SANTOSH PAWAR

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Professional Summary

Effective project leader and problem-solver with advanced programming skills and a hardworking mentality. Seeking to apply expertise and extensive experience in software engineering to take on a challenging new role with a growing team.

Skills

- Chef
- MongoDB
- DevOps
- Zabbix
- Terraform
- Bluemix
- PowerShell
- Spring API Dev
- OpenShift

- Core Java
- Cloud Computing
- Elastic Search
- Docker
- Jenkins
- Cloud Soft AMP
- Web Services
- MySQL
- DevSecOps

- Ansible
- Golang
- Shell Scripting
- Concourse CI
- Splunk
- Requirement Analysis
- DB2
- AWS
- Kubernetes

Certifications

- Certified Kubernetes Administrator (CKA) (2021)
- AWS Certified Solution Architect - Associate (2019)
- AWS Certified Cloud Practitioner (2019)
- Certified Chef Developer (2017)
- IBM Cloud Platform Application Development 1 (Bluemix) (2016)
- Foundation of Tivoli Process Automation Engine (TPAE) (2010)
- IBM Tivoli Provisioning Manager (TPM) 5.1 (2009)
- Sun Certified Programmer for Java 6.0 (2009)

Work History (16+ yrs)

Architect, Developer and DevOps Engineer   1/2020 till date **(1Y7M)**

Project: OpenShift Migration of IBM Financial Transaction Manager
Persistent Systems Ltd. – Pune, MH, India

Client: IBM US

- Understanding the architecture, deployment model, integration and all other aspects of **IBM Financial Transaction Manager (FTM)** product.
- Identified the components that needs to be containerized.
- Design of **new containerised architecture model** with all components, their interactions, storage allocations, services, routes, integration and access points etc.
- Worked with team to create Docker images for all the components in FTM. 16+ Liberty based **J2EE images**, 4 JRE based **J2SE images**, 3 **MQ/ACE images**.
- Created **DB2 database Docker images** to be used in development environment.
- Complete ownership of **Jenkins** based **CICD pipeline design and implementation**.
- Working as a **System Architect** for porting IBM FTM for Check product from WebSphere and VM based deployment model to Liberty based deployment to OpenShift cluster. Identifying the porting scenarios, changes required in various application components, identifying unsupported components, migration aspects etc.
- Worked on enhancing the **OpenShift templates** used for deployment of FTM application.
- Provided iptables based solution to access the applications using NodePorts.
- Building **Jenkins** pipelines to deploy application in OpenShift using **Operators**.
- Worked on **Security Certification** of migrated solution. This involves security of application, Liberty, Java etc.
- Worked on **Docker Image Signing** and enabling OpenShift Image verification.
- Configuring the **OpenShift SCCs** based on customer security specifications on OpenShift clusters.
- Worked on various security findings in **WebSphere Liberty** applications.
- Configuration changes for Supporting **TLSv1.3** in Java and Liberty applications.
- Design and POC of Init container-based integration with **HashiCorp Vault** from FTM pods.
- Participated in discussions with FTM customers for various requirements like Custom deployment methodology, Vault integration, Logging solution, External certificate management, mTLS support etc.
- Worked on analysing and fixing the Docker image scan issues reported by **IBM VA scan**, **RedHat certification scan**, **Aqua scan** etc.
- Worked on the **security design** of the OpenShift migrated deployment in terms of intercomponent communications, certificates, Ciphers etc.
- **Docker image optimization** by following the industry standards and best practices.
- Working with the end customer to understand the **customer requirements**, and driving them to the closure in terms of implementation etc.
- Integrating the application with **IBM Certificate Manager** for certificate lifecycle management use case.

Architect, Developer and DevOps Engineer   09/2017 to 11/2019 **(2Y2M)**
Project: Data Center Automation
Persistent Systems Inc. – Dallas, TX, USA

Client: Citigroup US

- Implemented **Canary Deployment Model** using **Chef** and **Java**. This model allows Chef users to deploy the updated cookbooks in production environment in controlled manner.

