Sunil Katwal

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Cloud Infrastructure/DevOps Engineer

- Certified cloud technology expert, committed team member and highly energetic individual with a powerful ability to lead projects, solve complex problems, and drive technology projects to completion.
- Computer Operating System Expert including all major Linux distributions and windows.
- Fluent in many programming/scripting languages including Python, Puppet, Ansible, Perl, Bash, HTML/CSS. Experienced in PHP and Ruby and has experience writing Ansible playbooks as well. Excited and interested in learning future languages and computing technologies.
- DevOps Engineer abilities for building overwhelmingly automated processes running on kubernetes, OpenStack and Azure, Oracle and AWS cloud environments driven by CI/CD pipelines that utilize Orchestration tools Terraform and configuration management tools such as Puppet and Ansible.
- Fundamental mastery of generic computer and network infrastructure technologies: POSIX & NT based operating systems, Directory and Identity Services (Active Directory, Kerberos/LDAP), TCP/IP, OSI model, security permissions, encryption/cryptography, CIFS/NFS storage protocols, routing and switching, 802.1q VLANs, FC and iSCSI SAN, firmware and patch management.

BUSINESS SKILLSET

- Project Leadership abilities
- Ability to draw and design physical and logical work flows
- Friendly and customer service oriented
- Effective global team member
- Extremely productive worker on a team and on my own
- Accurately quote and procure new hardware
- Ability to communicate clearly and efficiently
- Manage projects to completion
- Utilize change management systems effectively
- Follow documentation best practices
- Ability to train and transfer knowledge to others effectively

Professional Summary:

- 10+ years' experience in system administration of Linux (Red hat , Suse and open source), Windows (2008,2012,2016 and 2019)

- Experienced cloud engineer supporting application and infrastructure **migration** from on premise to public cloud (Azure, Oracle, AWS and GCP).
- Certified **Kubernetes Administrator , Terraform Associate , <u>Azure Architect Design (AZ-301)</u>** and **Azure Administrator Associate (AZ - 104)**
- Certified **Oracle Cloud Infrastructure Architect Professional**, **Oracle cloud Architect Associate**.
- **Kubernetes** administration using **Rancher and** deployment through **Helm .**
- **Containerziting** application and **migration** of legacy application.
- Design and secure cloud infrastructure/application using **hub spoke design**.
- Experienced in Cloud Networks and Infrastructure design **secure and cost-effective** solution.
- Securing application running on Premise and Cloud infrastructure using different security agent tools, **CyberArk**, **SiteMinder**, **ping federate** and **OAUTH** implementation.
- **In place upgrade** for hundreds of VMs from RHEL6 to RHEL 7, RHEL7 to RHEL 8.
- Infrastructure automation using **Terraform**, **Ansible, Puppet** and **CLI**.
- Experience with both physical and Virtual environment running thousands of servers running on different OS and **VCS clusters**.
- Automated server provisioning using cobbler and managing the patches using **satellite servers**.
- DB virtualization using **Delphix** and **Actifio**.
- Experience in application install configure and support Dev Ops Application (**Jenkins**, Jira, Nexus, Git, Subversion, **Ansible, Ansible Tower/AWX, Puppet**, and Code Collaborator, **Terraform**).
- CI/CD for application deployment and infrastructure provisioning.
- Working knowledge on **docker** containerization.
- Experience in OpenStack and CloudFoundry.
- Built 188 node Linux HPC cluster running CentOS 6.7 on HP rack-scale Apollo hardware using HP CMU for provisioning
- Build, manage, and maintain RedHat/CentOS HPC servers on a global scale (HP rack-scale and blade hardware) and Oracle ZFS NAS type storage systems connected via Infiniband (QDR and FDR).
- Focus heavily on Configuration Management using Puppet Enterprise, Ansible and Devops approaches to help automate and streamline previously manual everyday maintenance and administration tasks.
- Defined Python application packaging and deployment best practices within our team using setuptools for packaging, Puppet for deployment, and Devpi for package distribution.
- Experienced in managing and maintaining Jenkins CI workflow jobs and scripting driven by GitHub web hooks.
- Co-wrote and maintain an auditing tool written in Python/Flask that collects access and user/group metrics and provides users the ability to certify privileged access to all Unix/Linux servers globally.
- Built a global Zabbix environment using Puppet which is used to monitor and pull metrics via SNMP. Also I am an active user and supporter of the Zabbix application/infrastructure.
- Well versed in the following languages: Python, Puppet, Perl and Bash
- Ability to implement Object Oriented strategies and best practices.

