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COP302

Developing an observability strategy

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About us



Principal Specialist Solutions Architect

Over 20 years in IT

Dad of 1

Retired Ultimate Frisbee player

Bad golfer



Senior Specialist Solutions Architect

Over 20 years in IT

Mum of 2

Cat lover



General Manager App Observability

29 years in IT

Dad of 1

Snowy hill tourer

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Why AWS Cloud Operations?



Return on investment

241% ROI over 3 years*



Staff productivity

62% more efficient IT infrastructure staff



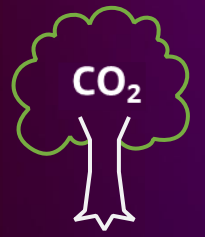
Operational resilience

57% decrease in downtime



Business agility

37% decrease in time to market



Carbon savings

88% reduction in carbon footprint of IT operations

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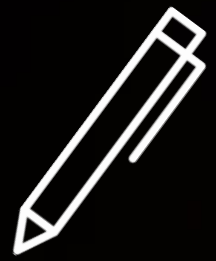
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Based on independent research of 1,500 AWS enterprise customers
*Source: "The Total Economic Impact of AWS Cloud Operations: Cost Savings And Business Benefits Enabled By Operation on AWS. May 2022. A commissioned study conducted by Forrester Consulting on behalf of Amazon Web Services."

