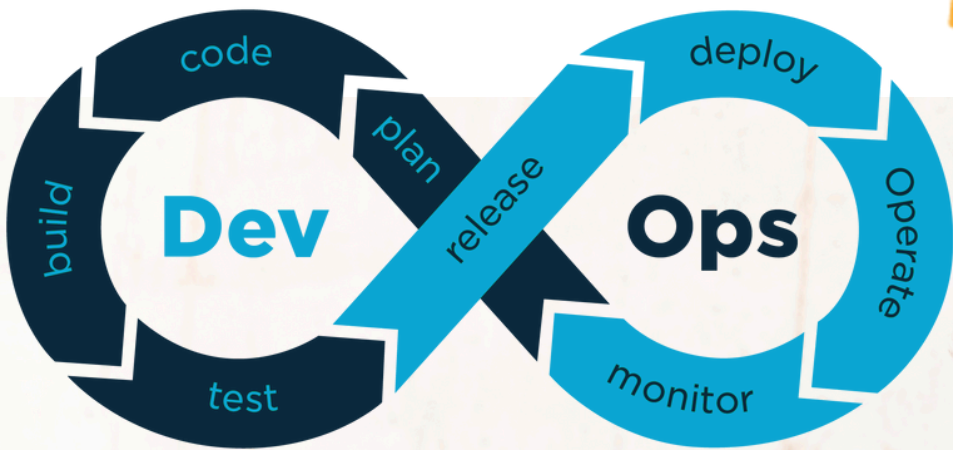


# Learn

# DevOps



**GUIDANCE**  
Internship  
&  
Certification  
Program



**#1**

**Career Guidance  
Employability & life skills  
Communication Skills**  
Teach you How to Succeed in life

**MON - FRI, DAILY  
1 HOUR LIVE CLASS**

Via Online or Offline at our location.

**#2**

**#3**

**NO PRE-REQUISITES  
REQUIRED**

All degrees are welcome.

**MOST BEGINNER-FRIENDLY  
TRAINING PROGRAM**

From ABC to XYZ, No worries at all.

**#4**

**#5**

**3 MONTHS CLASSROOM  
LEARNING**  
#100DaysDevOpsChallenge

| <b>Topic</b>                                  | <b>Description</b>   |
|---|--|
| <b><i>Introduction to DevOps Concepts</i></b> |  |
| <b>Introduction</b>                           | <ul style="list-style-type: none"> <li>• What is DevOps?</li> <li>• Methodologies</li> <li>• The role of ops in the DevOps world</li> </ul>                        |
| <b><i>Scripting for DevOps Engineers</i></b>  |  |
| <b>Overview and setup</b>                     | <ul style="list-style-type: none"> <li>• Intro</li> <li>• Python environment setup</li> <li>• IDE setup</li> </ul>   |
| <b>Data and control flow</b>                  | <ul style="list-style-type: none"> <li>• Data types</li> <li>• Syntax</li> <li>• Operators</li> <li>• Statements</li> <li>• Conditions</li> <li>• Loops</li> </ul> |
| <b>Data structures</b>                        | <ul style="list-style-type: none"> <li>• Array</li> <li>• List</li> <li>• Tuple</li> <li>• Dictionary</li> </ul>   |
| <b>Advance Python</b>                         | <ul style="list-style-type: none"> <li>• Files I/O</li> <li>• Error handling</li> <li>• Debug</li> <li>• Packages</li> <li>• PIP</li> <li>• Conventions</li> </ul> |
| <b>Web fundamentals</b>                       | <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Elements</li> <li>• Attributes</li> <li>• CSS</li> <li>• JavaScript</li> </ul>                    |

