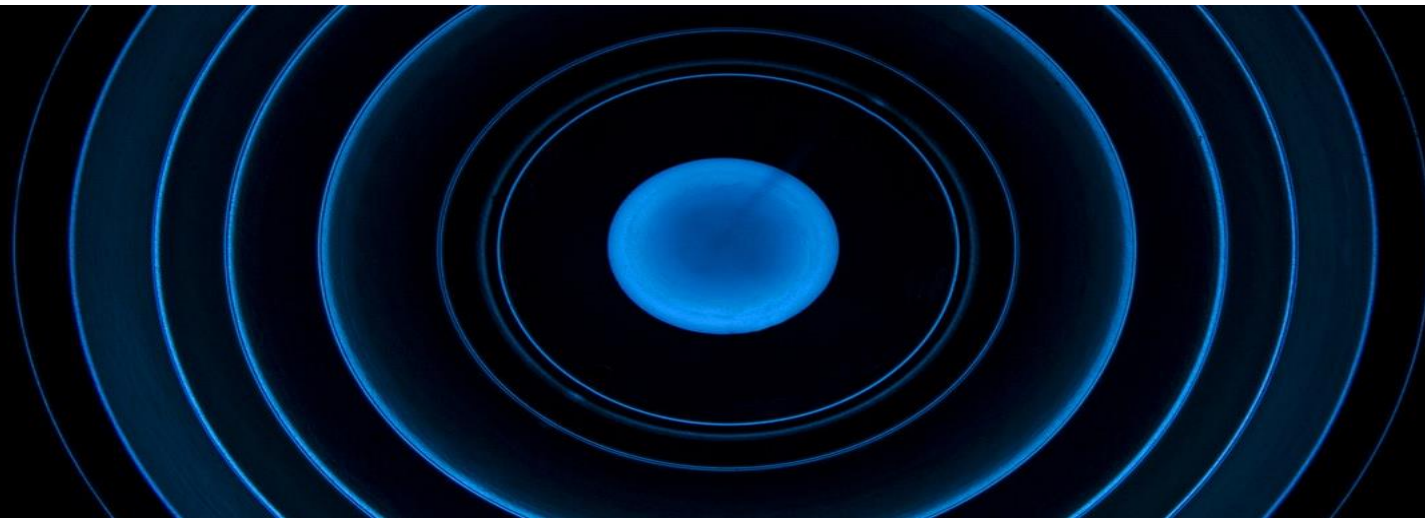*"Keep only those things that speak to the heart, and discard items that no longer spark joy."*

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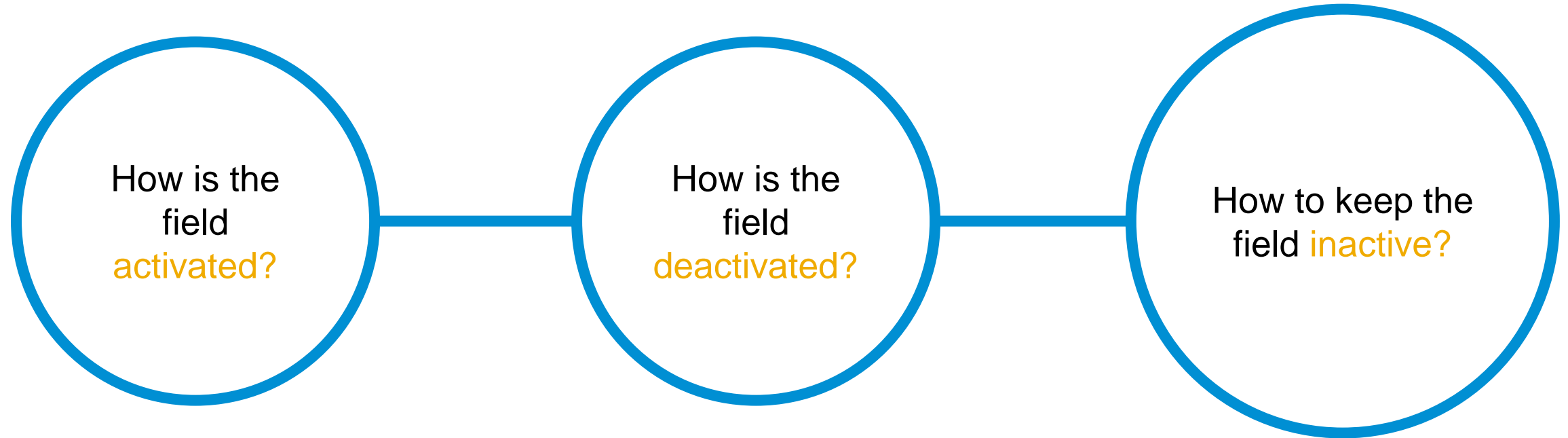
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# Addressing the "Somebody Else's Problem" (SEP) field

How is the field activated?

How is the field deactivated?

How to keep the field inactive?

Automatically assign someone as the owner of a failed step using a deterministic rule.

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The owner of a failed step should be <u>responsible for the solution</u>, not necessarily the fix.

