



# 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



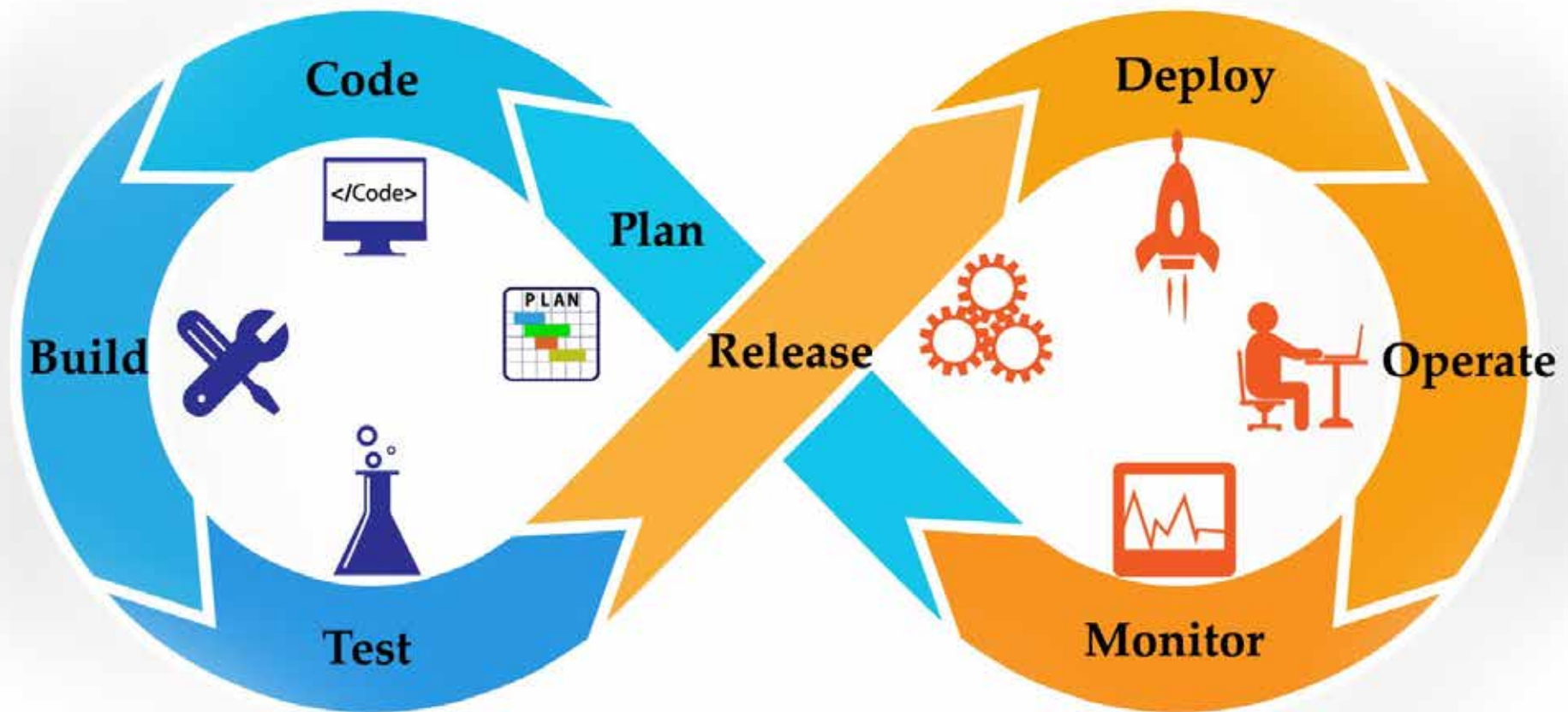
# AUTHORIZED TRAINING PARTNERS