- Maintain and Troubleshoot global server infrastructure including sizable RHEL 6/7 VMWare based deployments, RHEL 6/7 HPE physical servers, Solaris 10 global zone and non-global zone servers, fibre channel, NFS, CIFS, and iSCSI storage layers.
- Intimately familiar with Puppet Enterprise control repo environments utilizing r10k/Code Deploy, peer review based version control (Git/GitHub), and Hiera.
- Architecting and puppetizing the centrol logging system with **rsyslog** and **splunk**.
- Experience in application install configure and support Dev Ops Application (Jenkins, Jira, Nexus, Git, Subversion, Puppet, and Code Collaborator).
- Experience supporting Storage technologies with Unix/Linux and Windows systems like EMC and NetApp with **Multipathing.**
- Extensive experience in **kernel Tuning**, Performance Analysis, Load Balancing.
- Setup of remote connection tools like **RSC, RDP, Citrix, VPN.**
- Creation of a Virtual Server environment using **RH-Enterprise Virtualization, VMWare ESX 5.1 and Solaris Zones**.
- Setup of Enterprise Monitoring Tools like Nagios, BMC Patrol, Tivoli, Site Scope, Zabbix.
- Networking setup and support of TCP/UDP and other application layer protocols like SMTP, DNS, LDAP, NIS, NIS+, NFS, DHCP etc.
- Installation and support of 3rd party software systems on UNIX & Linux like **Web Servers, Application Servers, Middleware and Databases.**
- Comfortable in working in a **Data center environment** – swapping of disks, Attaching/Detaching storage, increasing Utilization.
- Managing the Licenses for Enterprise Applications using **FLEXIm**, providing Floating Licenses.
- Installing, Configuration, Troubleshooting and Managing Active Directory, OU, Group Policy in Windows Server 2003 and 2008 server architecture.
- Good experience in LAN/WAN networking architecture and TCP/IP protocol stacks.
- DNS/DFS/DHCP/WINS Standardizations and Implementations.
- Excellent leadership qualities, good communication skills and interpersonal skills, extremely self-motivated, quick learner, team player.

Technical Skills Summary:-

Operating systems:	IBM AIX; UNIX Solaris Red Hat, Centos6, 7 8, Windows
Cloud:	Azure, Oracle, AWS, GCP
Containerazation:	Kubernetes,Docker,Helm, Rancher,LongHorn
Automation	Terraform (Open Source and TFE), Ansible (Tower + AWX), Puppet, Python
Security:	TLS 1.2, PCI compliance, Palo Alto, Akami, OS baseline security, Tenable, OKTA, CyberArk, DSM, Security Agents
Data Migration:	Goldengate, Data Guard
Programming Languages:	Python, Shell, Perl

Protocols and services:	HTTP, SMTP, NFS, DNS, NIS, RAID, DHCP, TCP/IP, Ethernet, TokenRing, FDDI, VPN, Telnet, FTP, SAMBA 2.x.
Ticketing Tools:	HP Service Manager, HP Asset Manager, and Remedy Tool, Jira ,
Monitoring Agents:	Zabbix, Patrol, Nagios, Tivoli Performance Viewer, SiteScope, Dynatrace, OEM, OMC Moogsoft Netdata, ITM-Tivoli Monitoring, BMC Partol
Central Logging:	Ryslog, Splunk , cloud Logging Solutions
Source code management [SCM] Tools:	SVN, Git, GitHub.
Python Framework:	Django, Flask,
Repository Management Tool:	Pulp, Katello.
Cluster:	HPC, Hadoop infrastructure.
Linux Provisioning Tool:	Cobbler, Satellite and other cloud native
Application Support :-	WANdisco, Nexus, CodeCollaborator, Jenkins, Jira.

