




Improve Resilience with Automated Chaos Engineering

Gunnar Grosch

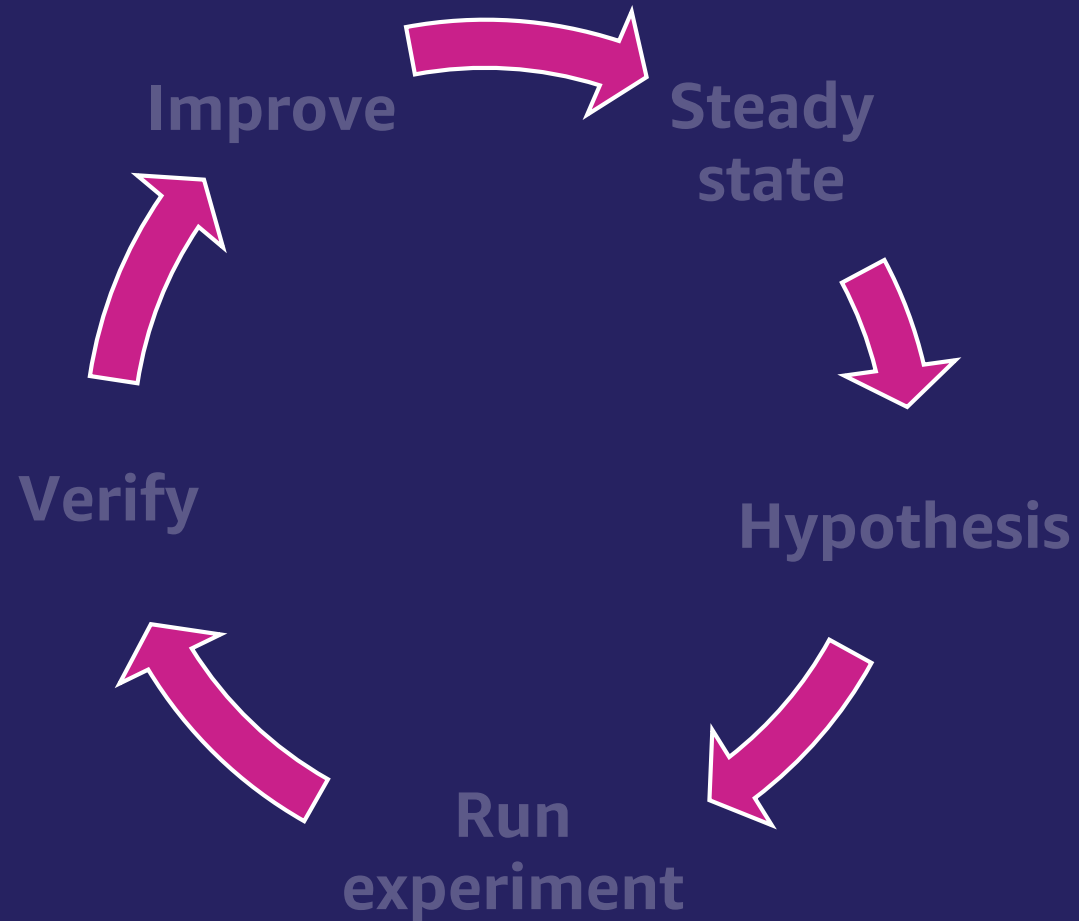
Sr. Developer Advocate, AWS

 @gunnargrosch

Fundamental goals with chaos engineering

- Improve resilience and performance
- Uncover hidden issues
- Expose blind spots
Monitoring, observability, and alarm
- And more

