

# Why Chaos Engineering Documents Matter?





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 Google Cloud

# Agenda



- \* A **Chaos's** Story
  - \* Documentation is Important
  - \* Documentation Framework
    - \*\* Docs for General **Chaos**
    - \*\* Docs for Preparing **Chaos**
    - \*\* Docs for Running **Chaos**
    - \*\* Docs for After the **Chaos**
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# A Chaos Story in the middle of Chaos

# Chaos in the middle of Chaos

## During the Chaos

**Friday 14:00 - Planned**

One of the co-hosts runs the prepared commands to incite the failure in PROD environment. Note taker record the time.

## During the Chaos

**Friday 14:15 - Planned**

All seems to be well, the team collects the evidence of the failure, confirms the hypothesis and prepares the recovery.

## After the Chaos

**Friday 16:05 - Planned**

An automated recovery procedure put online the region with chaos. After 90 min Team finds a document with commands to restart the new service.

**They cross their fingers and fortunately it works!**

## Before the Chaos

**Friday 13:50 - Planned**

A co-host of Chaos Experiment announces a routine of chaos in the **#chaos-eng** Slack channel.

## Real Chaos

**Friday 14:30 - NO Planned**

PROD environment should return to a steady state **but something is wrong..**

## Real Chaos

**Friday 14:50 - NO Planned**

In spite of having experience, the failure is on a new component and **there is not documentation available!**



# Recipe for the Chaos in the middle of Controlled Chaos

# PostMortem Time

Luckily, all the characters and episodes in this story are fictional.

**Things that went well:** team work, use of communication channels and chaos engineering isolation.

**Things that did not go well:** lack of knowledge about the automation recovery script, dev team unavailable and **lack of documentation!**

## Action item priority

Meeting between Dev and SRE team  
Documentate the new service

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404 - System error

The application is currently unavailable. Please try again later.

Please contact your system administrator!

Documentation is Important!



# Documentation is important because ...

*Because the Chaos Engineer's work is never done.*

- Organizations can not depend on the knowledge of individuals passed verbally to new members.
- Documentation helps developers communicate with each other.
- Documents help future developers understand and maintain the code.
- Good documentation help you learn from your mistakes.

*If the concepts are not documented, they will need to be relearned painfully through trial and error like the previous story!*



**SRE** teams can prevent this process decay by creating high-quality documentation that lays the foundation for such teams to scale up and take a principled approach for managing new and unfamiliar services.

<https://queue.acm.org/detail.cfm?id=3283589>

# Documentation Framework

# Chaos Documentation Framework



## General

Team Charter  
Production Readiness  
Technical Designs



## Before

Chaos Policies  
Service Agreements  
On Call Policies



## During

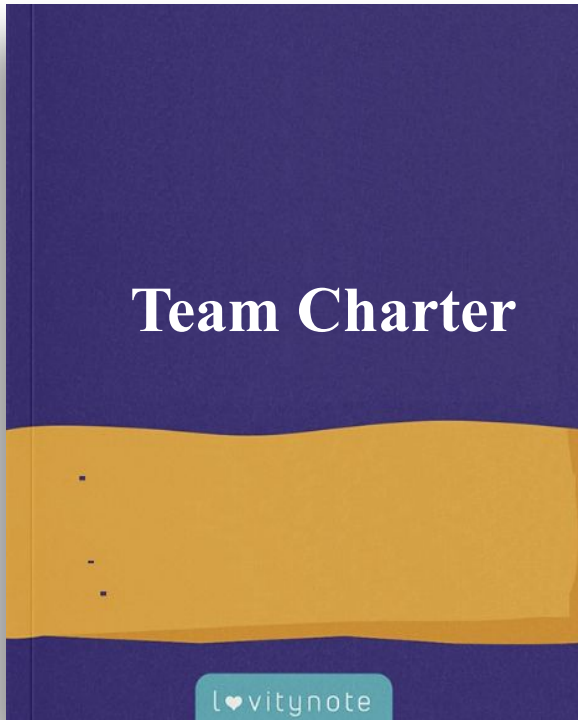
Chaos Designs  
Playbooks  
Incident Management



## After

Postmortems  
Reliability Reports

# General Documents



A charter establishes the identity, primary goals, and roles in the team.