Your journey to operating at cloud scale

Get started with AWS Cloud Operations

Set up



Establish a secure foundation for governance and compliance

Build and migrate



Migrate applications to the cloud, or build new applications

Operate

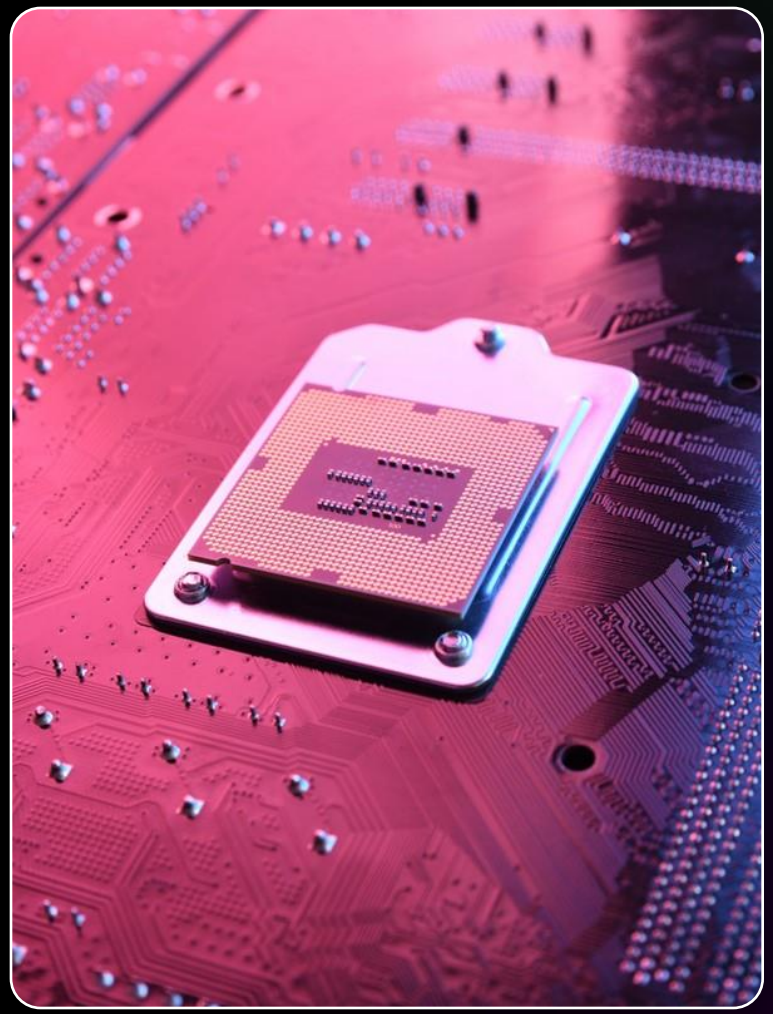


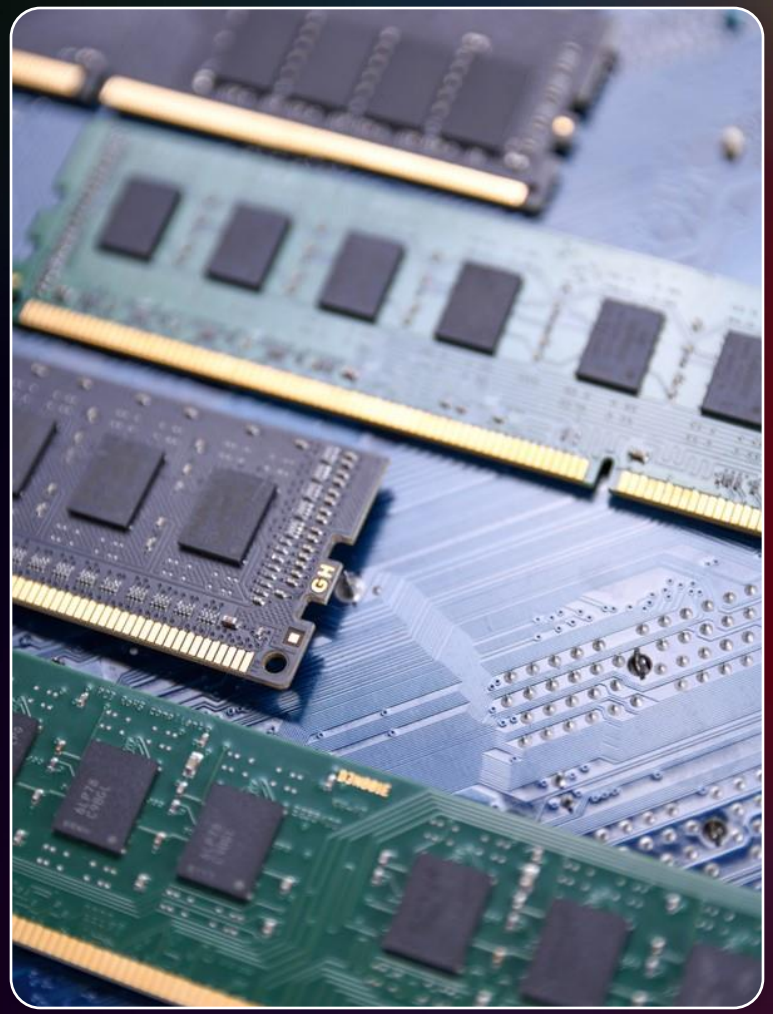
Simplify ops management with an integrated experience to manage and monitor resources and applications to detect and remediate risks quickly

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The important metrics?







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Visit our site

What metrics do we care about?

What is your most important metric?



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Vision

Amazon strives to be Earth’s most customer-centric company, Earth’s best employer, and Earth’s safest place to work