Phases of chaos engineering



Use cases



One-off
experiments



Periodic
game days

Use cases



One-off
experiments



Periodic
game days

Use cases



One-off
experiments



Periodic
game days

Use cases



One-off
experiments

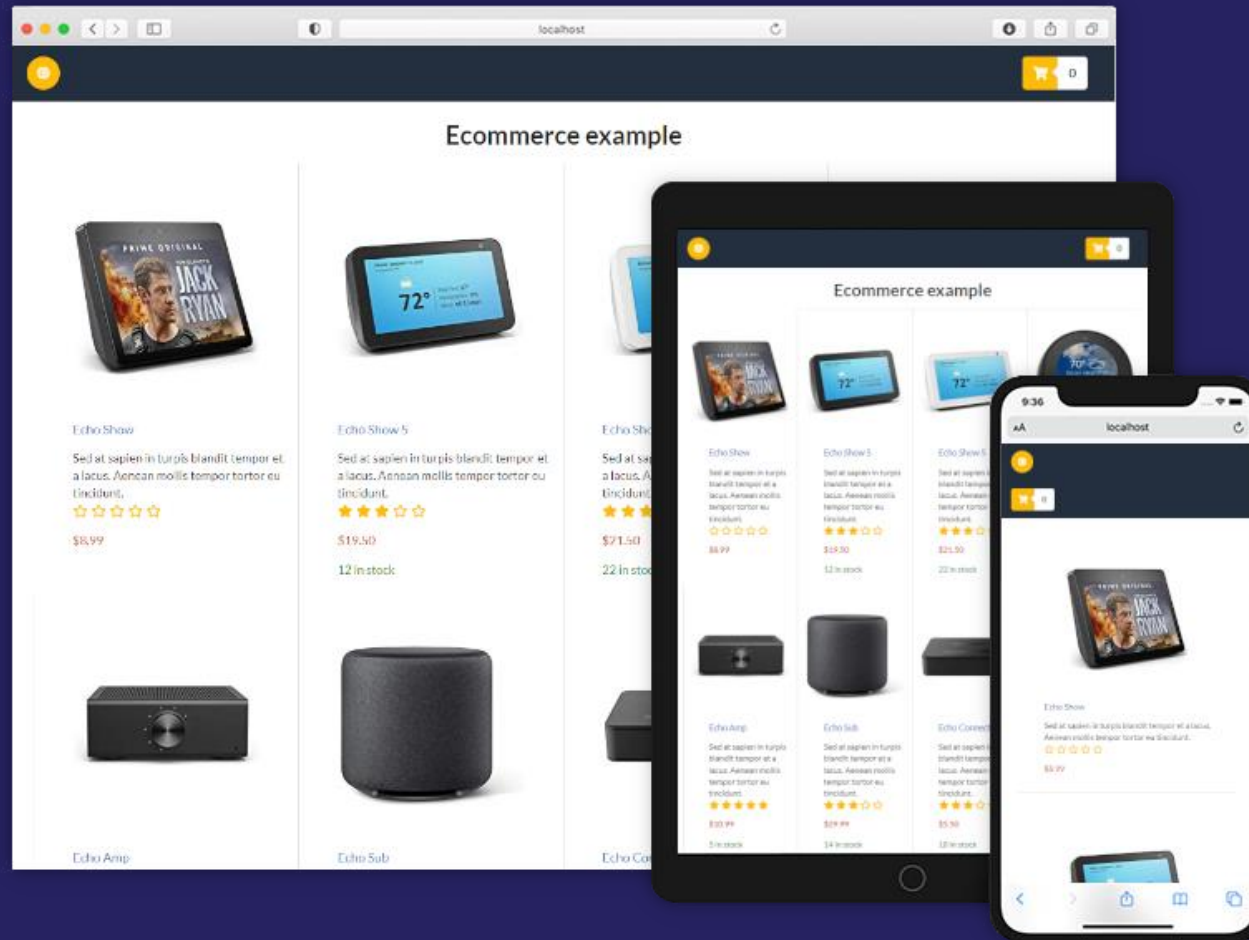


Periodic
game days

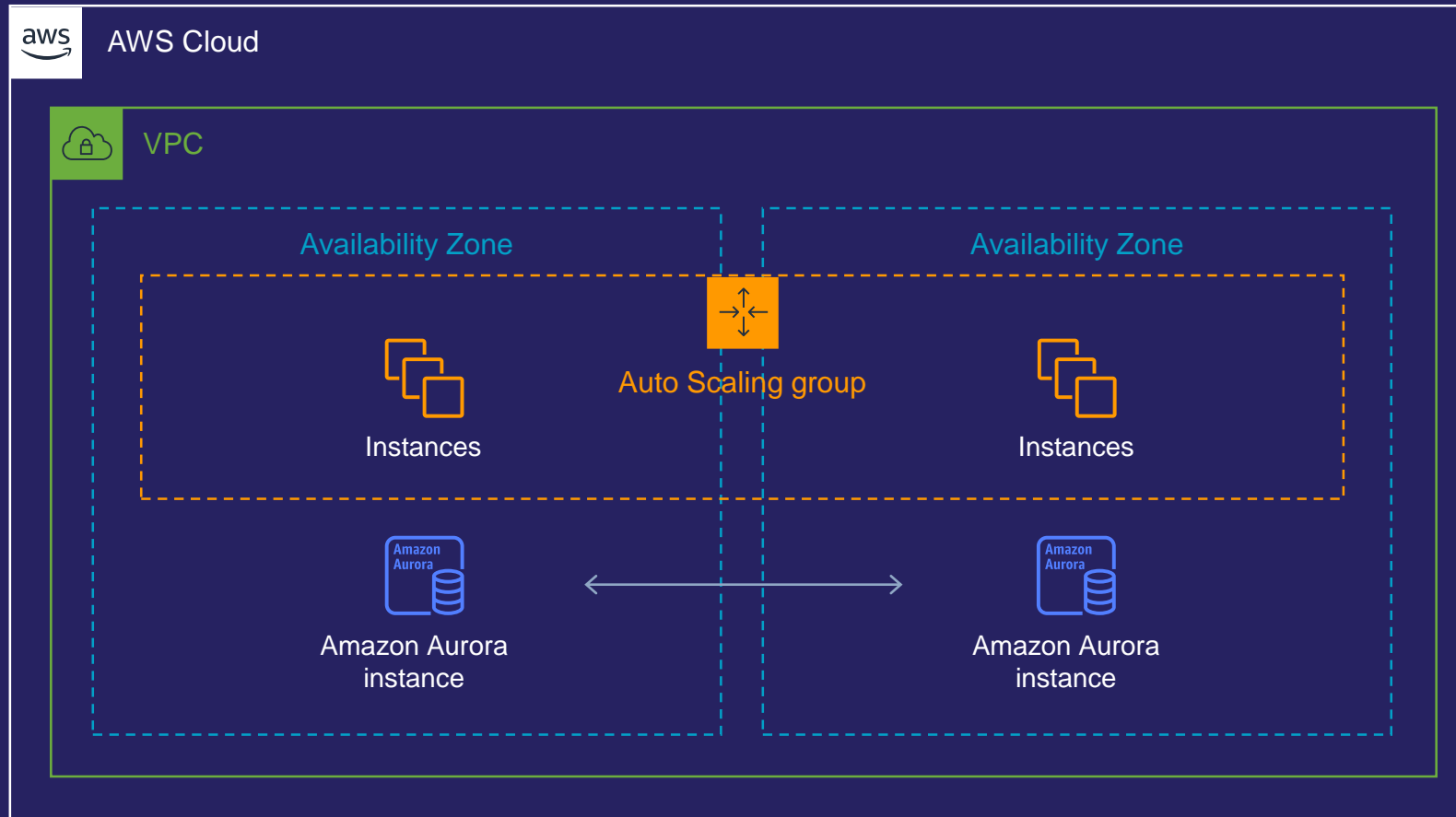
Use case example: Ecommerce web app



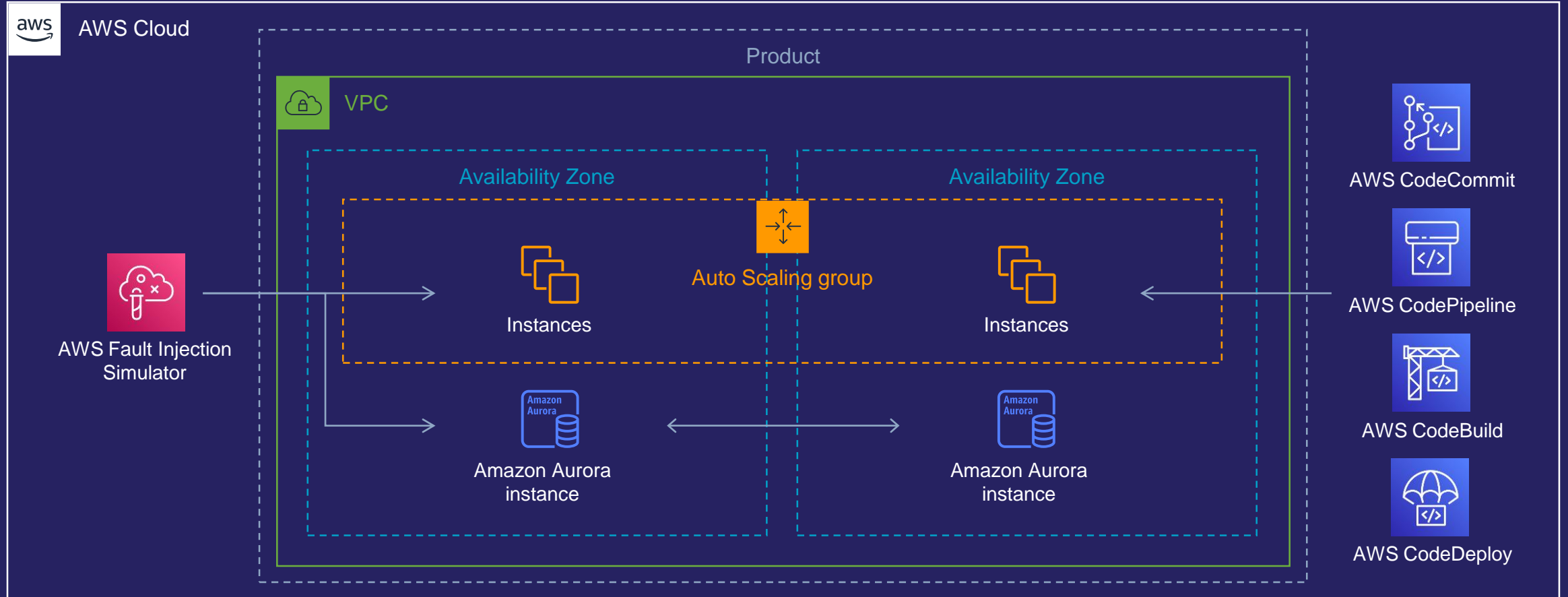
Ecommerce web application



