# How to run a disaster day

#### **Overview**

- Prepare a scenario
- Introduce the team to the exercise
  - Introduce the team to incident response
  - Introduce the team to post-mortems and remind to create a timeline already during the incident response.
  - Introduce the team to the scenario: expectations, rules, scope, goal
- Trigger the incident
- The team responds and mitigates the incident
- The team collaboratively writes a post-mortem and presents it to the facilitator
- Collect any follow-up action items, collect feedback from the participants

## **Preparation**

In order to conduct a succesfull disaster day, you must gain buy-in from relevant stakeholders.

- Obtain permission to break the environment
  - If the simulated incident involves losing data, have a backup or way to recreate the data and obtain explicit permission for deleting data.
  - Remember to consider all possible stakeholders who will be impacted by the downtime: QA, sales, other teams that may receive alerts etc.
- Agree on a scope for the exercise: what infrastructure is included
- Discuss any special requirements, concerns or ideas
- Schedule the session: dedicate at least half a day for the exercise.

### **On-site or remote?**

Disaster day can be run on-site or remotely. If run on-site:

- Reserve a room or dedicated workspace for the team. Things may get noisy
- Allow other stakeholders to observe, but not interfere with the incident response. Ideally, these stakeholders will act as if they would during a real incident.

If runnign remotely / virtually:

- Establish communication channels, for example a shared video call for the team, beforehand.
- Consider setting up key roles beforehand for easier communication: assign a coordinator and a timeline-keeper.

# Preparing a scenario

You need to come up with a simulated incident for the exercise. The team should not know the incident beforehand. The incident should

- Be within the agreed scope
- Not known to the team beforehand
- Not be trivially fixable
  - For example breaking infrastructure provisioned with IaC may not be as interesting as breaking a manually created infrastructure dependency
- Be something you know how to fix
- Ideally be triggered or triggerable via a realistic chain of events. An "oopsie" is a realistic event

## **Incident ideas**

- Delete / remove some infrastructure resources, for example an AKS cluster
- Break some network links or other networking infrastructure like DNS
- Delete or otherwise a cause a container image to go missing
- Application misconfiguration
- Look for ideas and inspiration in existing post-mortems

### Schedule the session

- Based on past experience, responsing to a small to medium sized incident takes roughly 1-2h, and writing and analyzing a post-mortem around 1h. The introduction may take 15min-1h, depending on the amount of material covered.
- In total, a good rule of thumb is to budget half a day for a single exercise. Larger exercises, for example if a complex environment needs to be recreated, may take longer.
- It is possible to run multiple scenarios during a single work day if the team wants to double down on incident response. However, also consider the option of instead running two half-day exercises spread out with at least a srint between them, this allows the team to implement some of the action items from the first exercise before the second incident.

# **Running the Disaster Day session**

## Introduce the team to incident response

If the team does not have incident response experience:

- Ask the team how they would respond to an incident
- Introduce the team to the incident response workflow:
  - triage: figure out what is broken and what the impact is, apply any immediate emergency options.
  - examine: find out what exactly is going on
  - o diagnose: form a hypothesis of what the problem is
  - test & treat: try to validate the hypothesis by conducting an experiment
  - fix: assess and possible implement a more permanent fix
- Introduce the team to keeping track of the timeline of the incident and writing notes of any actions that were taken.
  - Possibly ask the team to select a single person to be responsible for keeping track of the timeline

## Introduce the team to post mortems

If the team does not have an established post-mortem process

- Ask the team about any previous experiences with post-mortems
- Introduce the team to the most important post-mortem concepts. If the organization uses a post-mortem template, make use of that.
- Make sure to explain and emphasize a no-blame post-mortem culture
- Explain to the team why post-mortems are useful: they act as a collective record and a retrospective of the incident.
- Explain to the team that they will collectively write a post-mortem on the incident, with a focus on the lessons learned. The post-mortem is here used as a tool to reflect on the incident and gather learnings.

## Introduce the team to the scenario

- Explain to the team the scope of the exercise (which infrastructure is in scope)
- The team is expected to collectively respond to the incident and write a postmortem.
- The teams immediate goals are:
  - i. Understand the impact of the incident
  - ii. Restore the service to users
  - iii. Find and address the root cause

# **Trigger & respond**

Now it is time to trigger the incident

- Ideally an alerting system will detect the incident, otherwise role-play a call from a customer or otherwise tell the team that something is wrong with the system
- Monitor the teams progress. Allow the team to go off tracks and hunt down red herrings.
  - In case the team steers too far outside of the scope or is about to perform a truly dangerous operation, be ready to step in. Otherwise give the team space.
- Conside role-playing a customer service representative: ask updates on the incident regularly to create a sense of urgency and to validate that the team is working towards understanding the impact of the incident and restoring services

## Finding the root cause

- Once the incident has been mitigated, encourage the team to find the root cause
- Each time the team thinks they have found the root cause, ask "why"
- Once the team can no longer go deeper, the root cause is found. The root cause may not be conclusive.

# Writing & presenting the post-mortem, wrap up

- Once the team has finished the exercise, ask them to write the post-mortem on a whiteboard or shared document and then present it
- Focus on the lessons learned and facilitate a discussion to identify action items
- Once the action items have been gathered, remember to congratulate the team, they hopefully have had an intense day!