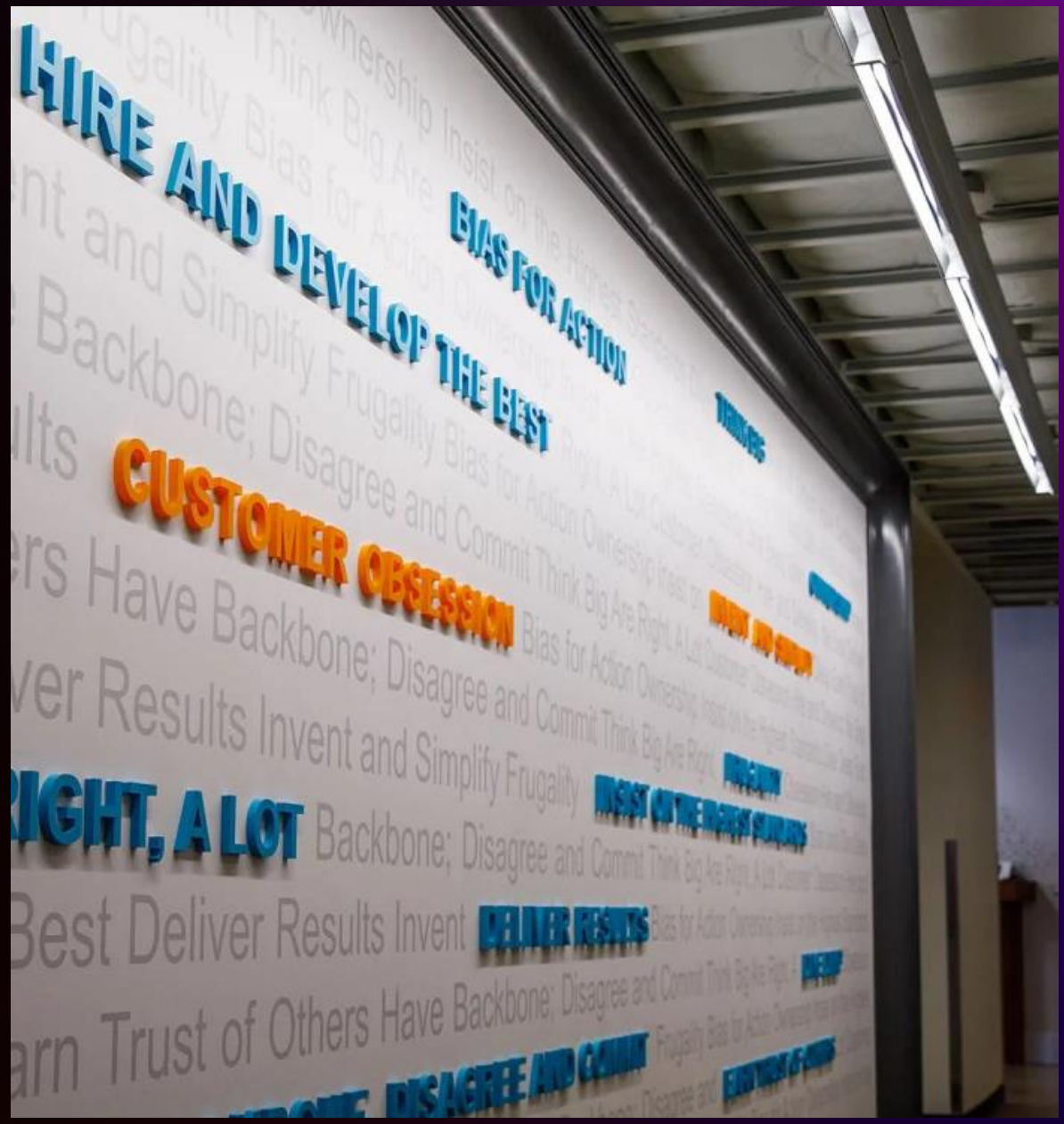


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Work backwards

Customer obsession

Leaders start with the customer and work backwards. They work vigorously to earn and keep customer trust. Although leaders pay attention to competitors, they **obsess** over customers.



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Customer requirements



Delivery



Price



Security



Page speed



Search

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Internal stakeholders

Delivery	→	Logistics
Price	→	CFO
Security	→	CISO
Page speed	→	Marketing
Search	→	Product



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Question whack-a-mole



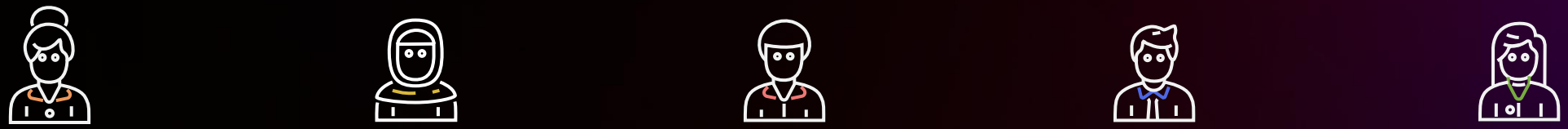
"How many customer abandoning their shop carts because the deli time was too long"

"How much is the website costing to ru

"How many attempt attacks have we ha(

"How long is it takin load the landing pag

"How many times are we producing no search results?"



Logistics

CFO

CISO

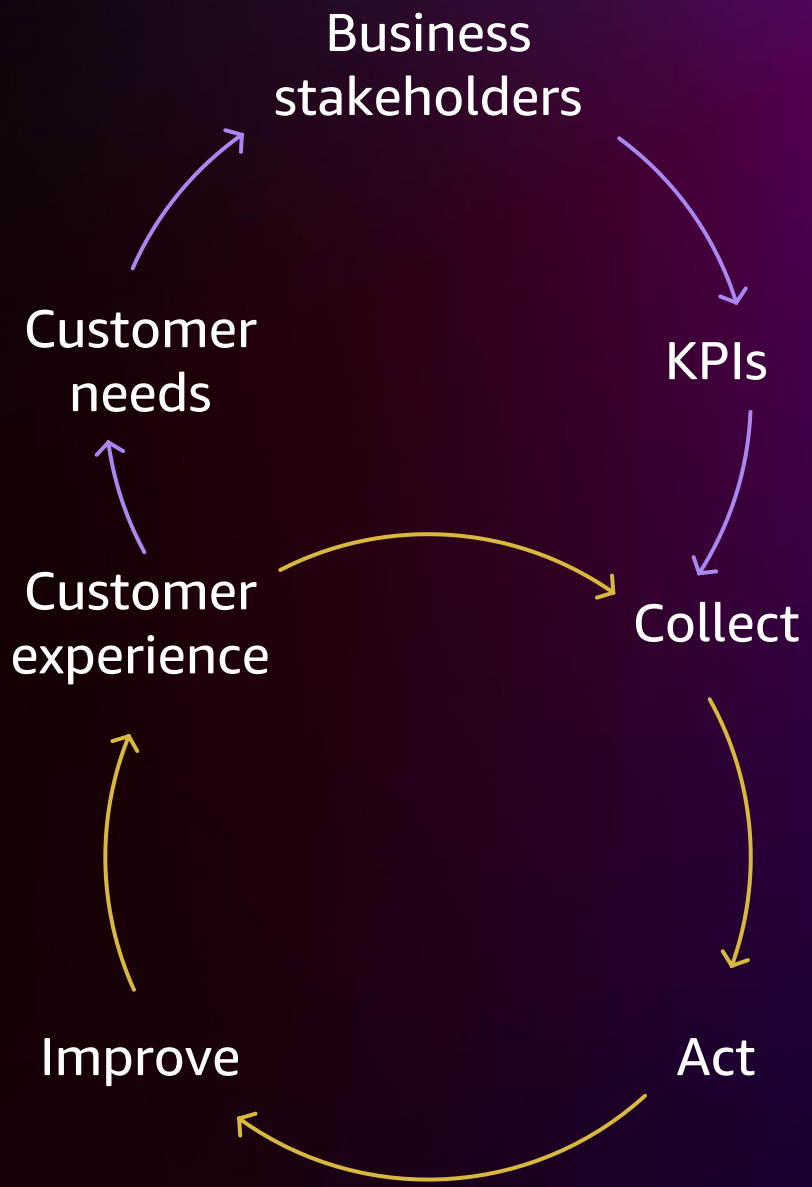
Marketing

Product

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Observability virtuous cycle



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Strategy



What do I collect?