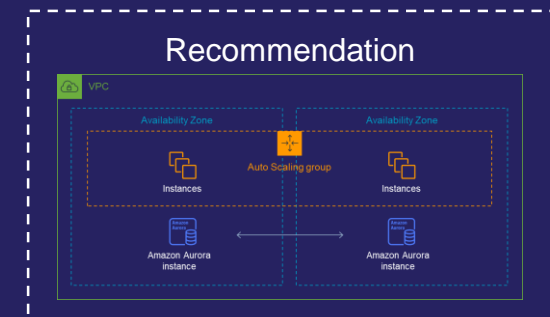
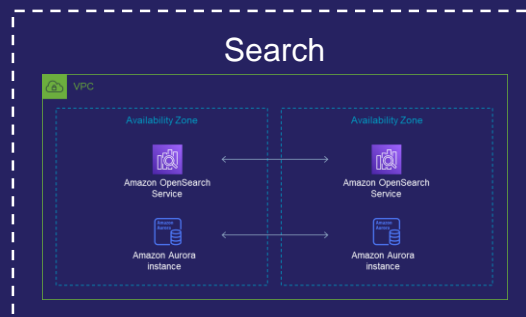
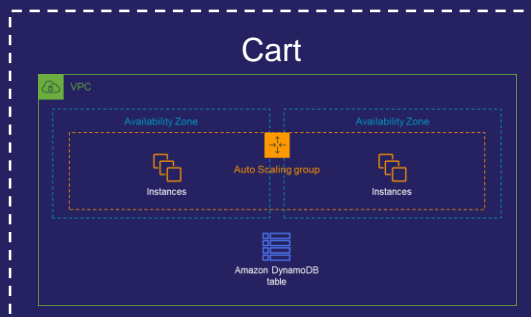
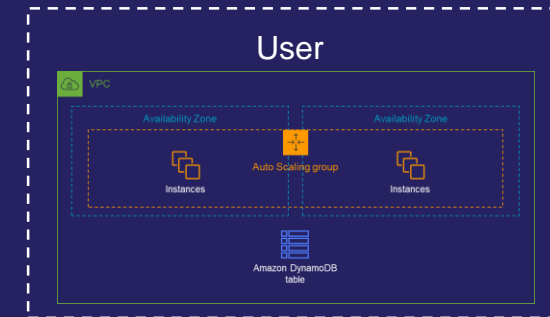
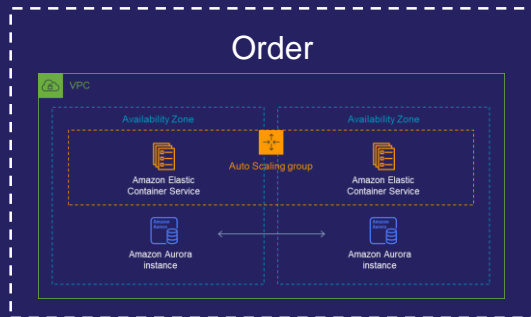
Ecommerce web application