Assign an <u>owner of the quality of the pipeline</u> rather than the pipeline steps

Educate and enable the whole team
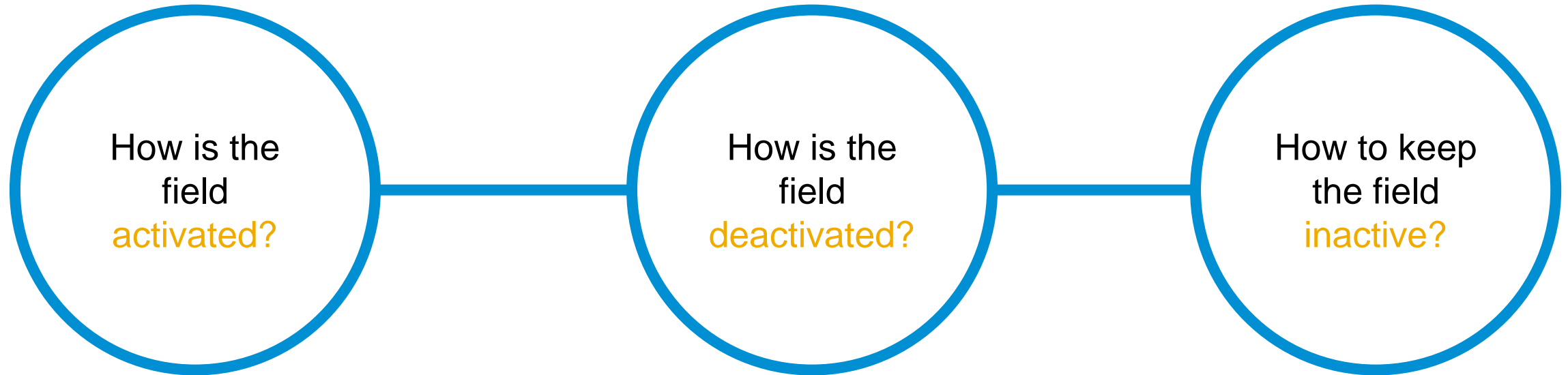to become owner of the quality of the pipeline

Be prepared for a rough start or maybe not…

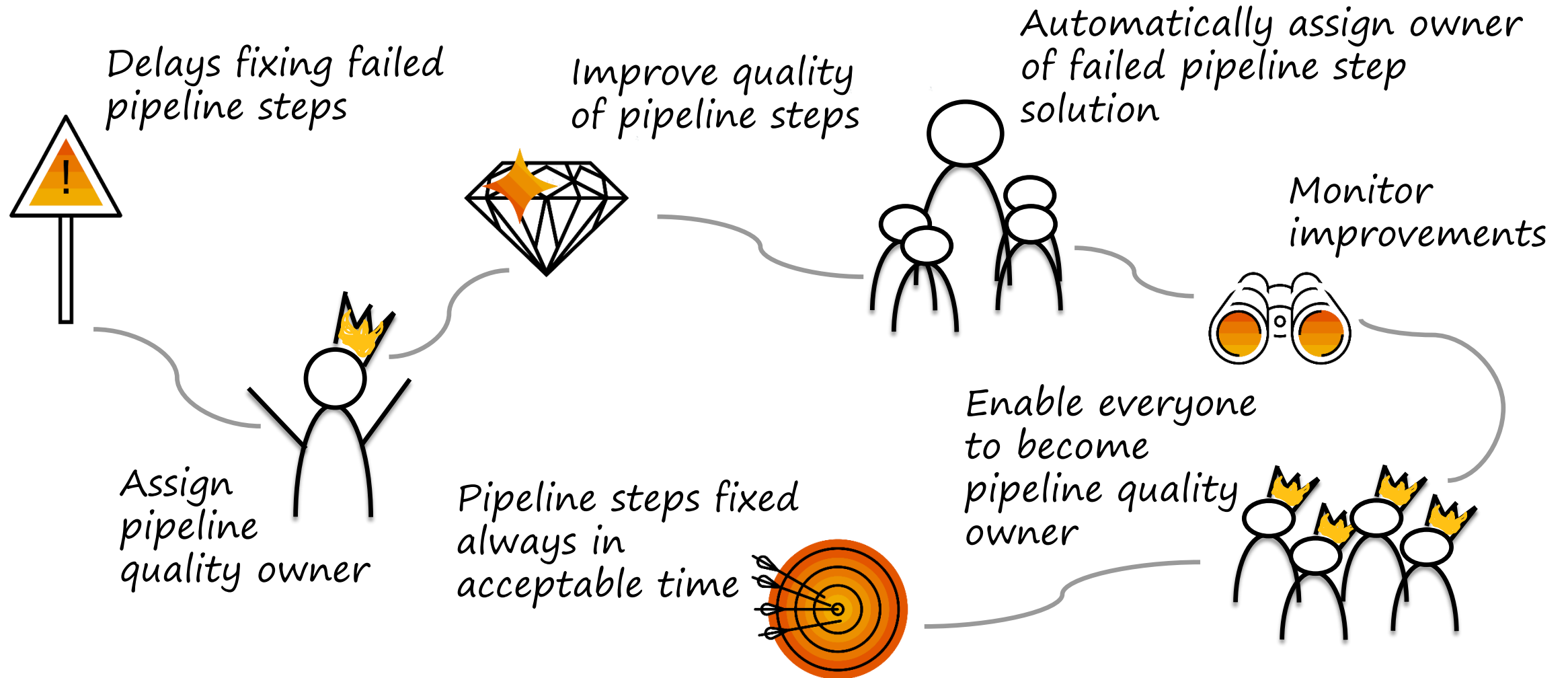# Addressing the "Somebody Else's Problem" (SEP) field

How is the field activated?

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# Turning the quality of your deployment pipeline into a team task

Delays fixing failed
pipeline steps

Improve quality
of pipeline steps

Automatically assign owner
of failed pipeline step
solution

Monitor
improvements

Assign
pipeline
quality owner

Pipeline steps fixed
always in
acceptable time

Enable everyone
to become
pipeline quality
owner

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# Thank you.

Contact information:

**Areti Panou**
Product Owner – Release Management Tools

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✉ areti.panou@sap.com

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# Appendix

# References

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