



DevOps Plus Training

About Cognixia

Cognixia- A Digital Workforce Solutions Company is dedicated to delivering exceptional trainings and certifications in digital technologies. Founded in 2014, we provide interactive, customized training courses to individuals and organizations alike, and have served more than 100,000 professionals across 37 countries worldwide.

Our team of more than 4,500 industry experts facilitate more than 400 comprehensive digital technologies courses, along with state-of-the-art infrastructure, to deliver the best learning experience for everyone. Our comprehensive series of instructor-led online trainings, classroom trainings and on-demand self-paced online trainings cover a wide array of specialty areas, including all of the following:

- IoT
- Big Data
- Cloud Computing
- Cyber Security
- Machine Learning
- AI & Deep Learning
- Blockchain Technologies
- DevOps

Cognixia is ranked amongst the top five emerging technologies training companies by various prestigious bodies. We're also an MAPR Advantage Partner, Hortonworks Community Partner, RedHat Enterprise Partner, Microsoft Silver Learning Partner and an authorized training partner for Dell EMC, Pivotal, VMware and RSA technologies.



OUR AWARDS & AFFILIATIONS



Asian Training &
Leadership Award, Dubai



AUTHORIZED TRAINING PARTNERS FOR



Red Hat



**AUTOMATION
ANYWHERE**



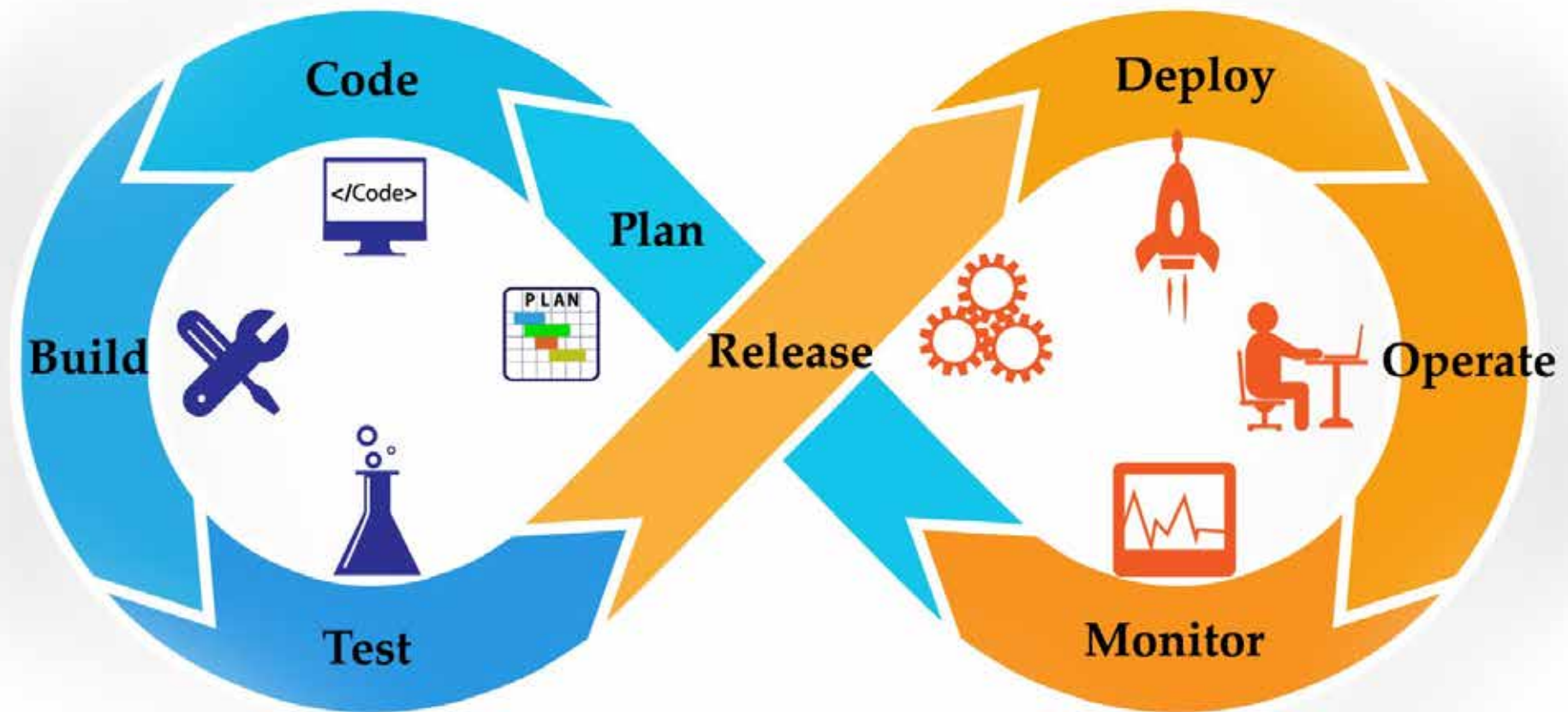
Silver
**Microsoft
Partner**



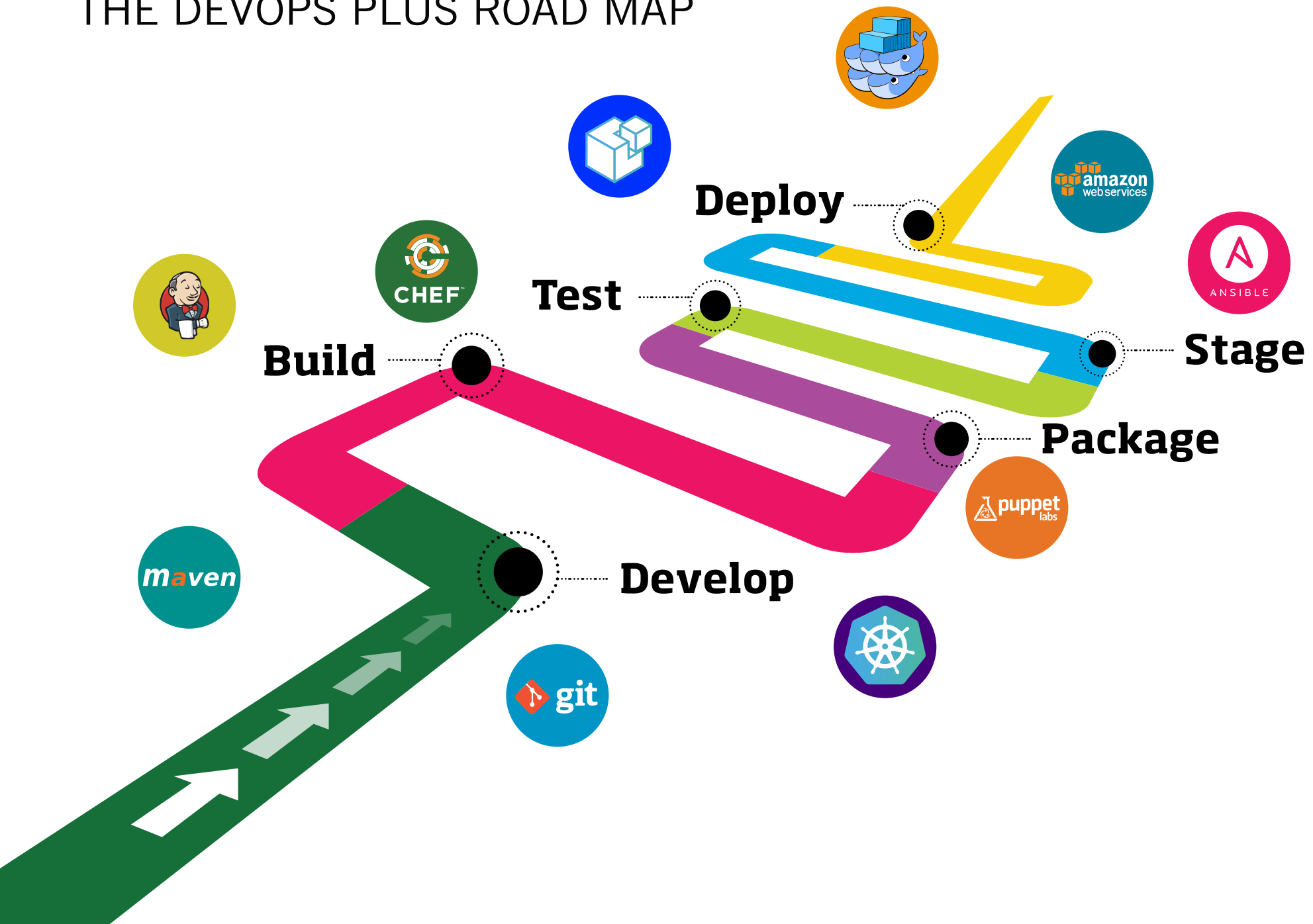
THE WORLD OF DEVOPS

DevOps is a practice combining the Development Operations and the System Operations. "DevOps" as a term was first coined in 2009 by Patrick Debois, who became one of the chief proponents for DevOps. DevOps brings together software development and operations, amalgamating the two disciplines, encouraging communication, collaboration and cohesion between the traditionally separate developers and IT operations teams.