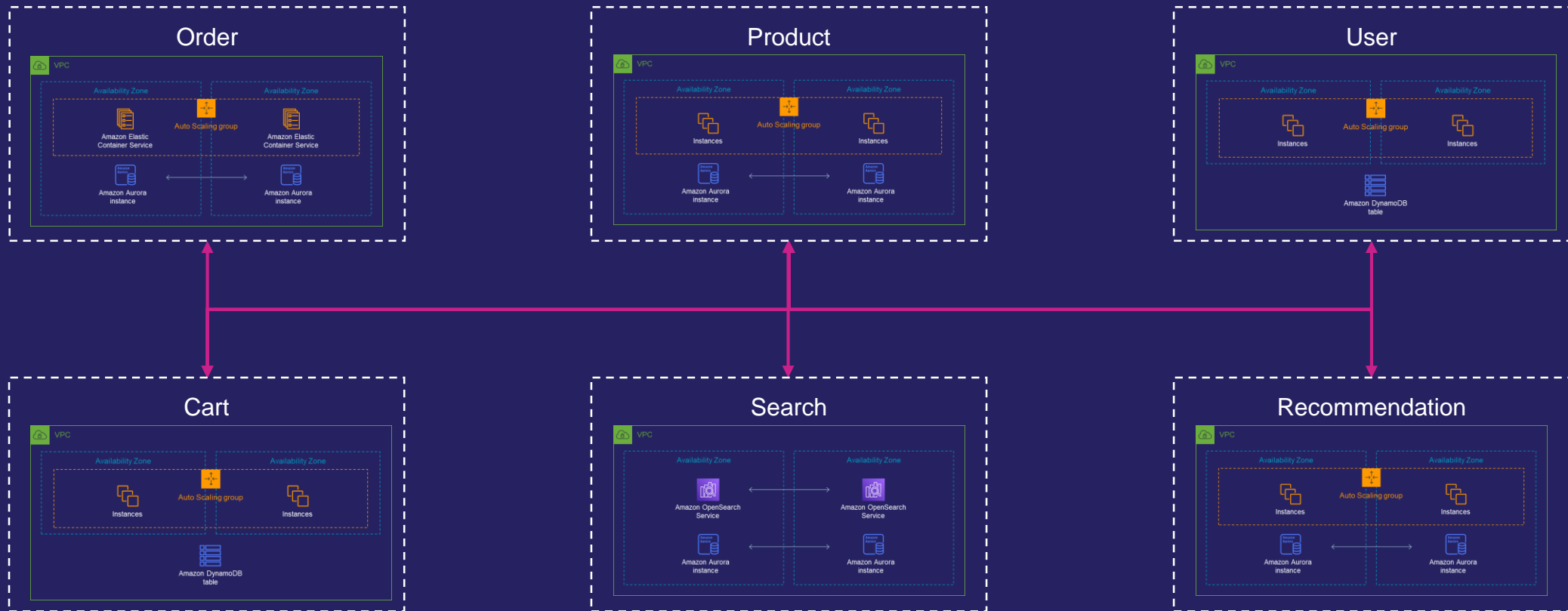
Ecommerce web application



Ecommerce web application



Ecommerce web application



Use case example learnings

- Frequent deployments are hard to cover manually
- To cover an extensive set of experiments is time-consuming
- Unknown parts of the system might change
- Systems are becoming more complex

Automated experiments



Automated experiments



Recurring
scheduled
experiments



Event-triggered
experiments



Continuous delivery
experiments

Automated experiments



Recurring
scheduled
experiments



Event-triggered
experiments



Continuous delivery
experiments

Automated experiments



Recurring
scheduled
experiments



Event-triggered
experiments



Continuous delivery
experiments

Automated experiments



Recurring
scheduled
experiments



Event-triggered
experiments



Continuous delivery
experiments

Automated experiments



Recurring
scheduled
experiments



Event-triggered
experiments



Continuous delivery
experiments

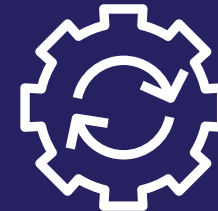
Use cases



One-off
experiments



Periodic
game days



Automated
experiments

Takeaways

- Automation helps us cover a larger set of experiments
- Automated experiments verifies our assumptions over time
- Safeguards and stop conditions are key to safe automation
- You should still continue with manual experiments

Resources



grosch.link/autochaos



Thank you!

Gunnar Grosch

Sr. Developer Advocate, AWS

 @gunnargrosch