What do my customers want?

↓

What do stakeholders need?

↓

What are my KPIs?

What do I observe?

Customer experience

↑

Metrics, logs, and traces

↑

Identify data sources

How do I act?

Alert when outcomes are at risk

↓

Evaluate impact

↓

Establish root cause and fix

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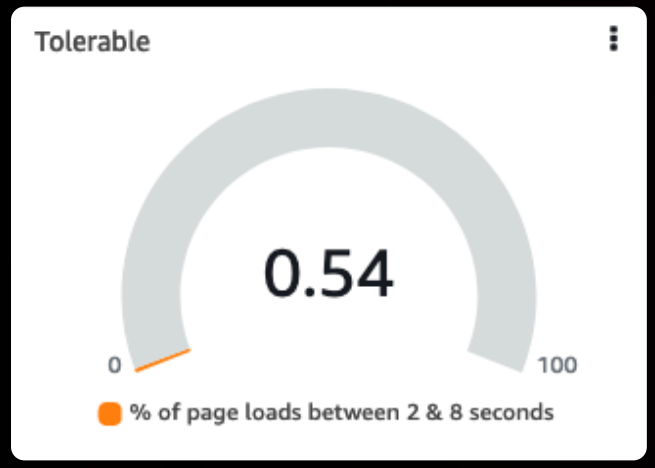
Plan

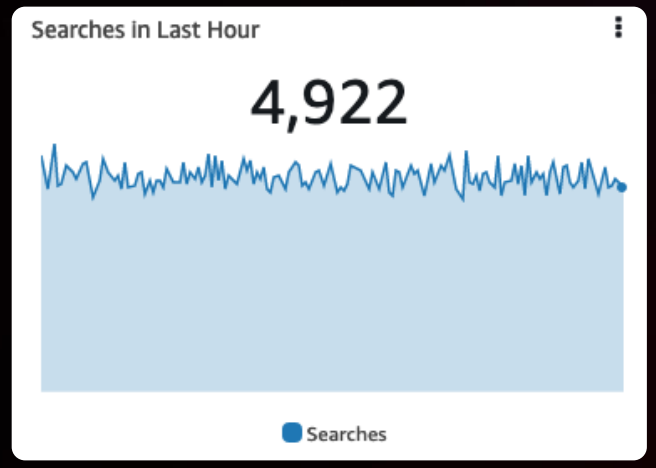
- Identify customer requirements
- Meet with stakeholders
- Identify KPIs, identify data sources, extract metrics
- Build dashboards and alarms, augment with traces and logs
- Classify impact and configure alerting
- Define response plan for every alert

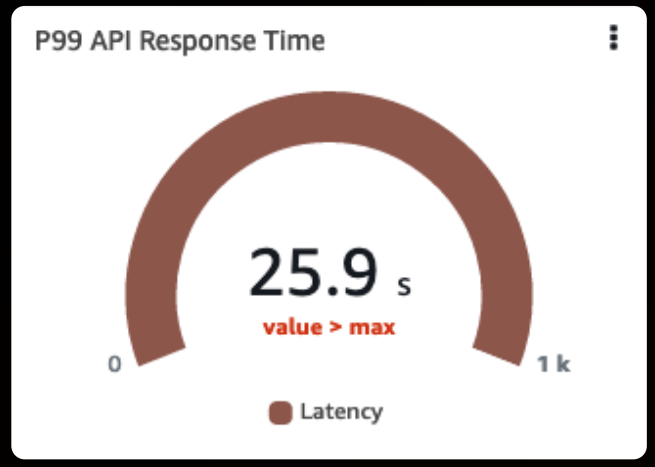


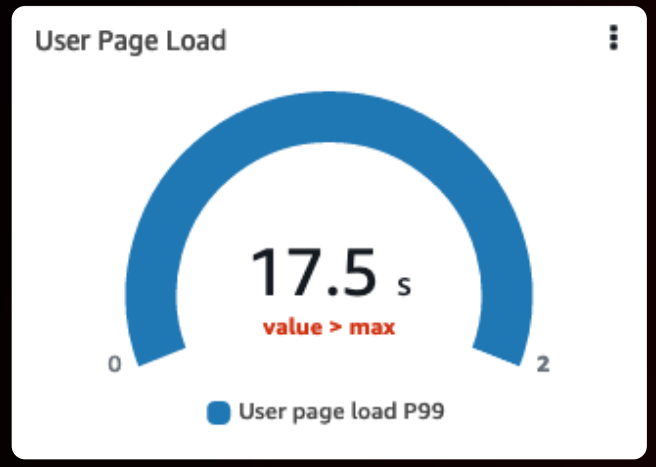
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What metrics do we need?