The DevOps methodology recognizes the interdependence of the development group and operations group and integrates it into one department/team, thereby helping an organization deploy software a lot more frequently while also maintaining service stability as well as gaining the pace required to breed innovation.



THE DEVOPS PLUS ROAD MAP



WHO SHOULD STUDY DEVOPS?

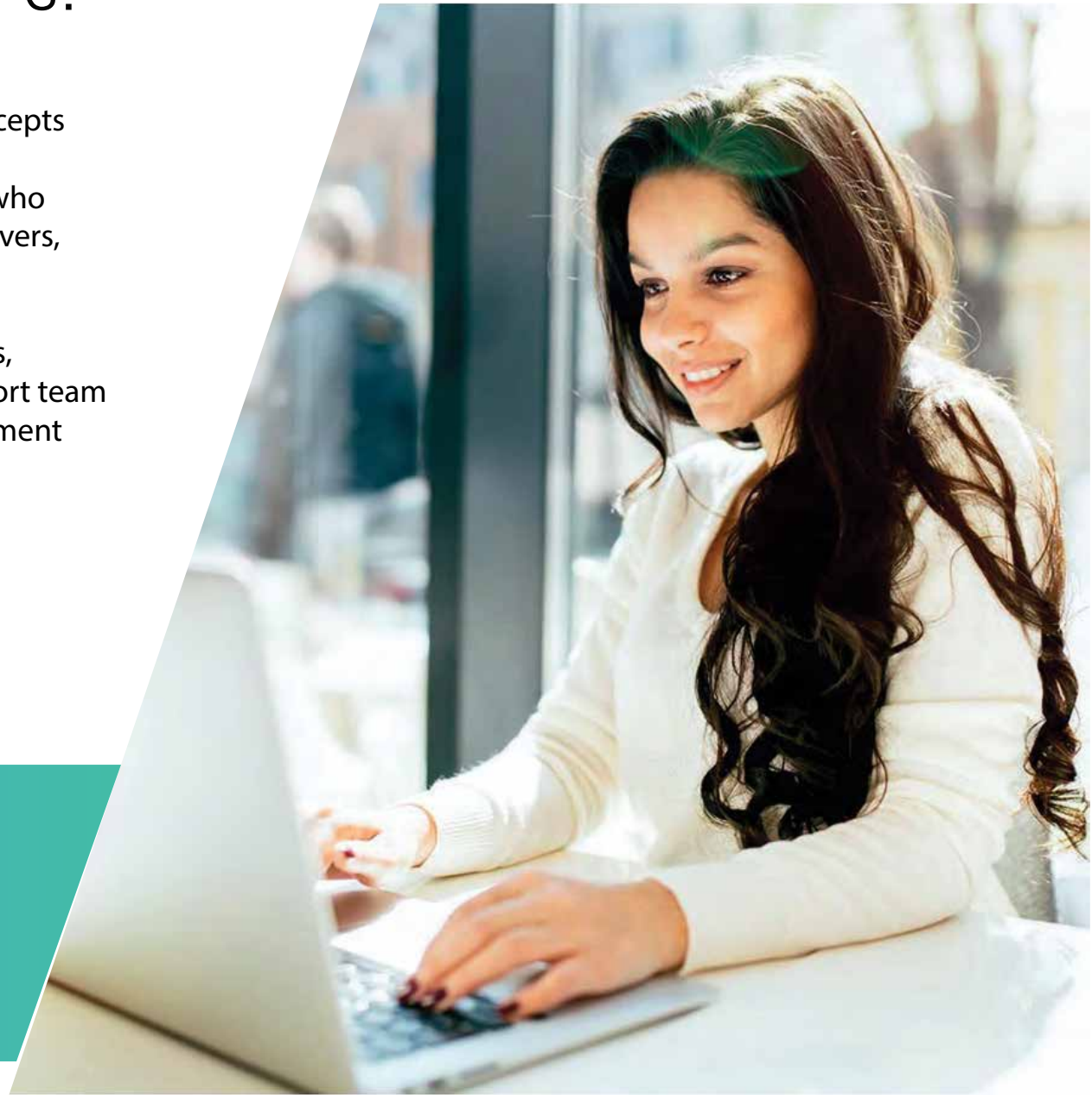
DevOps is for anybody who wants to grasp how the concepts of DevOps can help an organization focus on value and streamline the delivery process. It is also for individuals who are keen to learn more about common infrastructure servers, scalability and availability.