## Team Charter

How team operates

Vision statement

Short description of top services

Key principles and values

Links to the team site and docs

[www.yurynino.dev](http://www.yurynino.dev)

# Production Readiness Review

Book 1

## Production Readiness Review.

Architecture and Dependencies

Capacity Planning

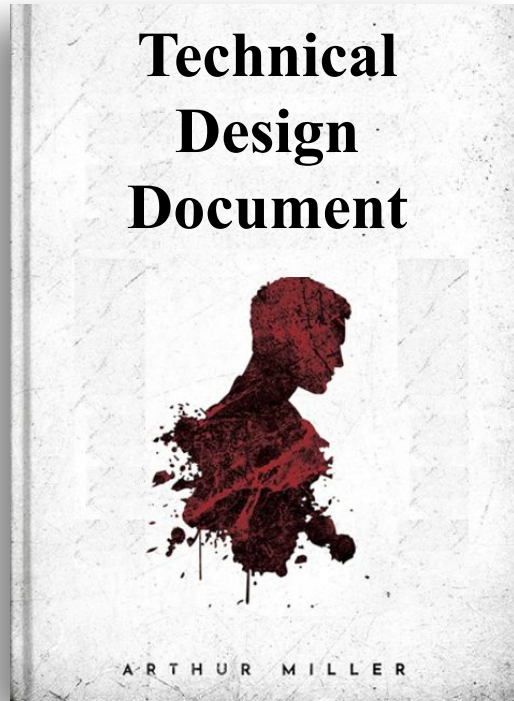
Failure Modes

Processes and Automation

External Dependencies

A PRR examines a program to determine if the design is ready for production,

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## Technical Design

System Overview

System Architecture

Infrastructure Services

Documentation Standards

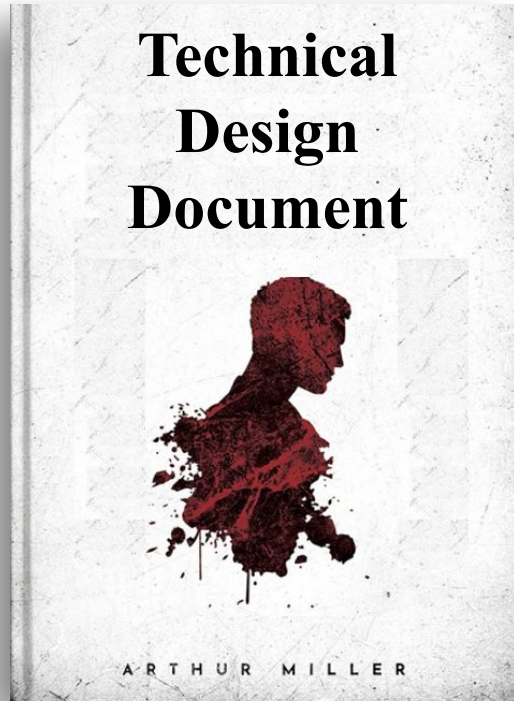
Naming conventions

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TDDs are similar to proposals, that describe how a specific solution will function.

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A PRR examines a program to determine if the design is ready for production,

## Technical Design

Programming Standards

Development tools

Requirements Traceability Matrix

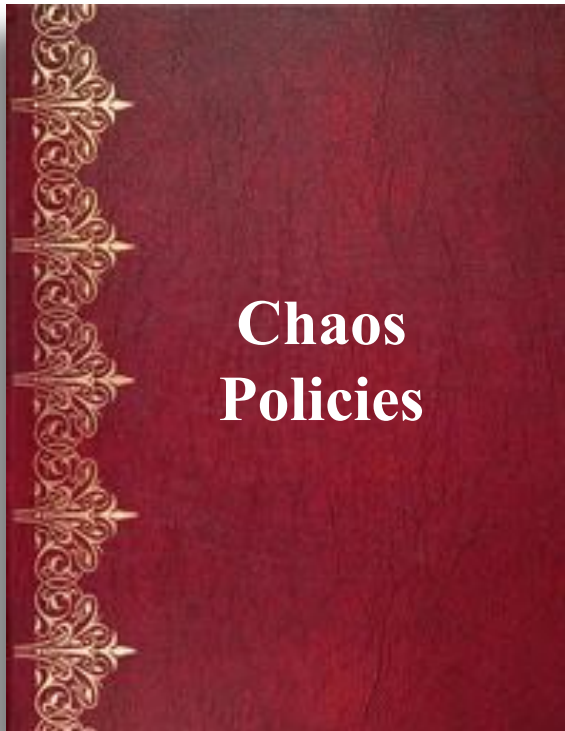
Document Control

Document Signoff

Document Change Record

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# Documents for Before the Chaos



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Policies are statements of intent implemented as procedures or protocols.

## Chaos Policies

Overview

Policy Goals

Steady State

SLOs & SLIs

Key Policies

Outage Policy

Escalation Policy

Related Documentation

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A Service Agreement is a contract that sets the standard Terms and Conditions for Google Ads account budgets.