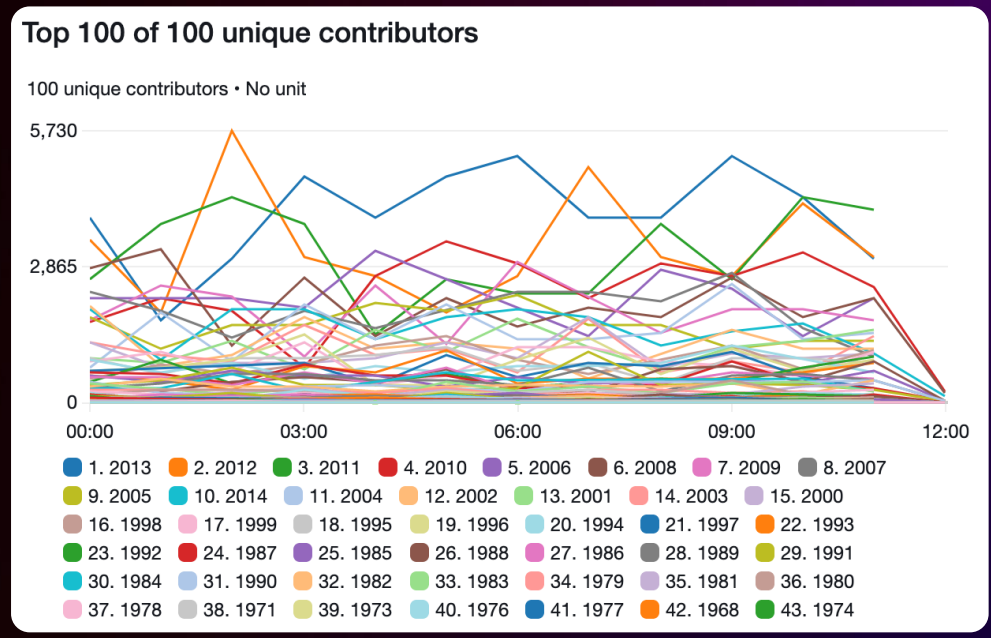






These metrics align to our KPIs

These are what our customers care about



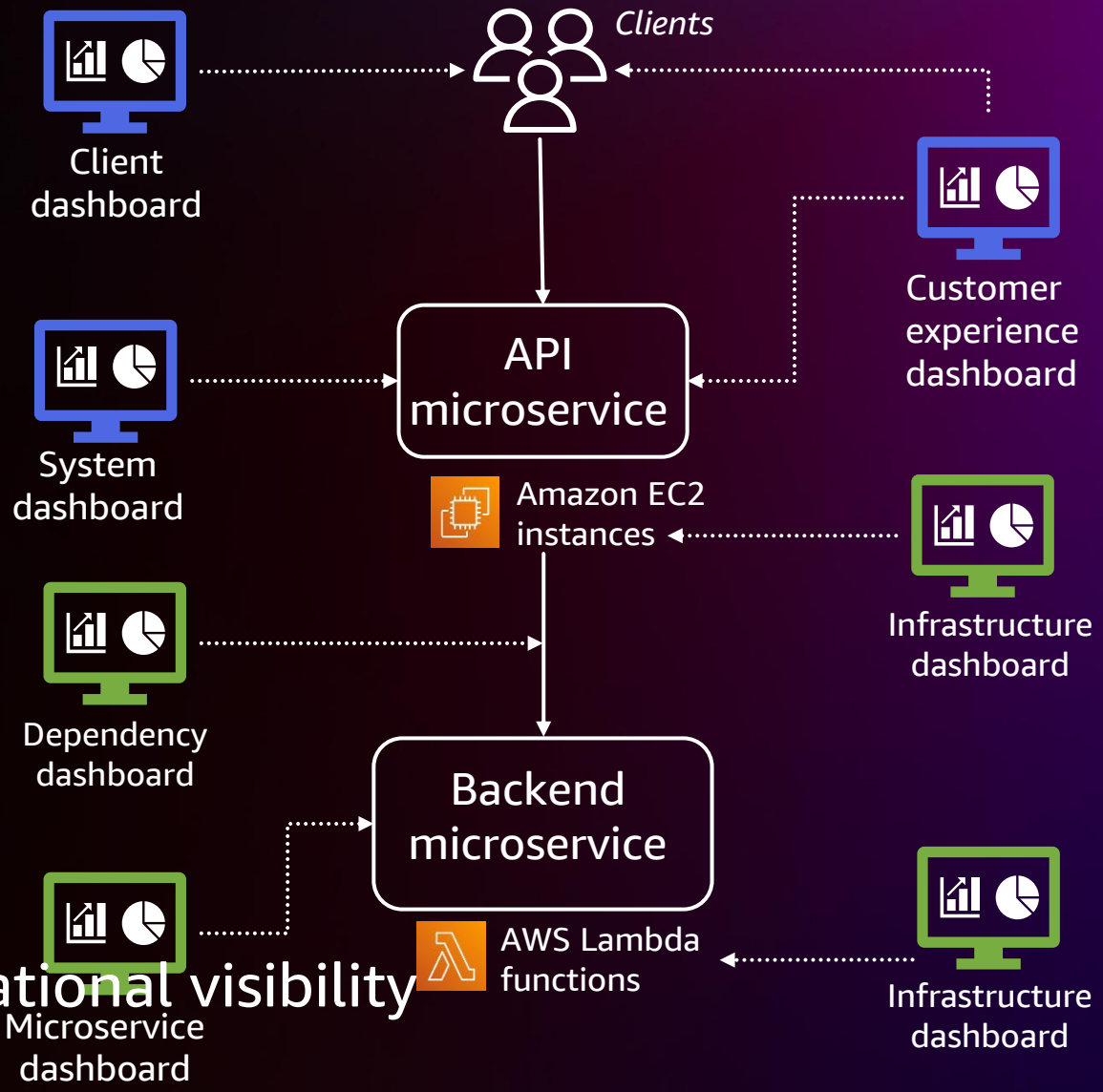
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Designing dashboards