PROFESSIONAL EXPERIENCE

Company:- American Airlines
Position:- Sr. Cloud Engineer   **Oct 2017 to Current**

Responsibilities:-

- Cloud engineer supporting application running on OCI, Azure and on prem infrastructure.
- Architect cloud-based application and infrastructure using hub spoke design.
- Infrastructure automation with Terraform (Open Source and TFE) and Ansible.
- Working on DevOps model with 99% scriupted automated Infrastructure.
- Kubernetes administrator and Security Ninja for the product.
- Containerazing legacy application and migrating to the Kubernetes.
- Cloud Networks and Infrastructure design secure and cost-effective solution.
- Application and Infrastructure migration from on-premise to Cloud and vice versa.
- Design, Secure, support and migrate multi million revenue generator application to new sets of hardware oracle PCA (Private Cloud Appliance), Exadata and ZFS.
- Securing application running on Premise and Cloud infrastructure using different security agents and CyberArk implementation.
- Support and maintain over 1000 VMs on Prem and Cloud Infrastructure running multiple application for different business verticals.
- Working closely with application team to develop a secure application on both cloud and on prem infrastructure.
- Upgrading and maintaining physical servers running on production environment.
- In place upgrade for more than 500VMs from RHEL6 to RHEL 7.
- Physical server and VCS upgrade with minimal downtime for critical application.

- Plan, design and migration application running from external vendor hosted datacenter to on prem cloud foundry.
- Multiple POCs for different application and infrastructure.
- Delphix and Actifio setup for DB virtualization to support CI/CD deployment for application.
- UCD (IBM) and Jenkins (Siebel and Java) based application for continuous deployment.
- Promoting infrastructure as code for on Prem and Cloud infrastructure.
- Migrating application running on legacy hardware to microservices to make it cloud native to run on docker container.
- Setup and manage inter cloud network with app running in Azure and DB running in Oracle Cloud.
- Manage regular upgrades using a continuous delivery methodology.
- Make the system TLS 1.2 and PCI compliance on all the environment.
- Working closely with security team to review the architecture and security of application running on premise and cloud.
- SiteMinder, PingFederate and OAuth integration to secure application.
- Addressing security vulnerabilities and EOSL application and hardware.
- Create and update GPO as per the Application requirements.
- Lead the initiavities to patch RHEL VMs and Physical servers.
- Lead the project and implement the TLS 1.2 compliance for the team.
- Build RAC cluster on both on physical and virtual servers.
- Worked with internal network team to build a VPN tunnel with the Oracle Datacenter.
- Co-ordinate and build new VMs for EOL servers.
- Mitigate different vulnerabilities on RHEL servers.
- Configure different agents on the server.
- Submit the firewall request and review as per need for the application and servers.
- Work on different request from the business and user on daily basis.

Environment:

Kubernetes, Rancehr, Helm, Calico, AquaSec, GitHub Actions, Azure, OCI, Cloud, Siebel, UCD, Jenkins, Monitoring, Oracle, Docker, Terraform, RedHat, Ansible, Apache, IIS, Tomcat, Oracle 12 and 19C, SQL Server 2013, Windows, Application, cloud and Datacenter Migration,

Company: - John Deere
Position: - System Analyst   **June 2012 to Oct 2017**

Responsibilities:

- Build, manage, and maintain RedHat/CentOS HPC servers on a global scale (HP rack-scale and blade hardware) and Oracle ZFS NAS type storage systems connected via Infiniband (QDR and FDR).
- Focus heavily on Configuration Management using Puppet Enterprise, Ansible and Devops approaches to help automate and streamline previously manual everyday maintenance and administration tasks.
- Maintains and contributed source code and documentation to an HPC cluster creation tool written in Python to provide OnDemand instance creation as an alternative to SpotFleet using AutoScaling Groups, DynamoDB and EFS features in AWS.

- Defined Python application packaging and deployment best practices within our team using setuptools for packaging, Puppet for deployment, and Devpi for package distribution.
- Experienced in managing and maintaining Jenkins CI workflow jobs and scripting driven by GitHub web hooks.
- OKTA POC for server and application.
- Built a global Zabbix environment using Puppet which is used to monitor and pull metrics via SNMP. Also I am an active user and supporter of the Zabbix application/infrastructure.
- Well versed in the following languages: Python, Puppet, Perl and Bash
- Maintain and Troubleshoot global server infrastructure including sizable RHEL 6/7 VMWare based deployments, RHEL 6/7 HPE physical servers, Solaris 10 global zone and non-global zone servers, fibre channel, NFS, CIFS, and iSCSI storage layers.
- Currently leading an initiative to improve the patching and communication process for 3,500 Linux servers.
- Intimately familiar with Puppet Enterprise control repo environments utilizing r10k/Code Deploy, peer review based version control (Git/GitHub), and Hiera.
- Highly skilled at troubleshooting complex server, storage, network, DNS, performance and application issues.
- Build a physical and virtual server upon request from the business.
- Support different application infrastructure.
- Install, configure and upgrade **Jenkins**, **WANdisco (multisite-plus, multisite)**, **Jira**, **Code Collaborator** and **Nexus** on Redhat Linux Machine.
- Install and upgrade different software on **Windows server (2003, 2008 and 2012**) for Jenkins slave.
- Install, configure and upgrade different software on Linux machine.
- Working on migrating server from data center to AWS cloud.
- Support user request and day to day activities.
- Resolved different Jenkins master, slave and build related issue.
- Install and configure apache, samba on Linux machine.
- Supplied data on firewall issue to the vendor and with assistance from the vendor, advanced towards full resolution of the issues and documentation of the process.
- Rollout team puppet roles on all the servers supported by the team in all environment (Lab, Dev, Qual, Cert and Production).
- Creation, migration of repository, specific folders from one repository to another in Subversion.
- Configure windows and Linux server to monitor in zabbix server.
- Setup monitoring of application in Sitescope.
- Successfully migrated WANdisco application Multisite to Multisite-plus.
- Co-ordinate with different team (Web Services, Storage and Server) to resolve different issue.
- Create and update the SOP, SharePoint document for different application.
- Routine on call for all the application supported by the team. Resolve the issue following the SOP document and recovery steps for each application.
- Document the process for future reference.
- Create support ticket with vendor on different application related issue.

