

SANTOSH PARSA

Staff Systems & AI/Automation Engineer | Unix/Linux & Enterprise Java Platforms

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PROFESSIONAL SUMMARY

Staff Systems & Automation Engineer with **13+ years of experience** designing, automating, and scaling mission-critical Unix/Linux environments, enterprise Java application tiers, and distributed cloud infrastructures. Proven track record across 7+ years at ServiceNow driving 99.99%+ availability, reducing MTTR by 42%, and eliminating operational toil through declarative configuration management, automated environment provisioning, and intelligent self-healing. Deep technical expertise in Linux/Unix administration, advanced Bash/KornShell & Python scripting, Apache/Tomcat middleware, JVM performance diagnostics (thread and heap dump analysis), CI/CD engineering toolchains (Ansible/AWX, Jenkins, Git, SVN, Artifactory), and batch workload scheduling (Control-M). Pioneer in bridging intelligent AI-driven automation with systems reliability, architecting capability-bounded autonomous SRE telemetry agents (ForgeOps AI) and Model Context Protocol (MCP) diagnostic infrastructure to shift reliability left and eliminate alert fatigue.

CORE COMPETENCIES & TECHNICAL SKILLS

- **Unix/Linux Systems Engineering:** Enterprise Linux Administration (RHEL, CentOS, Ubuntu), Unix Internals, Kernel Tuning, Process & Thread Scheduling, Systemd, Cgroups, eBPF Tracing, Performance Profiling (**perf**, **strace**, **vmstat**, **iostat**, **netstat**, **ss**, **tcpdump**), File Systems & LVM, Network Protocols (TCP/IP, DNS, HTTP/2, gRPC).
- **Automation, Scripting & Orchestration:** Advanced Shell Scripting (Bash, KornShell / **ksh**), Python (Automation, standard libraries, API toolchains), PowerShell, Ansible & AWX Tower (Modular Playbooks, Roles, Dynamic Inventories), Control-M (Batch Workload Scheduling, Job Dependency Chains, Automated Reruns), Terraform.
- **Java Application & Middleware Engineering:** Java/JVM Runtime Diagnostics (**jstack** Thread Dump Analysis, **jmap** Heap Dump Analysis, Eclipse MAT, GC Log Profiling, Memory Leak & Deadlock Resolution), Apache HTTP Server, Apache Tomcat (Configuration, Reverse Proxy, Clustering, SSL/TLS, Connection Pools), Non-Production & Staging Environment Engineering.

- **CI/CD, Build & Release Toolchains:** Jenkins (Declarative CI/CD Pipelines), GitHub, SVN, JFrog Artifactory, Automated Application Deployments, Environment Configuration Drift Prevention, Release Validation, Blue/Green & Canary Rollouts.
 - **Observability, SRE & Automated Remediation:** Splunk, Prometheus, Grafana, OpenTelemetry (Traces, Metrics, Logs), Automated Environment Health Checks, Availability Dashboards, Automated Remediation & Self-Healing Runbooks, SLI/SLO Governance, Error Budget Management, 24/7 Incident Command, Blameless Postmortems, ServiceNow ITSM.
 - **AI-Enhanced Automation (AIOps):** Model Context Protocol (MCP), LLM-Augmented Telemetry Pipelines, Autonomous SRE Diagnostic Agents, Automated Log Triage & Root Cause Analysis (RCA), Anomaly Detection, Prompt Injection Neutralization in Diagnostic Logs.
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PROFESSIONAL EXPERIENCE

ServiceNow | 2018 – Present (7+ Years)

Sr Staff Linux Systems Engineer | Mar 2025 – Present

Staff Systems Design Engineer | Mar 2021 – Mar 2025

Senior Linux System Administrator | May 2018 – Mar 2021

Hyderabad, India | Key driver of platform availability, non-production & production environment automation, and reliability engineering for ServiceNow's enterprise platform powering Global 2000 enterprises with 99.99%+ SLA.

Environment Provisioning, Automation & CI/CD Toolchains

- **Scalable Environment Automation:** Architected and implemented end-to-end automation solutions using **Ansible/AWX Tower, Jenkins, GitHub, and JFrog Artifactory** for non-production environment provisioning, configuration management, and application deployments across hundreds of Linux instances; reduced environment readiness time from 3 days to under 45 minutes.
- **Scripting Frameworks & Toil Reduction:** Developed robust automation frameworks and reusable utilities in **Bash, KornShell (ksh), and Python** to automate software installations, configuration synchronization, certificate renewals, and environment validation, cutting manual operational toil by over 50%.
- **Workload Scheduling & Batch Automation:** Integrated **Control-M** workload automation and batch scheduling workflows, configuring job dependencies, error-code triaging, automated reruns, and alert hooks to ensure reliable execution of enterprise platform data and maintenance jobs.
- **Deployment Consistency & Parity:** Standardized deployment toolchains and configuration templates across Dev, QA, Staging, and Production environments,

eliminating configuration drift and driving a 38% decrease in deployment-related release failures.

