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Deployments, Downtime, and Unexpected Fires: An SRE Survival Story

Agenda



- From Legacy Systems to Modern Tooling
- Smoke, Fire, and SLA Surprises
- When Cert Chains Break, So Does Trust
- No Logs? No Clue
- IaC: Build Smart, Not Big
- SRE = Engineer + Improviser



My Journey into SRE



- Started in banking/finance - WebSphere, Tomcat, manual scripts.
- Transitioned to automation and Infrastructure as Code.
- Tools I've come to rely on:
 - ◆ Terraform
 - ◆ Ansible, Puppet
 - ◆ Helm
 - ◆ CI/CD pipelines
 - ◆ Prometheus, Grafana, Datadog, ELK



Smoke, Fire, and SLA Surprises:



- Used GCP dual-region buckets; assumed instant replication.
- Datacenter fire → 12 hours of missing customer data.
- Found out: GCS replicates **within 12 hrs**, not instantly
- **Turbo Replication**, when enabled, ensures replication within **15 minutes**.



Takeaway: Always match SLAs to your RTO/RPO needs.



When Cert Chains Break, So Does Trust:

- Shorter cert validity = more frequent renewals.
- Missing intermediate cert → broken website.
- Tools to help:
 - [SSL Labs](#)
 - Datadog Synthetic Monitoring
 - Grafana Infinity Plugin
 - “`openssl s_client -connect yourdomain.com:443 -showcerts`” and check “Verify return code: 0 (ok)” at the bottom for success



Takeaway: Monitor, renew & document certs!

Everything in One Place: Logging & Monitoring Done Right



- During incidents, **logs and metrics are your lifeline**
- No logs/Metrics = No visibility = Slower recovery
- Logging/Monitoring must be a **pre-production requirement**
- All apps & systems should forward logs/Metrics to one place (ELK, Datadog, etc.)
- Use Ansible/Puppet to deploy logging agents automatically
- Helps correlate issues across app, DB, and infra

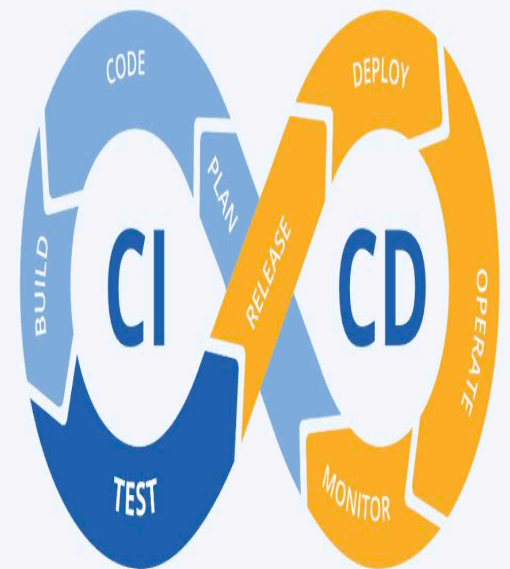


Takeaway: Centralized logging and monitoring = issue traced & fixed quickly



Terraform as IaC: Do It Right from the Start

- If possible, prefer official public modules (Terraform Registry) over custom-built ones
 - Less code to maintain
 - Provider-tested and supported
 - Saves time in dev + reviews
- Integrate Terraform with CI/CD
 - Automate terraform plan + apply via pipelines,
 - This enforces team validation and
 - Avoids local execution and credential storage
- Use tools like Wiz to scan Terraform for: Misconfigurations, Exposed secrets, Compliance risks



Takeaway: Reuse what's reliable, Shift Terraform into your CI/CD flow.



Expect the Unexpected

- **SRE = Learn + Adapt + Improvise + Deliver - fast**
- **Be ready to wear developer, ops, architect, and firefighter hats**
- **Stressful? Sometimes.**
- **Rewarding? Absolutely.**



Takeaway: SRE isn't just engineering - it's improvisation in real time.

Thank You

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