FOR



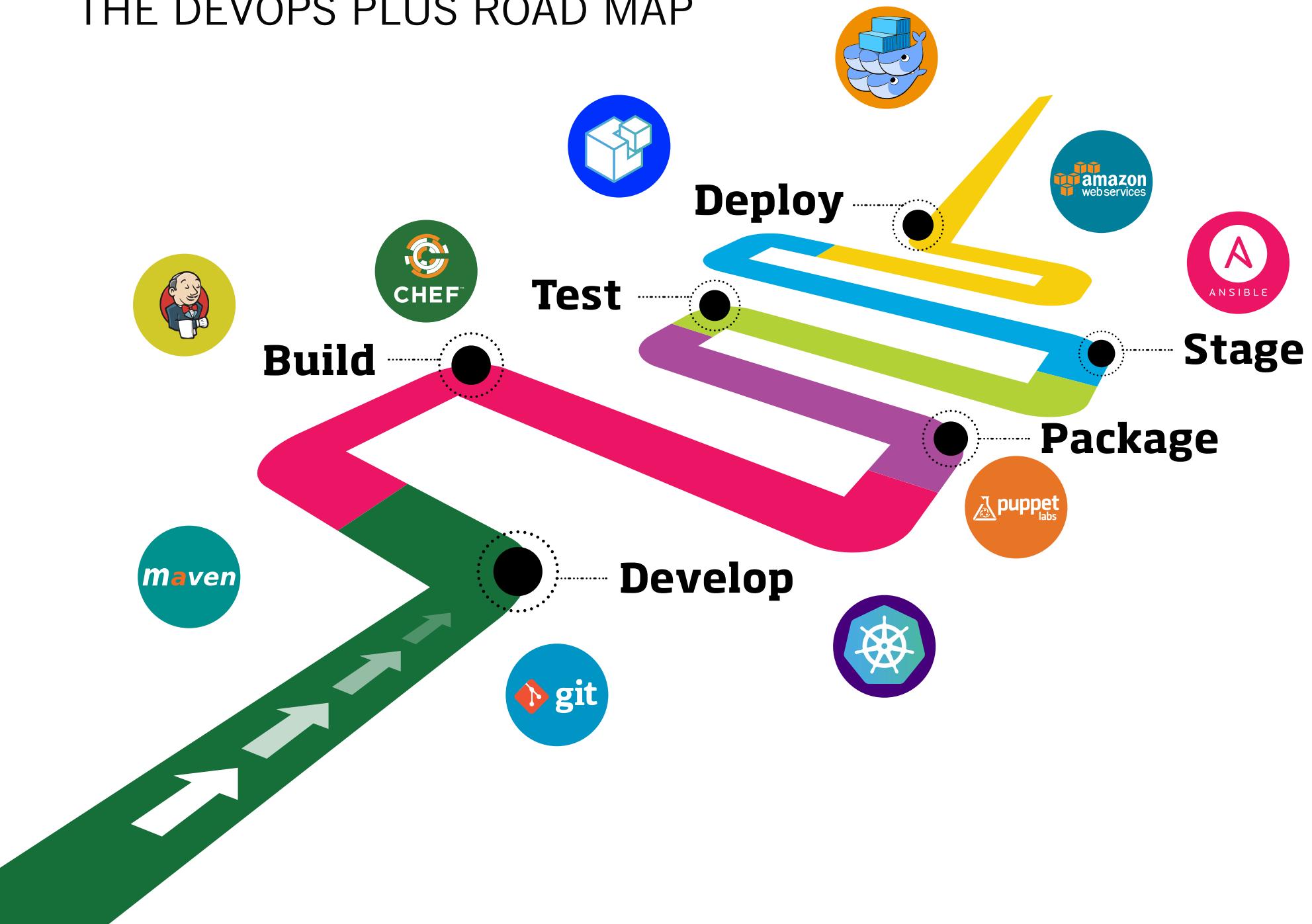
# THE WORLD OF DEVOPS

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?

