



Hritwik Singhal

Site Reliability Engineer and
Linux/Open-source enthusiast.

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Site Reliability Engineer with 3+ years of experience building & maintaining resilient, scalable infrastructure in production environments. I am a **dedicated** and self-driven **geek** with a passion for **Python**, **Linux** and **self-hosting** and a strong zeal for **open-source development**. I'd rather spend 4 hours writing a program to **automate** a task than spend 4 minutes doing it manually every day.

Profiles

[Hritwik](#) [Hritwik](#)

Skills

Linux

SSH, Systemd, ZFS, LVM, Virtualization

Platforms

AWS, GPC, Azure, Proxmox, On-Prem

Networking

TCP/IP, DNS, DHCP, VLAN, VPN, Firewalls, Wireshark

IaC

Nix, Terraform, NixOS

Automation and Scripting Tools

Ansible, Bash, Python, Git, Jenkins

Orchestration

Kubernetes, Docker, Helm, ArgoCD, Argo Workflows

Monitoring

Grafana, Loki, Prometheus, ElasticSearch

Other

Distributed Systems, Optimizations, Databases, Load Balancing, GitOps, Microservices, Logging, Alerting, Hadoop

Soft Skills

Communication, Problem-Solving, Collaboration, Flexibility, Critical Thinking, Eager to learn

Hobbies

Homelab self hosting, de-google	Reading Astronomy, Psychology, Physics
Badminton	Gaming

Languages

Python	<div></div>
Bash	<div></div>
Java	<div></div>
C/C++	<div></div>

Experience

Health & Well-being Career break **March 2025 - Present**

Welp! emergencies don't knock on your door; they apparently throw the door off its hinges, barge in and announce, "Time for a reset!" So, I've been rediscovering all the things I forgot I loved – like finally tackling that coding project I'd been putting off, leveling up in my favorite game, and tinkering with my homelab without feeling guilty about neglecting work. An unexpected system reboot for my well-being!

Tessell **Sept 2024 - Feb 2025**
Platform Engineer
Bangalore, India

Media.net **July 2022 to July 2024**
Site Reliability Engineer
Bangalore, India

- Proven on call proficiency in debugging live production issues during 24x7 **on-call rotations**.
 - Ensured rapid resolution, minimizing downtimes and enhancing system resilience.
 - Proficiently conducted and authored detailed **RCA** reports.
- Leveraged **Nix** and **Terraform** to efficiently scale an existing Hadoop cluster on GCP and On-prem datacenters.
 - Increased node count from **20 to 70** by revamping monolithic IaC codebase to enhance modularity, inheritance structure, and scalability of individual components, which enabled said scaling with minimal code changes, reducing deployment time by **50%** and improved deployment frequency.
- Optimized disk read and write latencies from **20ms** to **under 1ms** for **HDFS** and **YARN** applications by tuning operational **ZFS** parameters, thus mitigating more than **80%** frequent latency spikes during operational load.
- Implemented **CI/CD** pipelines on self-managed **Jenkins** slaves.
 - Automated deployment processes of **Conda** virtual environments from custom configuration files within the Hadoop cluster, resulting in a **30% reduction** in deployment time through standardized environment setup.
- Led the company-wide deployment of **Zeppelin** and **Hue** for 300 developers.
 - Optimized deployment speed, reliability and secret management using **Nix** and **SOPS** through Infrastructure as Code (IaC) methodologies, reducing deployment time by **50%**.
 - Implemented NGINX optimizations, resulting in a reduction of application load times from **~3s to ~500ms**.
- Implemented a streamlined resource pipeline for Hadoop teams, enhancing capacity planning through dynamic data analysis. Optimized cluster settings based on team-specific path size limits, generating granular data for reporting and aggregation, thus scaling the cluster by **more than 30%** in capacity.

Media.net **January 2022 to July 2022**
Site Reliability Engineer Intern
Mumbai, India

- Conducted in-depth analysis of Java garbage collection times by scrutinizing server GC logs from a Hadoop cluster executing MapReduce applications. Utilized findings to fine-tune GC parameters, optimize heap size, resulting in a **10% improvement** in application performance and reduced memory consumption.

Projects

TerraNixLab **2024 - Present**

Managed **Proxmox**-based homelab infrastructure with **Terraform**, integrating **Nix** for Infrastructure as Code (IaC) principles Adding capabilities for provisioning of **containers**, **VMs** and **CNAME** entries in **Cloudflare**, through said IaC Codebase.

NebulaCrawler **2024**

A Kubernetes-driven web scraping architecture for a bespoke search engine. Pods are used for autonomous crawling, pushing scraped webpage data to Elasticsearch and URL data to Redis. Integrated Prometheus exporter SDK for monitoring and analysis of pertinent metrics, including scraped URLs and failures.

DiskDoctor **2024**

Developed a robust solution for comprehensive reporting, monitoring and alerting of disk health degradation across a 200-node **Proxmox** cluster, encompassing 800 disks including SSDs, HDDs, and NVMe. Integrated **Proxmox** and **Cloudera** API's for seamless management of disk infrastructure.

Education

LNM Institute of Information Technology, Jaipur **August 2018 to May 2022**
B.Tech in Computer Science

Extra Curricular Activities

PADI Open Water Scuba Diver **Jan 2024**

Qualified to a depth of 18m, can dive anywhere in the world using my own scuba gear.

Solo Travelling **2022 - 2023**

Started Solo traveling, exploring places and meeting new people. This vastly broadened my perspective and transformed my life in a major way.

Trek to Summit of Mt. Kedarkantha **Jan 2021**
12,500 ft at -10C

Summit to peak of Mt. Kedarkantha in Uttarakhand on a 6 day trek.