- Generate transaction logs by extracting the last chef-client execution from chef-client log file within the **Chef report handler.**
- **Chef Client 13** and **14** roll out on Chef nodes. Worked on enabling Chef 13 version at client location that has more than **65K+ nodes**. This involves updating the cookbooks to remove/update deprecated code and use new coding constructs, provide instructions for other cookbook development teams, use Foodcritic, Cookstyle rules. Co-ordination with various engineering, operations, security, cloud teams to certify, release the new Chef client version.
- Plan and handover phased roll-out process to Admins team.
- Adoption of different cookbook development models like **Role Cookbook Model** and **Wrapper Cookbook Model** to allow cookbook developers to develop and roll-out the cookbook effectively
- Implemented cookbook promotion pipelines for UAT and Production environment using **CloudBees Jenkins**. This involves code analysis, syntax check, standards check, lint check, approval step, risk analysis of runlist cookbooks etc.
- **Integration with 'Test Automation System'** to integrate it with portal for automated provisioning of test systems pool and allowing user to reserve it for cookbook development and testing. Auto provisioning of test nodes in the pool based on available nodes threshold value
- **Ansible Security Certification** - Registering the product with different processes and registries within client environment; Creating various IDs to be tracked for VTM IDs, fixes, CVEs, patches etc.; Install and Evaluate the Product; Preliminary Security Assessment; Ansible Coexistence with Other Tools; Vulnerability Assessment and Compensating Controls; SSH public key distribution; Performing security certification with internal ISO team
- **Ansible Infrastructure Hardening with Illumio** - Defined UI Jumphost and SSH Jumphost; Defined firewall rules in Illumio.
- **Docker container based Ansible Playbook Dev Workstation** - Developed a RHEL7 docker image that contains all required tools (Ansible core, Ansible lint, Molecule) and custom scrips (Initialize playbook repo from template that uses role, Galaxy metadata file, custom metadata file, README.md; Syntax and lint checks; Test on nodes by dynamically adding them into hosts inventory; Bitbucket code commit). The workstation is installed with VNC server, Xfce desktop, XRDP to allow remote desktop from RDP client on user's Windows desktop. Embedded VSCode IDE with pre-configured workspace, Ansible plugin for syntax highlighting, auto-completion features. Developed wrapper API for OpenShift to launch workstation container in OpenShift.
- Using **HashiCorp Vault** with Jenkins for Ansible Tower interaction.
- **Ansible Tower AWS EC2 dynamic inventory** and configuration management of EC2 instances from Ansible Tower.
- Designed and implemented **SSH Key rotation policy for Ansible Tower** that manages 90K nodes. This involves multiple approaches using Chef, RPM package and Ansible itself.
- Designed and implemented a process to get **temporary root access to AWS instances** managed by Ansible.

Architect and Developer	05/2017 to 08/2017 **(4M)**

Project: Dockerization of IBM Master Data Management
Persistent Systems Ltd. – Pune, MH, India

Client: IBM US

- **Cloudification of IBM MDM**

Most of the customers now a days are going away from maintaining their own infrastructure and migrating their workloads to the hybrid cloud. Worked on cloudification of IBM MDM by providing CAM templates on IBM Blueprint for deploying it in Bluemix SoftLayer and AWS Clouds. CAM templates are Terraform templates that helps to define infrastructure as a code for various cloud environments as well as virtual infrastructures.

- **Dockerization of IBM MDM**

We wanted to evaluate if IBM MDMCE can be Dockerized as it was also demanded by the

customers to run MDMCE as Docker containers. This would help them ease the deployments, upgrades, support of the application. Worked on creating the docker images for IBM DB2, IBM Java, IBM WebSphere and the MDM product. The initial release was having all MDM components in single container. Later MDM team decoupled the components and we created the separate docker images for those components.

Senior Developer and DevOps Engineer   11/2016 to 04/2017 **(5M)**

Project: IBM Automated Modular Management Services
Persistent Systems Ltd. – Pune, MH, India

Client: IBM US

- Member of DevOps team handling the operations of the Dockerized micro-services during development and production deployment phases.
- Participated in design and implementation of Continues Integration and Continues Deployment using Travis CI, Concourse CI, Terraform tools.
- Part of implementation, testing, code review and deployment of Portal UI, and API application using Golang.
- Integrated services with tools like HashiCorp Consul, HashiCorp Vault, Memcached
- Set up master-slave replication with Postgres database.
- Performed UI and API load/performance testing using open source tool Siege.

Senior Developer and DevOps Engineer   08/2014 to 10/2016 **(2Y2M)**

Project: IBM Automated Modular Management Services
Persistent Systems Inc. – Austin, TX, USA

Client: IBM US

- Complete ownership of Zabbix based monitoring service for Cloud customers.
- Developed Zabbix templates for Linux OS, IBM HTTP server, DB2, WebSphere, MS SQL Server.
- Chef cookbook development for automating the setup of Automated Modular Management (AMM) services in SoftLayer.
- Dockerized these services in development and production with multiple Docker containers running various service components linked to each other.
- Used Jenkins for build and deployment of services.
- Implemented stunnel to secure the communication between Zabbix server and Zabbix agents.
- Worked as a L3 team member to support AMM services for a customer.

Automation Engineer   06/2013 to 07/2014 **(1Y1M)**

Project: IBM Automated Modular Management Services
Persistent Systems Ltd. – Pune, MH, India

Client: IBM US

- PowerVC Integration in IBM Smart Cloud Enterprise+ with support for VM Provisioning, VM De-
- provisioning, VM Resize (CPU, Memory and Disk), Add Disks to VM, Remove Disks from VM, Manageable VM (Agent Installation), Start VM, Stop VM, Restart VM.
- OSGi Plugin Development for Listing virtual machines in SoftLayer, Create a new virtual machine,
- De-provision existing virtual machine.
- Worked on different SoftLayer APIs while working on IBM Modular Managed Services.