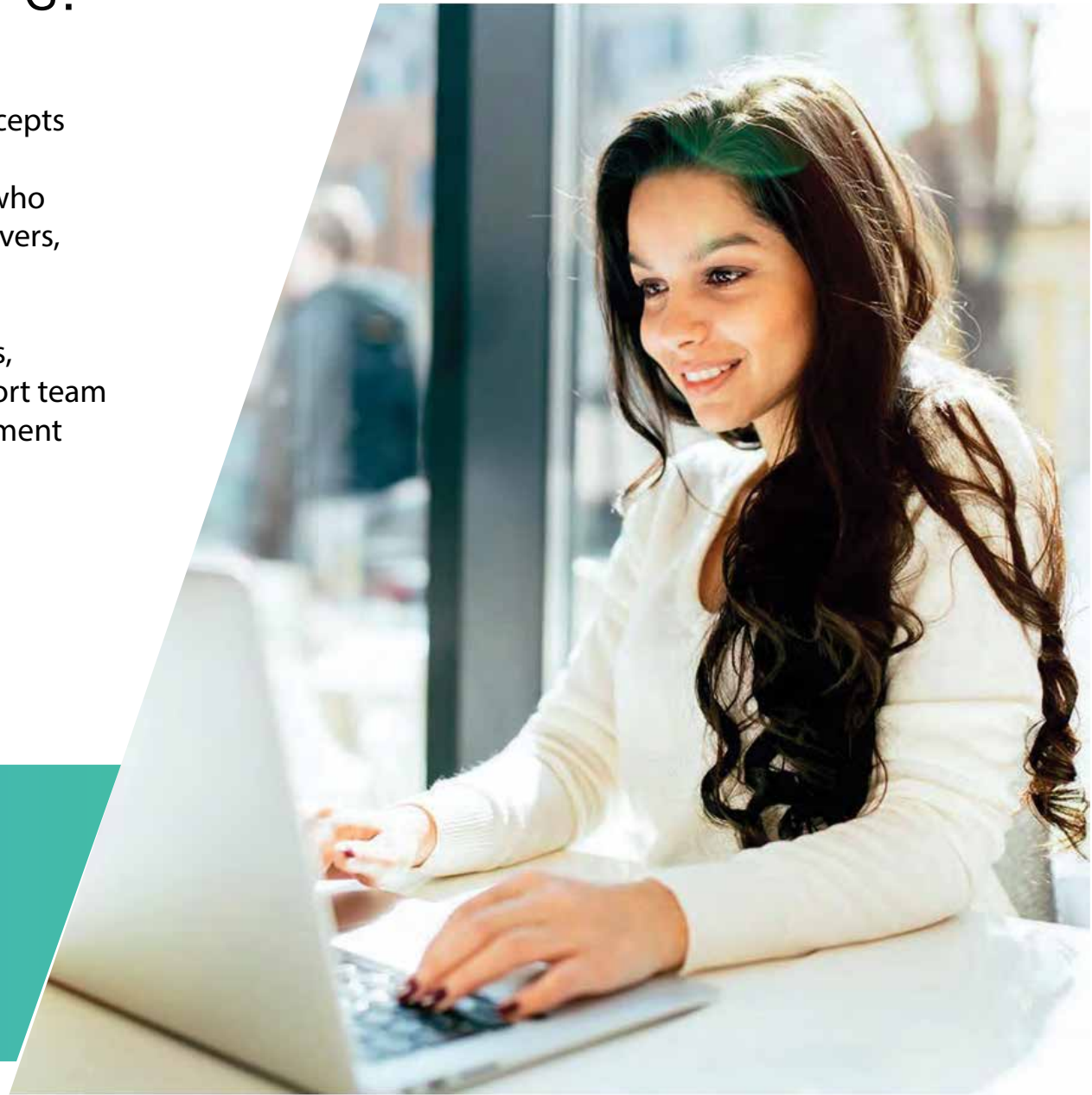
DevOps is for anybody who wants to grasp how the concepts of DevOps can help an organization focus on value and streamline the delivery process. It is also for individuals who are keen to learn more about common infrastructure servers, scalability and availability.