Stakeholder dashboards
Cost, service audit, capacity planning

High-level dashboards
Customer experience, system level, service instance

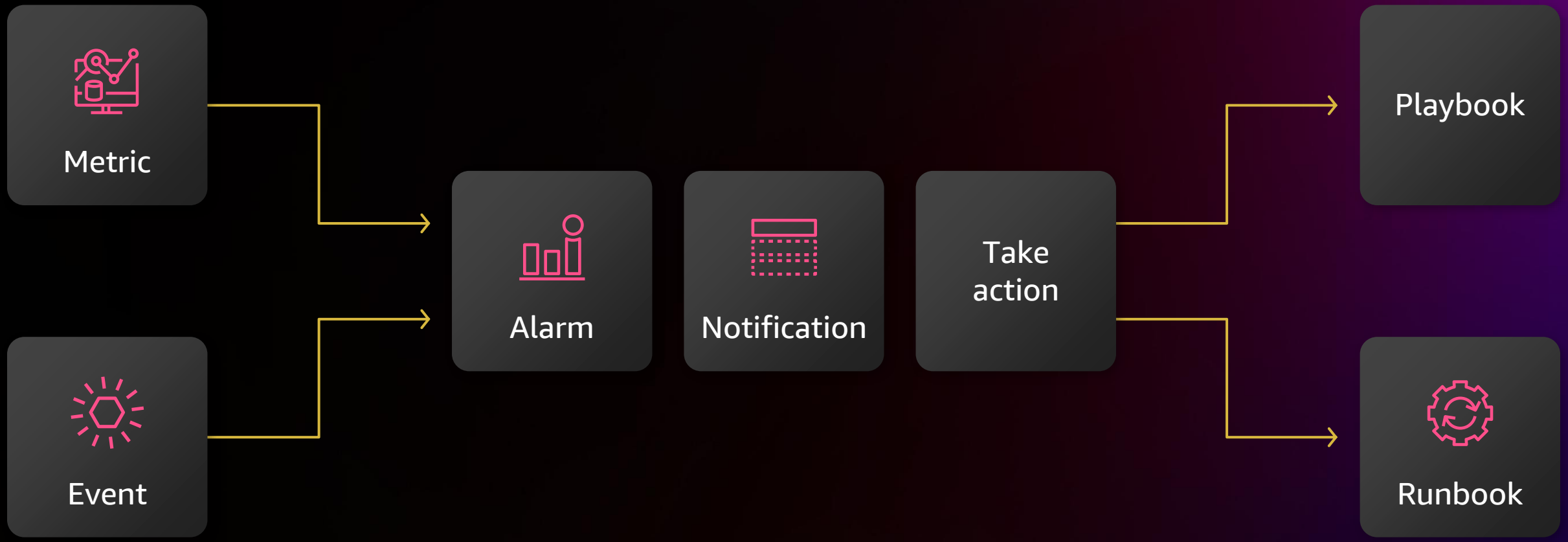
Low-level dashboards
Infrastructure, microservice, dependency