Java Middleware, Tomcat/Apache & Linux Systems Troubleshooting

- **Advanced Java & Middleware Support:** Provided tier-3 engineering support for complex, large-scale Java-based applications, Apache HTTP Server, and Tomcat application tiers; resolved intricate environment, connectivity, reverse proxy, and deployment issues.
- **JVM Diagnostics & Performance Tuning:** Led root-cause investigations of JVM performance anomalies, analyzing thread dumps (`jstack`) for deadlocks/thread contention, heap dumps (`jmap`, Eclipse MAT) for memory leaks, and tuning Garbage Collection (G1GC) and Tomcat connection pools to ensure sub-second response times.
- **Linux Kernel & Latency Profiling:** Spearheaded OS-level latency and saturation profiling using Linux diagnostic tooling (`perf`, `strace`, `eBPF`, network socket analysis), eliminating core platform bottlenecks and achieving a 28% reduction in p99 API latencies.

SRE, Observability, Automated Remediation & Incident Response

- **Automated Health Checks & Observability:** Engineered automated environment health checks, synthetic availability probes, and actionable operational dashboards using **Splunk, Grafana, and Prometheus**, delivering real-time visibility into platform stability, application performance, and service readiness.
 - **Automated Remediation & Self-Healing:** Built intelligent automated remediation daemons to proactively detect hung Tomcat threads, memory exhaustion, socket saturation, and stale lockfiles, triggering safe recovery workflows that slashed MTTR by 42%.
 - **SLO Governance & Alert Optimization:** Defined and measured SLIs/SLOs and Error Budgets across platform services; eliminated alert fatigue by deprecating static threshold alerts in favor of multi-window burn rate alerts linked to SLO consumption, cutting false-positive pager alerts by 65%.
 - **Incident Command & Blameless Postmortems:** Served as Primary On-Call Incident Commander for high-severity P1/PO outages, spearheading rapid triaging, cross-functional resolution, and blameless postmortems; converted recurring outage patterns into regression checks and automated runbooks, reducing recurring incidents by 35%.
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CtrlS Datacenters Ltd | Jul 2012 – May 2018 (6 Years)

Linux Engineer | Hyderabad, India

Enterprise Linux administration, middleware configuration, and infrastructure operations.

- **Linux Systems Administration:** Managed end-to-end Linux OS server maintenance, provisioning, kernel tuning, and multi-tier troubleshooting across heterogeneous enterprise datacenter environments.
 - **Web & Application Middleware:** Configured, tuned, and supported Apache HTTP Server and Apache Tomcat environments, managing virtual hosts, reverse proxies, SSL/TLS certificates, and application connection pools.
 - **Batch Automation & Maintenance:** Built and maintained automated operational maintenance workflows and scheduled batch jobs using **Bash, KornShell, and Cron**, automating system backups, user administration, log rotation, and server health checks across 300+ servers.
 - **Monitoring & Security Hardening:** Implemented server telemetry and health monitoring using Nagios and MRTG; hardened system security utilizing IPTables, CSF firewalls, and LVM logical volume management.
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KEY AI & AUTOMATION ENGINEERING PROJECTS

ForgeOps AI — Safety-First Telemetry & Reliability Platform |

github.com/santosh91parsa/forgeops

- **Autonomous SRE Agent:** Designed and engineered a capability-bounded reliability platform acting as an unprivileged, read-only autonomous SRE agent over computing infrastructure via Model Context Protocol (MCP).
- **Security & Policy Engine:** Implemented a deterministic policy engine and security boundary that prevents confused deputy execution and sanitizes diagnostic logs from indirect prompt injection, masking sensitive secrets (JWTs, API keys, DB credentials) prior to telemetry ingestion.
- **Host Telemetry Engine:** Built cross-platform host telemetry collectors (CPU load, memory breakdown, active socket mappings, process parentage trees) with zero external runtime dependencies.

Enterprise Mail & Incident Intelligence Pipeline |

github.com/santosh91parsa/DecodeAIwithSantosh

- **AI Incident Triage:** Engineered an automated incident and ticket triage ingestion engine for Linux environments; integrated intelligent routing to local on-premise

Ollama instances for confidential PII and frontier models for escalations, slashing API overhead by 85%.

FastMCP Linux Observability Server |
github.com/santosh91parsi/DecodeAIwithSantosh

- **Intelligent Telemetry Microservice:** Developed a lightweight Model Context Protocol microservice exposing realtime CPU, RAM, and storage health metrics over Server-Sent Events (SSE) and local stdio, providing zero-root diagnostic access for remote telemetry clients.

Python Systems Engineering & Automation Guides |
github.com/santosh91parsi/Pythonbasics

- **Systems Architecture:** Authored deep architectural guides on Linux file systems, standard CLI development (`argparse`), and clean modular automation architectures.

EDUCATION & TECHNICAL LEADERSHIP

- **Bachelor of Technology (B.Tech) in Computer Science / Engineering**
- **Technical Educator, "Decode AI with Santosh":** Publishing practical technical deep dives on Linux internals, automated environment engineering, and AI systems reliability for engineers.