## Service Agreements.

Scope

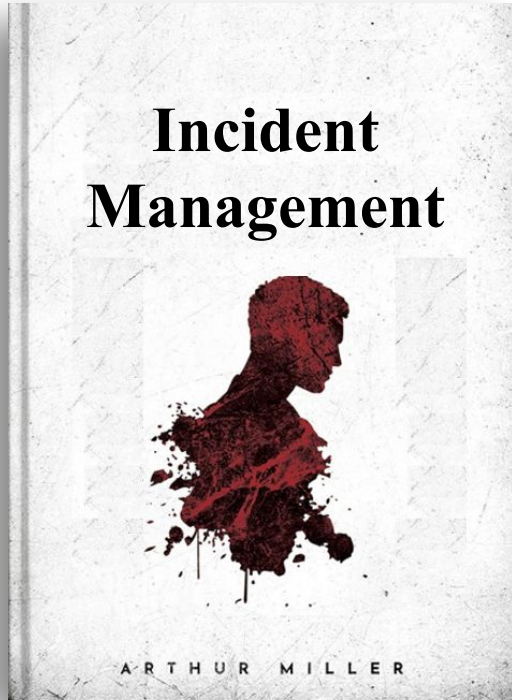
User Target

Internal Targets

Supporting Documentation

<https://support.google.com/google-ads/answer/12675082?hl=en>

[www.yurnino.dev](http://www.yurnino.dev)



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A PRR examines a program to determine if the design is ready for production,

## OnCall Policies

Overview & Readiness

Training & Scheduling

Shift Details

Pager Load

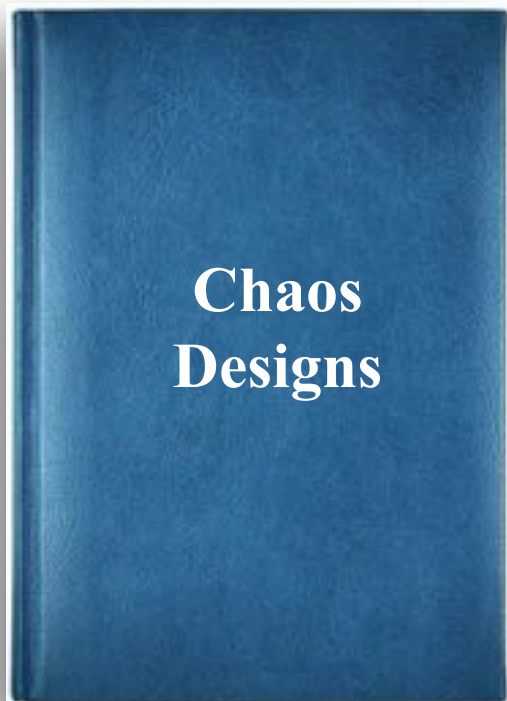
Compensation

Tools & Processes

Communications Standards

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# Documents for During the Chaos



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A Chaos Eng Design is one of the most important asset in the framework