Learning DevOps would be ideal for software developers, technical project managers, architects, Operations support team members, deployment engineers, IT managers, development managers, etc.

By getting trained in DevOps one would be much better placed to build a career as a DevOps engineer or a service engineer in the enterprise infrastructure arena.

ELIGIBILITY/ PRE-REQUISITES

- Knowledge of software development, preferably in Java, and the UNIX/Linux command line tools is essential for this

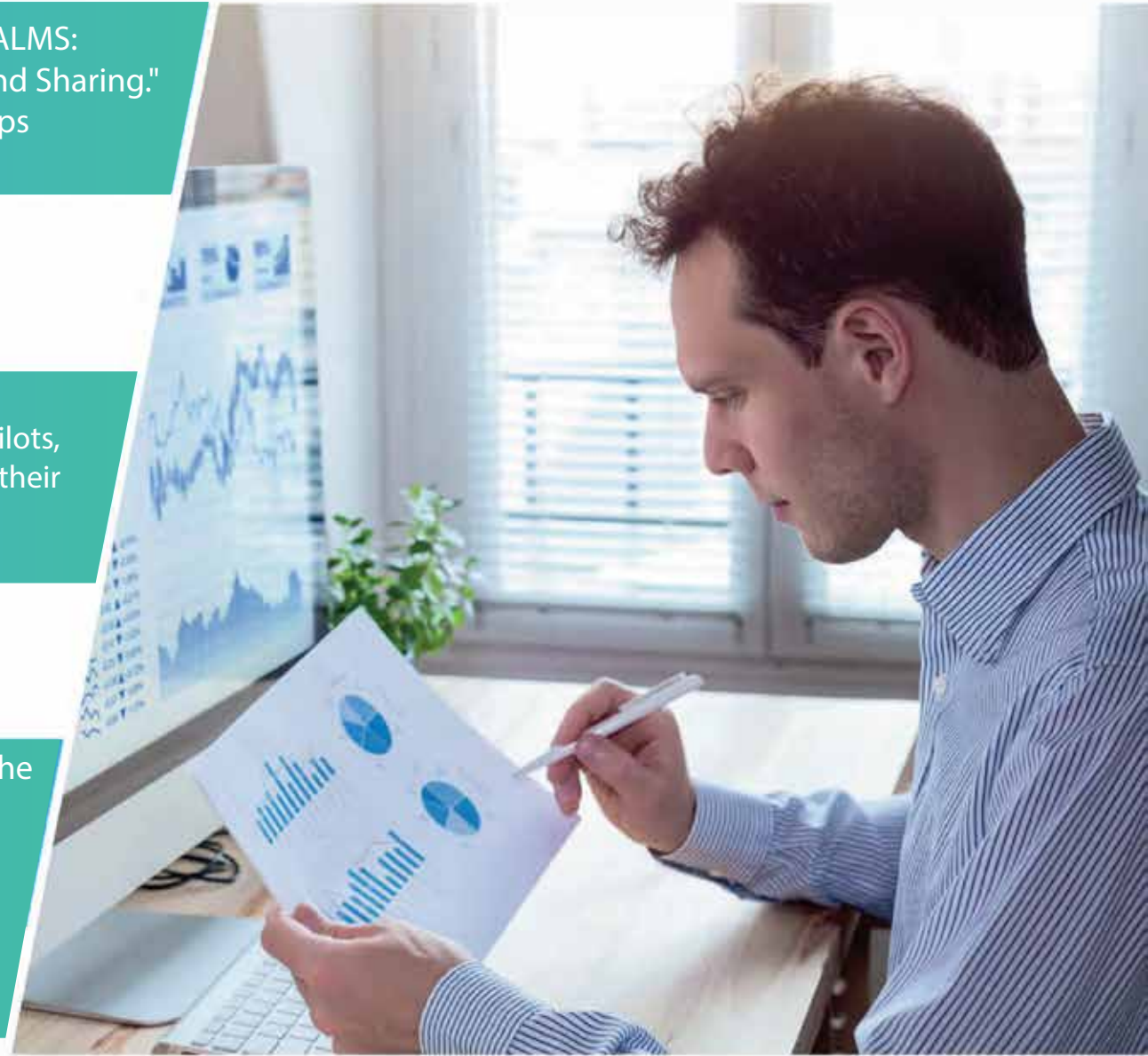


DEVOPS TRENDS & INDUSTRY VIEW

"When we talk about what DevOps is, it is CALMS: Culture, Automation, Lean, Measurement, and Sharing."
- Nicole Forsgren, CEO of Consultancy DevOps Research and Assessment

"Although many organizations are in the experimentation stage with single or multiple pilots, they all are transitioning toward DevOps across their entire enterprise."
- Forrester

"We need to understand how this effort and the investment we're making in DevOps transformations is actually improving the bottom line of our business, and the way you do that is by looking at the data."
- Tim Buntel, Vice President of Products at XebiaLabs



DEVOPS PLUS PROGRAM STRUCTURE



Total 48 hours spread
over 16 days
(3 hours per day) of
live online training
with industry experts



POC support and
hands-on assignments
to gain an in-depth
understanding



DETAILED CURRICULUM : MODULES

Day: 01A - Introduction to Devops

- Define Devops
- What is Devops
- SDLC models, Lean, ITIL, Agile
- Why Devops?
- History of Devops
- Devops stakeholders
- Devops goals
- Important terminology
- Devops perspective
- Devops and Agile
- Devops tools
- Configuration management
- Continuous integration and deployment

Day: 01B - Introduction to Virtualization

- What is Virtualization?
- History of Virtualization
- What is a Hypervisor?
- Types of server virtualization
- Benefits of virtualization
- Important virtualization products