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

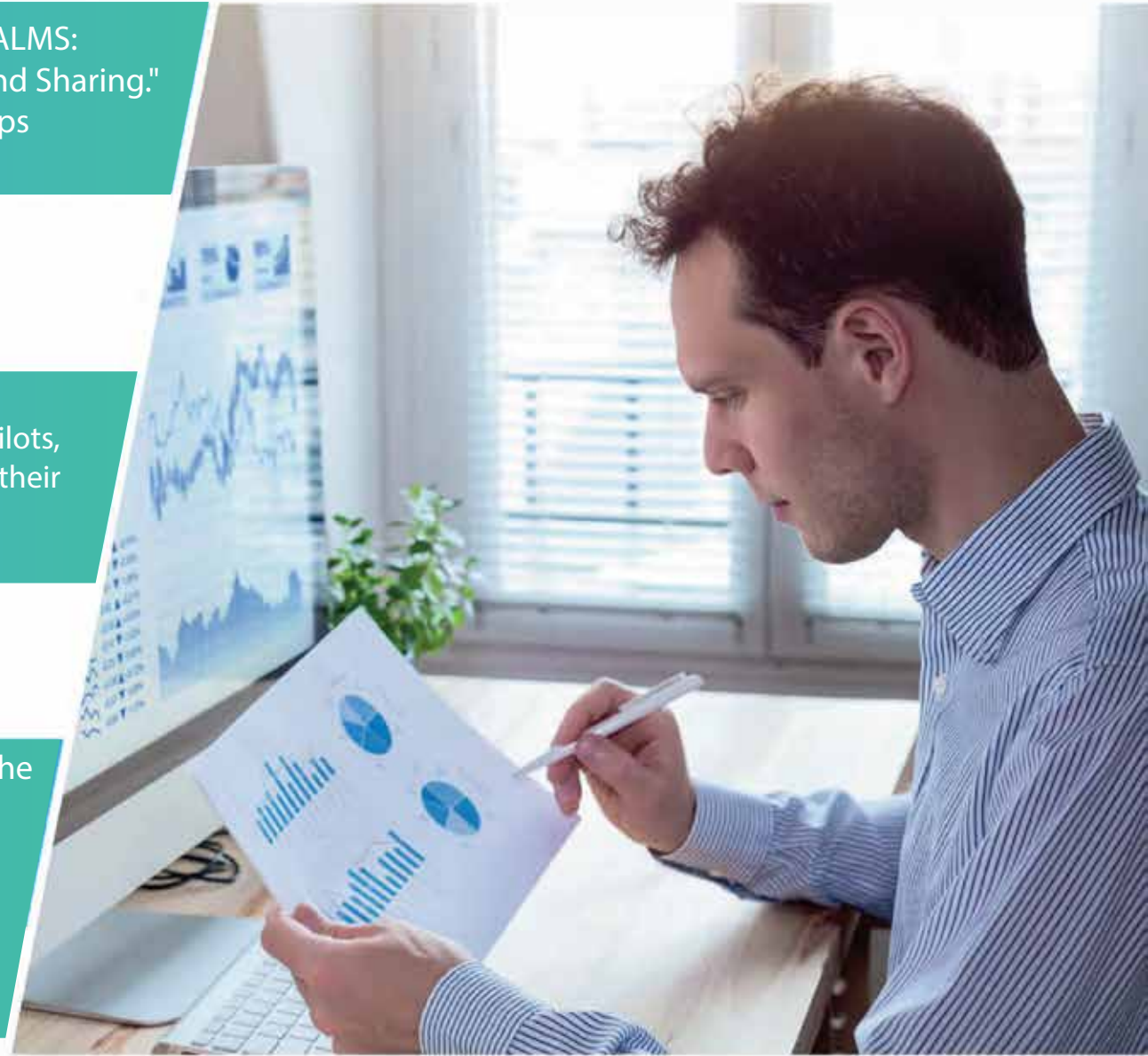


# DEVOPS TRENDS & INDUSTRY VIEW

"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 36 hours spread  
over 12 days  
(3 hours per day) of  
live online training  
with industry experts



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



**maven**



**git**



**puppet  
labs**



# DETAILED CURRICULUM : MODULES

## SDLC Methodologies

### DevOps Culture

### Version Control System -Git and Github

- Version Control System
- Git Installation Steps
- Create a Git-hub account
- Git Configuration
- Git Workflow Commands
- Git reset command
- Git revert command
- Git - .gitignore file
- Git - diff command
- Git - git sync with Github (pull, fetch, merge, push)
- Git - Branches
- Git - Remote Branches
- Git - Cherry-pick
- Git - Stash
- Git - tags