## Chaos Eng Designs

Application Name

Hypothesis

Environment

Duration & Load

Results

Observability

Actions

# Playbooks

Overview

Alert Severity

Verification

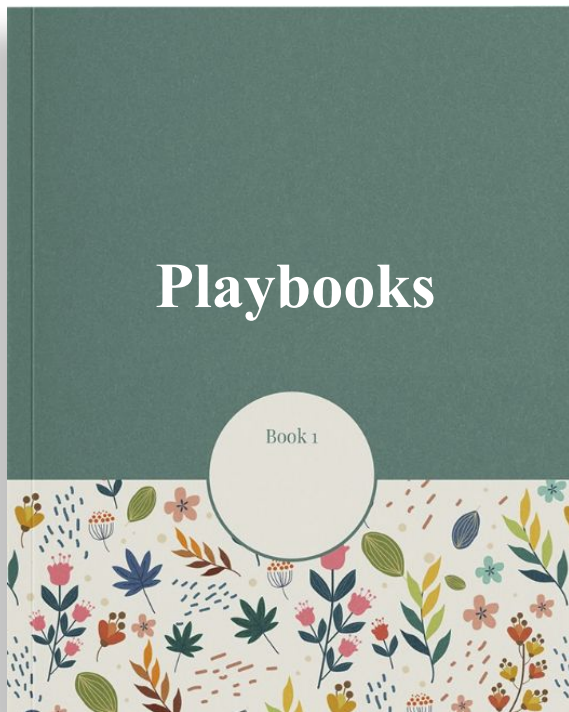
Troubleshooting

Solution

Escalation

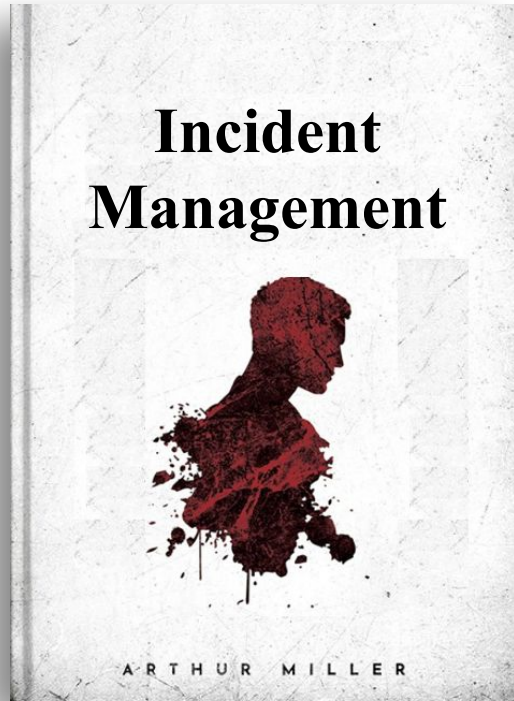
Related Links

[www.yuryrnino.dev](http://www.yuryrnino.dev)



A playbook lets oncall engineers respond to alerts generated by service monitoring.





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A PRR examines a program to determine if the design is ready for production,

## Incident Management

Overview & Readiness

Shift Hand-Off

Escalation

Incident Responsibilities

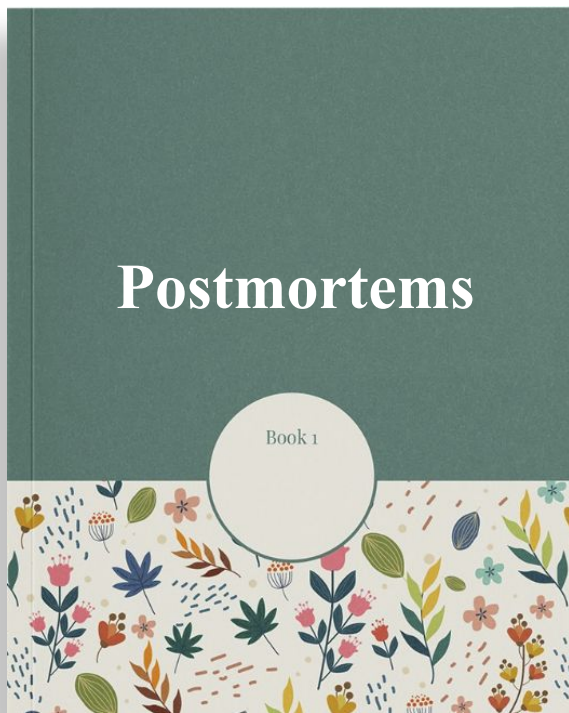
Prioritization

Key Tools

Dashboards and Monitoring

Useful Links

# Documents for After the Chaos



A **postmortem** is an analysis conducted after a system failure.

## Postmortems.

Things that went well

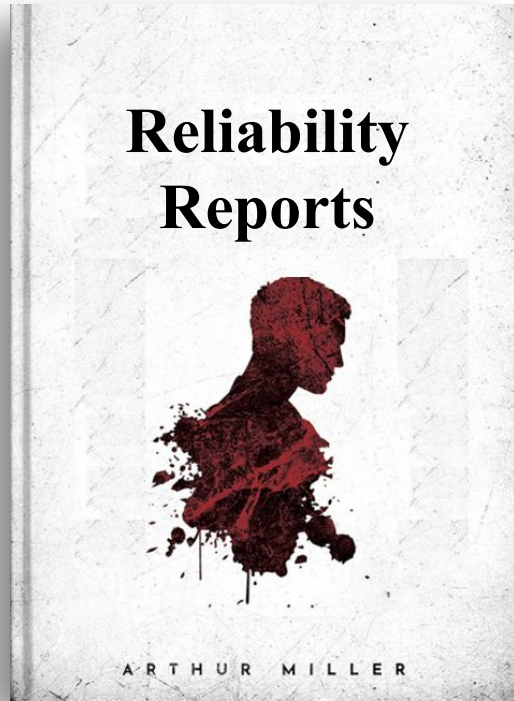
Things that didn't go well

What to improve for next time

Lessons learned

Action items

Action item priority



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Reliability Reports

## Reliability Reports

Indicator name

Collection method

Assessment/formula/scale criteria

Targets and performance thresholds

Source of data

Data frequency

Data entry

Expiry/revision date

# Role of Technical Writers

# Technical Writers

- Writers should partner with CEs to provide operational documentation for running services and product documentation.
- Writers should provide consulting to assess, assist, and address documentation and information management needs.
- Writers should evaluate and improve documentation tools to provide the best solutions for Chaos Engineering.



# Thank you so much!

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