Day: 01C - VAGRANT

- Introduction
- Why and what is Vagrant

- Uses of Vagrant in an environment
- Alternatives to Vagrant
- Vagrant versions
- Installation and configuration
- Installing Virtual box
- How to install Vagrant on Windows
- Configuring Vagrant
- Provisioning with Vagrant
- Creating first VM with Vagrant
- Operations on the VM
- Connecting to the VM
- Add required images to Vagrant
- Using Vagrant

Day: 02 - GIT: Version Control

- Introduction
- Version control systems
- Local, Centralized and distributed
- Installing Git
- Installing on Linux
- Installing on Windows
- Initial setup
- Git essentials
- Creating a repository
- Cloning, checking-in and committing
- Fetch, pull and remote
- Branching

DETAILED CURRICULUM : MODULES

Day: 03 & 04 - Docker – Containers

• Introduction

- What is a Docker
- Use case of Docker
- PlaVorms for Docker
- Dockers vs Virtualization

• Architecture

- Docker Architecture.
- Important Docker components
- Understanding the Docker components

• Installation

- Installing Docker on Linux.
- Understanding Installation of Docker on Windows.
- Some Docker commands.

• Provisioning

- Docker Hub.
- Downloading Docker images.
- Running Docker images
- 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

Day: 05, - 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
- Introduction to Environments in Chef

DETAILED CURRICULUM : MODULES

Day: 06 - Maven-Build Automation Tool

- Introduction and Setting up
- Understanding Archetype and pom.xml
- Maven Build Lifecycle
- Adding Dependency
- Creating Maven project (Console App and WebApp)
- Creating a Maven Project in Eclipse

Day: 07,08 - Puppet for configuration management

• What is Puppet?

- How puppet works
- Puppet Architecture
- Master and Agents
- Configuration Language
- Resource Abstraction Layer
- Transactional Layer

• Installation and Configuration

- Installing Puppet
- Configuring Puppet Master and Agent
- Connecting Agents

• Puppet Master

- Puppet configuration tree
- Puppet configuration files

• Puppet Language Basics

- The declarative language
- Resources
- Resource Collectors
- Virtual Resources
- Exported Resources
- Manifests
- Relationships and Ordering
- Modules and Classes
- Class Parameters
- Defined Types

• Puppet Language Advanced

- Facter
- Variables
- Conditional statement
- If Else
- Case and Selectors
- More Conditionals and Logic
- Resource relationship

• Templates

- Static Contents Explosion
- Using Dynamic Content with Templates
- Templates Overview
- ERB

DETAILED CURRICULUM : MODULES

- **Example Code Manifests/Modules**

- NTP Module
- Users Module
- SSH
- Sudo

Day: 09, 10 - Ansible

- Introduction to Ansible
- Ansible architecture
- Ansible terminology
- Ansible commands
- Adding nodes to server
- Ansible installation and configuration
- Installing ssh on nodes
- Generating the keys
- Components of Ansible
- Inventory
- Configuration
- Modules
- Playbooks
- Global configuration
- Roles
- Tags
- Writing playbooks
- PYYAML overview
- Ansible modules
- Ansible Roles
- Ansible Galaxy
- Download playbooks from Galaxy
- Realtime playbooks

Day: 11 - Nagios: Monitoring

- **Introduction and Installation**

- Obtaining Nagios
- Compiling and installing Nagios

- **Basic configuration**

- Creating a new host and service
- Creating a new e-mail contact
- Verifying configuration
- Creating a host group and service group
- Creating a new contact group
- Creating a new time period

- **Plugins and commands**

- Finding and installation of a Plugin
- Removing a plugin
- Creating a new command
- Customizing commands

- **Using Nagios GUI**

- Scheduling downtimes
- Generating reports
- Configuring notification
- Configuring checks
- Managing Flapping

- **NRPE Monitoring**

- Enabling Remote Execution
- Monitoring local services on a remote machine with NRPE
- Setting the listening address for NRPE