- Monitoring and Health Check services using open source products like Sensu (single-tenant),
- Zabbix (multi-tenant).
- Worked on Chef 11 for cookbook development.
- Extensive skills in Zabbix Monitoring Solution.
- PCMAE and Cloudify for Cluster Auto-scaling.

Senior Developer   11/2012 to 05/2013 **(7M)**

Project: IBM Tivoli Automation Manager Dev and L3
Persistent Systems Ltd. – Pune, MH, India

Client: IBM US

- Worked on different areas of IBM Tivoli Service Automation Manager product while working on PMRs as part of TSAM Dev+L3 team.
- Updated the existing automation code implemented in Java.

Workflow Developer   06/2011 to 10/2012 **(1Y5M)**

Project: IBM Tivoli Provisioning Manager
Persistent Systems Ltd. – Dallas, TX, USA

Client: Citigroup US

- Worked with customer to understand requirements and provide custom workflows in TPM.
- Worked with operations team to resolve the production issues in TPM and DB2 database.

Senior Developer   07/2010 to 05/2011 **(11M)**

Project: IBM SCE+ Dev
Persistent Systems Ltd. – Pune, MH, India

Client: IBM US

- Collaborated in team environment to produce high-quality automation processes within IBM Smart Cloud environment.
- Operations Support Service level design, implementation of new features using Java and scripts like bash, ruby.

Onsite Solution Engineer   06/2008 to 06/2010 **(2Y)**

Project: IBM Tivoli Provisioning Manager
Persistent Systems Ltd. – Warren, NJ, USA

Client: Citigroup US

- Performed initial client assessment and analysis for various datacenter automation requirements.
- Involved in TPM deployment and configuration activities.
- Worked with various teams at client site to understand their specific use cases and suggest and implement solution for those using Tivoli Provisioning Manager.
- Design and implementation of the Promotion Process for TCDrivers which involves the promotion of tcdrivers developed by various teams from Dev to UAT environment, providing tools and processes to complete the UAT testing, promoting those further to Production. This involves writing large number of scripts using bash, ruby. Involved SCP configuration using SSH

keys, setting up Apache HTTP server as file repositories, setting up rsync processes between servers.

Workflow Developer   01/2005 to 05/2008 **(3Y5M)**

Project: IBM Tivoli Provisioning Manager
Persistent Systems Ltd. – Pune, MH, India

Client: IBM US

- Understanding the challenges in automating large enterprises and provide solutions to customers for various automation use cases like, OS Builds, Software Deployments, Patch
- Management, Security, Inventory Scans etc. using Tivoli Provisioning Manager.
- Developed TPM automation workflows for MS Virtual Server, IBM Tivoli Monitoring, Linux and AIX operating systems using IBM proprietary Jython programming language.

Workflow Developer   10/2007 to 11/2007 **(2M)**

Project: IBM Tivoli Provisioning Manager
Persistent Systems Ltd. – Adelaide, Australia

Client: IBM Australia (Data Action Pty Ltd)

- Worked as an onsite developer for troubleshooting the Tivoli Common Agent related issues at customer site.
- Resolve Tivoli Common Agent restart problem.
- Resolve software installation issues.
- Resolve Tivoli Common Agent Discovery failure.
- Setup SDI for 100 customer computers and 12 external computers.
- Reduce the software distribution time to two hours with enhanced troubleshooting support.
- Provide workflows for log cleanup on endpoints.

Developer and Solution Engineer   09/2006 to 12/2006 **(4M)**

Project: IBM Tivoli Security Compliance Manager
Persistent Systems – Little Rock, AR, USA

Client: IBM US (Alltel Wireless)

- Worked as an Onsite consultant for IT Security Compliance.
- Deployment of TSCM product in different environments and integrated with Tivoli Access Manager for authentication.
- Provided product training to client team.
- Setting up the compliance scans using built-in collections as per ITCS104 security standards.

Java Developer   07/2004 to 12/2004 **(6M)**

Project: IBM Tivoli Security Compliance Manager
Persistent Systems Ltd. – Pune, MH, India

Client: IBM US

- Developed robust Java code for security applications.

- Understanding various aspects of operating systems and find out different ways to identify security configurations of Linux, AIX, Solaris operating systems.
- Collector Development in Java/C/C++ for systems like Windows, UNIX and Applications like DB2 etc based on ITCS104 requirements.
- Worked at customer location to implement IBM Security Compliance Manager (SCM). It involves installing the product, designing the security architecture, identifying required collectors, setting up the server-client communication

Education

Master of Science: Computer   **2004**
Pune University - Pune, MH, India

Bachelor of Science: Computer   **2002**
Pune University - Pune, MH, India