Amazon Builders' Library
Building dashboards for operational visibility

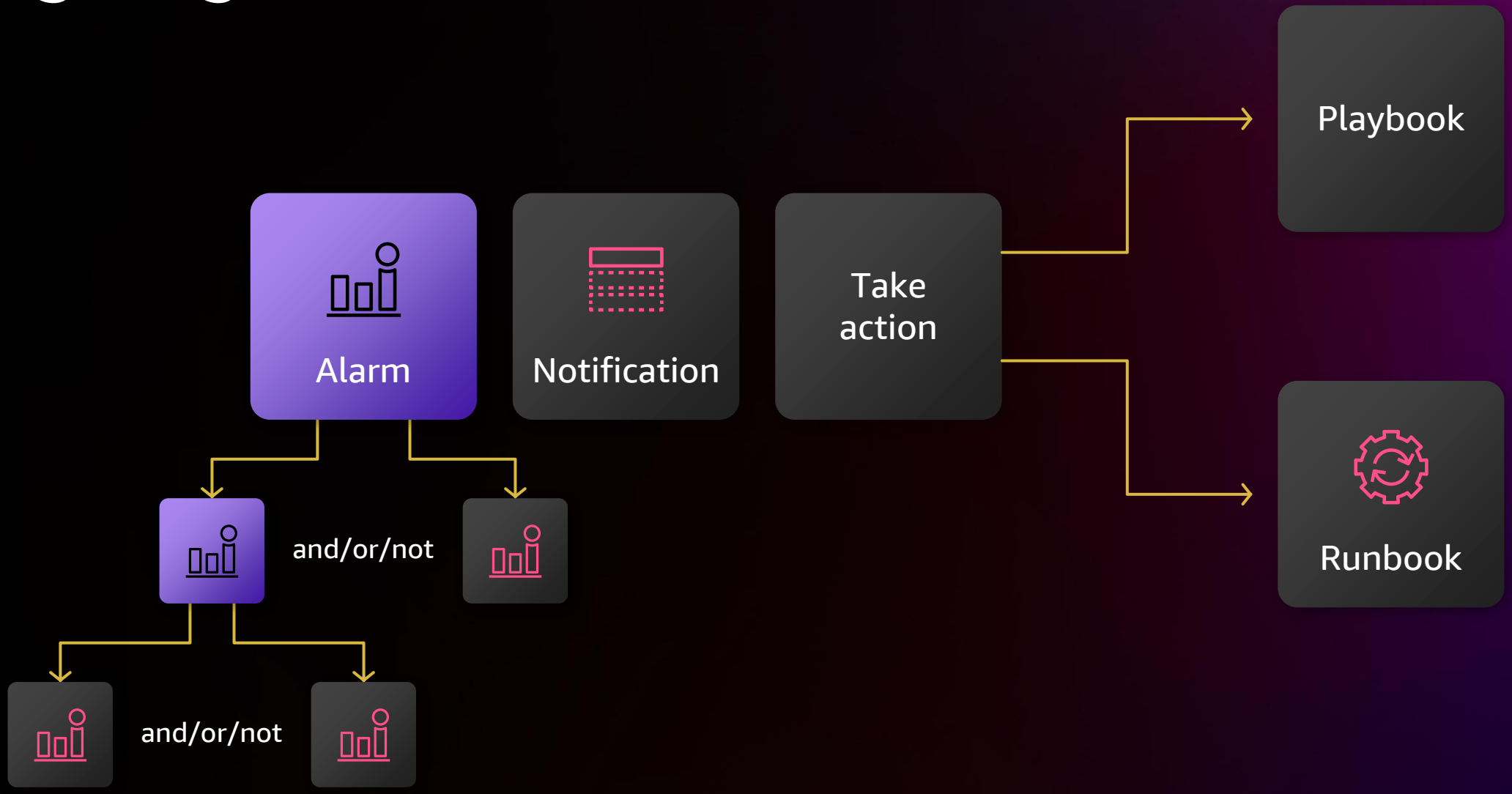
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Designing alarms



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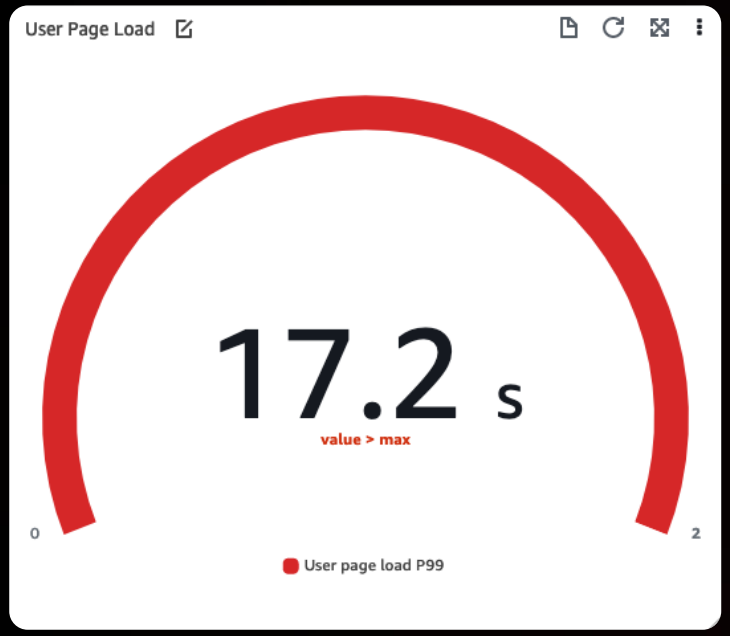
Designing alarms



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Troubleshooting

An alarm tells you that there is a problem . . .



How do you find out quickly **why** there is a problem?