### Maven

- Build Automation Introduction
- Maven Lifecycle
- Maven Installation
- Maven Archetype
- Maven Build
- Maven Goals (compile, test, package, install, build)

## Docker

- Docker Overview
- Docker Underlying Technology
- Docker-containers-and-virtual-machines
- Docker Installation
- Test Your Installation
- Docker Images
- Docker Containers
- Docker Custom Images
- Docker Save & Load Images
- Docker Registry
- Docker File
- Docker Storage
- Docker Networking
- Docker Compose
- Docker Swarm
- Docker Swarm Setup
- Docker Swarm Visualizer
- Docker Swarm Service
- Docker Swarm Service Commands
- Docker Swarm - Stacks

# DETAILED CURRICULUM : MODULES

## Kubernetes

- Introduction
- Install Kubernetes with Kubeadm using Calico Pod network Plugin
- Pod Overview
- Assigning Pods to Nodes
- Replication Controller
- Replica Set
- Deployment
- Services
- Volumes
- Dashboard

## Ansible

- Ansible Introduction
- Ansible Installation
- Ansible Inventory File
- Ansible-Adhoc Commands
- Ansible PlayBooks
- Ansible File Module
- Ansible Jinja Template
- Ansible Vault
- Ansible Roles

## Jenkins

- Introduction to CI/CD Pipeline
- Jenkins Introduction
- Creating Jobs
- Authentication and Authorization

- Github and Maven Integration with Jenkins
- Docker integration with Jenkins
- Ansible integration with Jenkins
- Remote server job execution with SSH Agent
- Jenkins Pipeline as Code using Groovy Script
- Jenkins Pipeline with Jenkinsfile

## Jira

- Jira Overview
- Jira Project
- Jira Issues
- Jira Workflow
- Jira Dashboards
- Jira Charts
- Jira Reports
- Jira Advance Search

## Terraform

- Terraform OverView
- Installation-AWSCLI Terraform
- Terraform Language Basics
- Terraform Workflow
- Terraform-Blocks
- Terraform - Blocks, Providers, Resources Terraform
- Remote Statefile Terraform - Lock
- State file on S3 Terraform-Variables
- Terraform-Output Variables Terraform- Locals
- Terraform- Dynamic Blocks
- Terraform for and foreach loop
- Terraform- Conditional Statements
- Terraform-DataSource
- Terraform Modules



# DETAILED CURRICULUM : MODULES

## DevOps Case Study

### **CAPSTONE PROJECT**

You have been hired Sr. DevOps Engineer in Abode Software, they want to implement DevOps lifecycle in their company. You have been asked to implement this lifecycle as fast as possible.

ABC Software's is a product-based company

Following are the specifications of the lifecycle:

1. Git Workflow has to be implemented
2. Code Build should automatically be triggered once commit is made to master branch or develop branch.
  - a. If commit is made to master branch, test and push to prod
  - b. If commit is made to develop branch, just test the product, do not push to prod
3. The Code should be containerized with the help of a Dockerfile. The Dockerfile should be built every time there is a push to Git-Hub. Use the following pre-built container for your application:
  - a. The code should reside in '/var/www/html'
4. Once the website is built, you have to design a test-case, which will basically check if the website can be opened or not. If yes, the test should pass. This test has to run in headless mode, on the test server.
5. The above tasks should be defined in a Jenkins Pipeline, with the following Jobs Job 1 - Building Website
  - a. Job 2 - Testing Website
  - b. Job 3 - Push to Production

# DETAILED CURRICULUM : MODULES

6. Since you are setting up the server for the first time, ensure the following file exists on both Test and Prod server in /home/ubuntu/config- management/status.txt. This file will be used by a third-party tool. This should basically have the info whether apache is installed on the system or not.

- a. The content of this file should be based on whether git is installed or not.
- b. If apache is installed => "Apache is Installed on this System"
- c. If apache is not installed => "Apache is not installed on this System"

7. Create a Monitoring Service for the website on the Production server Architectural Advice:

- a. Create 3 servers on AWS "t2.micro"
- b. Server 1 - should have Jenkins Master, Puppet Master and Nagios Installed

# 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/>