Environment:

Red Hat Linux 7/6/5, Apache, AWS, Tomcat, Oracle, Windows environments (2003, 2008 & 2012), Jenkins, Subversion, Puppet, Zabbix, Sitescope, Apache, Tomcat

Company: - Softtech Foundation
Position: - Sr. System Administrator   **Jan 2007 to Dec 2011**

<u>**Responsibilities:**</u>

- Gathered detailed requirements (functional and business) and use cases
- Involved in upliftment of RHEL 5.2 to RHEL 5.4 and Solaris 8,9 to Solaris 10.
- Created Virtual Guests on the host systems using the Red Hat Virtualization Manager and Hypervisor.
- Created and managed the virtual images from NFS/iSCSI storage pools
- Installed and configured Directory Server, Directory proxy on Solaris 10 and Identity Synchronization for Windows
- Migrated Directory Server 5.2 to DSEE 6.3
- Setup and tuning of Red-Hat **Kernel parameters** for better performance.
- Responsible for applying servers patches using **Patch Center**.
- Daily support which includes installation, configuration and troubleshooting of Red-Hat server environment.
- Install Vendor **binaries** and **proprietary software**, **utilities**, **compilers**, **databases** & **licensing**.
- **Installation of Websphere 6.1 on Solaris 10** and its configuration with oracle database
- Wrote scripts to monitor and manage **SystemOut.log, SystemErr.log and native java error logs in Websphere.**
- Executed SQL commands/scripts/stored procedures against the Database.
- Compiled and packaged **Apache 1.3.x** with Certificate Authority using **openssl** and **mod_ssl** & good in debugging apache related issues.
- Configuring, tuning and maintaining **Tomcat Application server**.
- Installation and administration **DNS**, **FTP**, **NIS** & **DHCP** servers.
- Supported **Oracle 11g databases** and knowledge of Oracle Automatic Storage Management (**ASM**).
- Worked on Windows **Virtual Environment**.
- Netbackups on windows and batch Jobs, Tidal **agent** management.
- Batch Scheduling in Windows and worked on **IBM blade** servers.
- Routine server **OS installs**, **old server OS upgrades** using Linux Kick start.
- Handled and troubleshoot issues regarding **Samba Servers**.
- Administration of **qmail** and **Sendmail** server.
- Responsible for Storage management, NIS and NFS management.

- Managed Information security Compliance activities, Linux server security administration & Monitoring system Performance.
- Provides **enterprise risk assessment mechanisms** and reporting.
- Responsible for **Production Servers** Deployments.
- Maintaining **incremental**, **weekly** and **monthly** backups.

Environment:

Red Hat Linux 6/5, IBM AIX 5L/6, Web Sphere 6.x, Web logic 8, Web Sphere Portal 5.x, Apache, IIS, Tomcat, Oracle 9i,SQL Server 2000, Windows environments

Education:

MBA- MIS (Mississippi College)
Bachelor in Computer Science (Tribhuvan University)

Certification
Certified Kubernetes Administrator
AZ-301 Microsoft Azure Architect Design
Microsoft Certified: Azure Administrator Associate (AZ-104)
Oracle Cloud Infrastructure Architect Professional
Oracle Cloud Infrastructure Architect Associate
Certified Kubernetes Security (In progress)