A good logging and tracing strategy is key

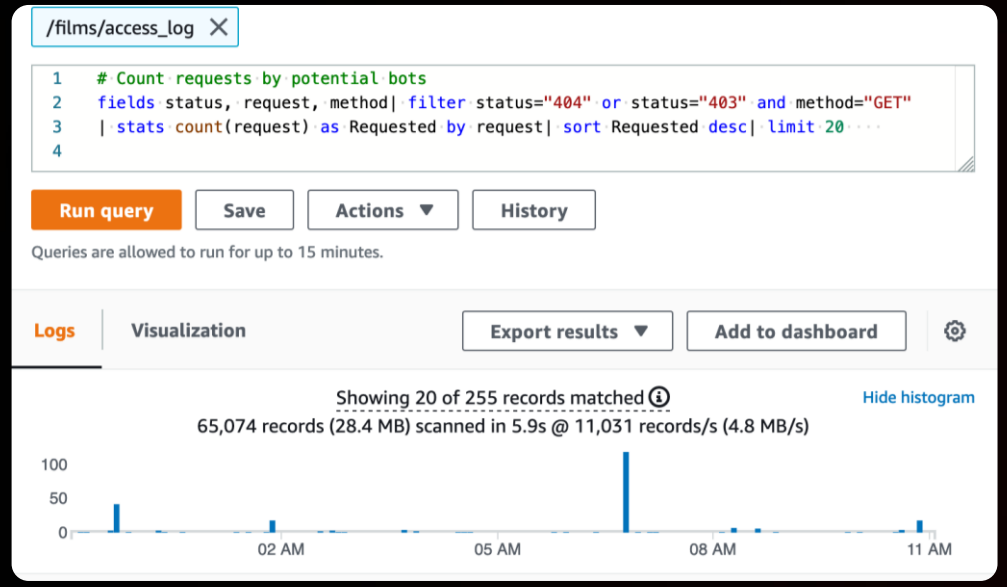
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Logging and tracing

Logs

Immutable record of an event

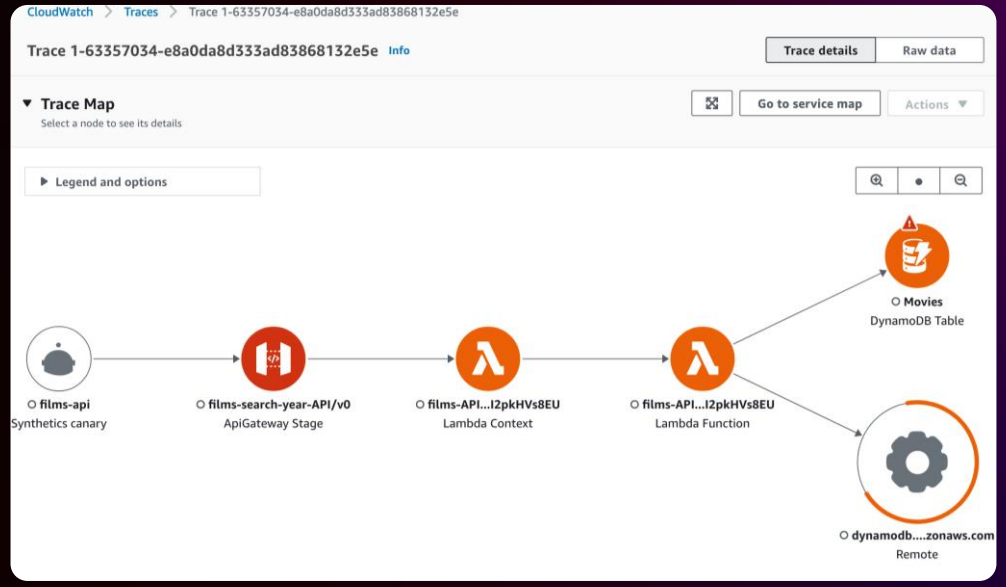
A record of WHAT happened



Traces

Follow the path of a request, user centric

Tell you the impact to the request path or user



Correlating metrics, logs, and traces helps you get to the root cause faster

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No more whack-a-mole

"How many customer abandoning their shop carts because the deli time was too long"

"How much is the website costing to ru

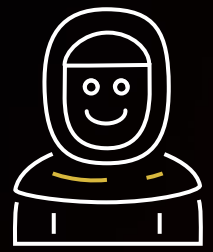
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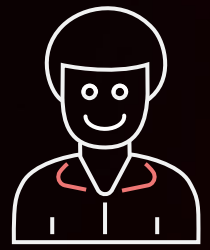
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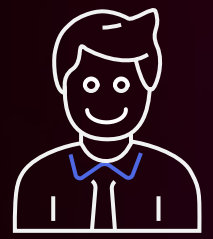
Logistics



CFO



CISO



Marketing



Product

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Key takeaways

- Work backwards from your customers
- Involve your stakeholders
- Is your app doing what customers need it to do?



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New: AWS Observability training course

aws training and certification

- Introduction to Observability
- The Amazon CloudWatch agent
- Alerting and insights
- Application monitoring
- Open Source



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