DETAILED CURRICULUM : MODULES

- **Setting allowed client hosts for NRPE**
- **Creating new NRPE command definitions securely**
- **Creating a custom NRPE script.**

Day: 12 - Jenkins – Continuous Integration

- **Introduction.**

- Understanding continuous integration
- Introduction about Jenkins
- Build Cycle
- Jenkins Architecture

- **Installation**

- Obtaining and installing Jenkins
- Installing and configuring GIT
- Java installation and configuration
- Maven Installation
- Exploring Jenkins Dashboard.
- Creating Jobs
- Running the Jobs
- Adding and updating Plugins
- Disabling and deleting jobs

- **Build Deployments**

- Understanding Deployment.
- Tomcat installation and configuration
- Deployment Plugins
- Deploying a war file from Jenkins to Tomcat
- Securing Jenkins

- **How to integrate Jenkins with Ant**

- **How to integrate Jenkins with Maven**

- Authentication
- Jenkins Plugin
- Authorization
- Confidentiality
- Creating users
- Best Practices for Jenkins

- **Jenkins Parameterized build**

- **Environment inject plugin**

- **Use of Jenkins environment variables**

- **Deploying a specific revision**

- **Customizing the Jenkins UI**

- **Project based Matrix plugin**

- **Parallel Execution**

- **Configuring Jenkins Hub and Node in the cloud (AWS)**

- **Configuring a Selenium Desktop node with a Linux Server (AWS)**

- **Case Study**

- **Real time implementation of Automated role back**

- **Multi branch Deployment.**

DETAILED CURRICULUM : MODULES

Day: 13 - Docker Container Clustering using Docker Swarm

- Need for Clustering
- Setting up & Initializing Swarm
- Managing Docker Swarm
- Backup and Recovery
- Managing Services
- Docker Compose & Deploying Application Stack on Docker Swarm

Day: 14, 15 - Docker Container Clustering using Kubernetes

- Introduction
- Kubernetes Ecosystem: Community, Contributions, Governance, and Integrations
- Kubernetes Architecture
- Kubernetes Networking & Services
- Kubernetes Users Tools
- Configuring and Deploying an Application on Kubernetes

Day: 16 - Advanced DevOps (CI/CD Pipeline Automation)

- Jenkins Blue Ocean
- Pipeline As Code
- End-to-End CI/CD Pipeline Automation
- Automated deployment of code from repository to server with configuration management

COGNIXIA's KEY DIFFERENTIATORS



LIFETIME LMS ACCESS



24 x 7 SUPPORT



REAL-LIFE PROJECTS & CASE STUDIES



INDUSTRY EXPERTS AS TRAINERS



INDUSTRY STANDARD CERTIFICATE



POTENTIAL CAREER OPTIONS

DevOps ENGINEER

DevOps ARCHITECT

ASSOCIATE DEVELOPER – DevOps

BUILD & RELEASE ENGINEER

CI/CD – RELEASE AUTOMATION ENGINEER



TESTIMONIALS



RAGHAV SINGH, BANGALORE, India

This course is very comprehensive. It covers both foundational as well as advanced concepts. I was able to grasp a number of concepts that focus on value and enhanced the overall delivery process.



AJINKYA KULKARNI, PUNE, India

Both the training and the technical teams were quite helpful and courteous. The course curriculum is also very informative.



HARSHIT KALMADY, CHENNAI, India

Excellent training with an all-inclusive curriculum. Would highly recommend it to my peers and other technology enthusiasts.



JOSH BLAINE, United States

It is one of the most wholesome courses on DevOps. It covers most of the cutting-edge tools and applications. The trainers are very professional and the support team was also very helpful.



JOE MARTIN, Australia

The DevOps Plus training offered by Cognixia is apt not only for beginners but also experienced professionals who want to make a transition from traditional methodologies to DevOps. The training and technical teams did a commendable job in providing prompt support.

DevOps Plus Training



To learn more visit
<https://www.cognixia.com/>