LEARN WELL

TECHNOCRAFT

DEVOPS
SYLLABUS

11th year of Accomplishments

AUTHORIZED GLOBAL CERTIFICATION CENTER FOR MICROSOFT, ORACLE, IBM, AWS AND MANY MORE.

08411002339/07709292162

info@dw-learnwell.com

www.dw-learnwell.com

203, Supreme Center, ITI Road, Above Pizza Hut,

Near Parihar Chowk, Aundh, Pune

ACHIEVEMENTS FROM TRAINING

- CANDIDATE WILL BE ABLE TO SHOW 2-3 YEARS EXPERIENCE AFTER TRAINING.
- REAL TIME SCENARIOS, CASE STUDIES, PROJECTS INCLUDED.
- REAL TIME DATA PROVIDED FOR PRACTICE.
- SOFTWARE WILL BE INSTALLED ON CANDIDATES MACHINE.
- INDIVIDUAL 1 ON 1 DISCUSSIONS FOR RESUME MODIFICATIONS.
- LEARN FROM INDUSTRY EXPERTS.
- GLOBAL CERTIFICATION PREPARATION.
- APPEAR FOR GLOBAL CERTIFICATION AT LEARN WELL TECHNOCRAFT ITSELF.
- GET DISCOUNTED CERTIFICATION VOUCHERS.
- AUTHORIZED GLOBAL CERTIFICATION CENTER FOR PEARSON, PSI, KRYTERION.

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RECOMMENDED

COURSES BEST SUITED WITH WITH DEVOPS

- **AWS**
- **AZURE**
- **LINUX**

DevOps Syllabus

Intro to GCP

- Google Cloud Platform
- Using GCP

Intoduction to DevOps

- What is Devops
- SDLC models
- Why Devops
- DevOps framework
- Devops and Agile
- Configuration management
- Continuous Integration and Deployment

DevOps Tools

- Version control system
- quality management tools
- build orchestration tools
- deployment and configuration tools
- Monitoring tools

Linux essentials

- Unix and linux difference
- Linux File system structure
- Basic linux/unix commands
- Changing file permissions and ownership
- Types of links soft and hard link
- Find and kill the process with id and name
- Package installation using RPM and YUM

GIT- Version control system

- GIT overview
- GIT architecture
- GIT Basics
- GIT on different OS
- GIT essentials
- GIT repositiory
- GIT clone, fetch, pull
- GIT branching

Quality Management tools

- SonarQube Overview
- SonarQube architecture
- Quality profiles
- Quality gates
- Administration
- sonar plugins

CI/CD Orchestration

- Introduction about Jenkins
- Build Cycle
- Jenkins Architecture
- Obtaining and installing Jenkins
- Installing and configuring Jenkins using WAR and RPM on Java
- Maven Installation
- Exploring Jenkins Dashboard
- Jenkins jobs
- Creating Jobs
- Running the Jobs
- Setting up the global environments for Jobs
- Adding and updating Plugins
- Disabling and deleting jobs
- Jenkins Build Deployments
- Understanding Deployment.
- Tomcat installation and configuration
- Securing Jenkins
- Authentication
- Jenkins Plugin
- Authorization
- Confidentiality
- Creating users
- Best Practices for Jenkins

VAGRANT

- Introduction
- Why and what is Vagrant
- Uses of Vagrant in an environment
- Alternatives of Vagrant
- Vagrant versions
- Installation and Configuration
- Installing Virtual box
- How to install Vagrant on Windows and Linux
- Configuring Vagrant
- Provisioning with Vagrant
- Creating first VM with Vagrant
- Operations on the VM
- Connecting to the VM
- Add required Images to Vagrant
- Creating network and port forwarding using Vagrant

Chef for configuration management

- Overview of Chef
- Common Chef Terminology (Server, Workstation, Client, Repository etc.)
- Servers and Nodes
- Chef Configuration Concepts
- Workstation Setup
- How to configure knife
- Execute some commands to test connection between knife and workstation
- Organization Setup
- Create organization
- Add yourself and node to organization
- Test Node Setup
- Create a server and add to organization
- Check node details using knife
- Node Objects and Search
- How to Add Run list to Node
- Check node Details
- Environments

- How to create Environments
- Add servers to environments
- Roles
- Create roles
- Add Roles to organization
- Attributes
- Understanding of Attributes
- Creating Custom Attributes
- Defining in Cookbooks
- Data bags
- Understanding the data bags
- Creating and managing the data bags
- Creating the data bags using CLI and Chef Console
- Sample data bags for Creating Users.
- What is Puppet?

Puppet for configuration management

- What is Puppet?
- How puppet works
- Puppet Architecture
- Master and Agents
- Puppet terminology and about Manifests
- Installing Puppet
- Configuring Puppet Master and Agent
- Connecting Agents
- Puppet Master
- Puppet configuration files
- Puppet Language Basics
- The declarative language
- Resources
- Using Basic resources like file,exec,package service Resource
- Collectors
- Virtual Resources
- Exported Resources
- Manifests
- Modules and Classes
- Class Parameters

- Defined Type
- Templates
- Static Contents Explosion
- Using Dynamic Content with Templates
- Templates Overview
- Example Code Manifests/Modules
- NTP Module
- Users Module
- SSH
- Sudo
- Puppet Forge
- Understanding the Puppet Forge
- Module structure
- Install LAMP with preexisting modules
- Installing Apache Tomcat with Puppet Modules

Docker– Containers.

- What is a Docker
- Dockers vs. Virtualization
- Architecture
- Docker Architecture.
- Understanding the Docker components
- Installation
- Installing Docker on Linux.
- Understanding Installation of Docker on windows.
- Some Docker commands.
- Provisioning
- Docker Hub.
- Downloading Docker images.
- Uploading the images in Docker Registry
- Understanding the containers
- Running commands in container.
- Running multiple containers.
- Custom images
- Creating a custom image.
- Running a container from the custom image.
- Publishing the custom image.
- Docker Networking

- Accessing containers
- Linking containers
- Exposing container ports
- Container Routing
- Docker Compose
- Installing The Docker compose
- Terminology in Docker compose
- Build word press site using Docker compose

Ansible

- Introduce to Ansible
- Describe the terminology and architecture of Ansible.
- Install Ansible and run ad hoc commands.
- Write Ansible plays and execute a playbook.
- Describe variable scope and precedence, manage variables and facts in a play, and manage inclusions.
- Manage task control, handlers, and tags in Ansible playbooks.
- Create and manage roles.
- Configure connection types, delegations, and parallelism.
- Manage encryption with Ansible Vault.
- Troubleshoot the Ansible control machine and managed nodes.
- Implement Ansible Tower
- Implement Ansible in a DevOps environment using Vagrant.

Also Available

- Internships - Paid / Free
- Internship certifications on successful completion
- Final year College Projects on Latest Skills
- Special Project batches
- College Seminars