|   |  |
|---|--|
| <b>Test automation</b>                                    | <ul style="list-style-type: none"> <li>• <b>Web drivers</b></li> <li>• <b>Methods</b></li> <li>• <b>Locators</b></li> <li>• <b>Controllers</b></li> <li>• <b>Switch and Navigation</b></li> <li>• <b>Synchronization</b></li> </ul>  |
| <b>API's</b>  | <ul style="list-style-type: none"> <li>• <b>Overview</b></li> <li>• <b>Protocols</b></li> <li>• <b>Why REST</b></li> <li>• <b>Requests API</b></li> <li>• <b>Rest methods</b></li> <li>• <b>Response codes</b></li> <li>• <b>Structure</b></li> <li>• <b>JSON rules</b></li> <li>• <b>JSON parsing</b></li> <li>• <b>Routing</b></li> <li>• <b>Path params</b></li> <li>• <b>Query params</b></li> <li>• <b>Building an API</b></li> </ul> |
| <b>Python project</b>                                     | <ul style="list-style-type: none"> <li>• <b>Build a python RESTful API</b></li> </ul>  |
| <b><i>Build Automation and Continuous Integration</i></b> |  |
| <b>CI Intro</b>   | <ul style="list-style-type: none"> <li>• <b>Overview</b></li> <li>• <b>Jenkins Introduction</b></li> <li>• <b>Exploring Jenkins dashboard</b></li> <li>• <b>Jenkins Architecture</b></li> </ul>  |
| <b>Jenkins core</b>                                       | <ul style="list-style-type: none"> <li>• <b>Setup &amp; configuration</b></li> <li>• <b>Jenkins configurations</b></li> <li>• <b>Pipelines</b></li> <li>• <b>Blue Ocean</b></li> </ul>   |
| <b>Build jobs</b>   | <ul style="list-style-type: none"> <li>• <b>What are build Jobs</b></li> <li>• <b>Building your build jobs</b></li> <li>• <b>Scheduling</b></li> <li>• <b>Reporting</b></li> <li>• <b>Disabling and deleting jobs</b></li> <li>• <b>Post build actions</b></li> <li>• <b>Pipelines as code</b></li> </ul>  |

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|---|--|
| <b>Jenkins management</b>               | <ul style="list-style-type: none"> <li>• Plugins</li> <li>• Log rotation</li> <li>• Master-slave architecture</li> <li>• Nodes restrictions</li> <li>• Reporting</li> </ul>  |
| <b>Jenkins security</b>                 | <ul style="list-style-type: none"> <li>• Authentication</li> <li>• Authorization</li> <li>• Creating users</li> <li>• Jenkins API</li> </ul>   |
| <b><i>Version Control Using Git</i></b> |  |
| <b>Git Basics</b>                       | <ul style="list-style-type: none"> <li>• What is Git?</li> <li>• Git VS. SVN</li> <li>• Terminology</li> <li>• Setup &amp; configuration</li> <li>• Configuring Git</li> <li>• Logging</li> <li>• Commits</li> <li>• Branching</li> <li>• Merging</li> <li>• Conflicts</li> <li>• Reset &amp; Revert</li> <li>• Git GUI</li> </ul> |
| <b>Git &amp; Repository</b>             | <ul style="list-style-type: none"> <li>• Repository overview</li> <li>• Remotes</li> <li>• Cloning</li> <li>• Fetch, pull &amp; push</li> <li>• Building your repository</li> <li>• Pull Requests</li> <li>• Git – Jenkins integration</li> </ul>  |

| <b><i>Data and Continuous monitoring</i></b> |   |
|--|---|
| <b>Database</b>                              | <ul style="list-style-type: none"> <li>• Overview and setup</li> <li>• RDBMS Vs. NoSQL</li> <li>• Types</li> <li>• Connections</li> <li>• Security Schemas and tables</li> <li>• Columns properties</li> <li>• Data types</li> <li>• PyMySQL</li> <li>• Cursor</li> <li>• DB (CRUD) operations</li> </ul> |
| <b>Data monitoring</b>                       | <ul style="list-style-type: none"> <li>• Monitoring Concepts</li> <li>• Introduction to Prometheus stack</li> <li>• Prometheus server</li> <li>• Metrics collection</li> <li>• PromQL</li> <li>• Exporters</li> <li>• Grafana</li> <li>• Alert Manager</li> </ul>   |
| <b><i>Linux Fundamentals</i></b>             |   |
| <b>Overview</b>                              | <ul style="list-style-type: none"> <li>• What is Linux?</li> <li>• Distributions</li> <li>• Environment setup</li> <li>• Oracle VirtualBox &amp; VMware</li> </ul>  |
| <b>Linux commands</b>                        | <ul style="list-style-type: none"> <li>• Shell, Bash &amp; Terminal</li> <li>• Commands</li> <li>• Input / Output</li> <li>• Package management</li> <li>• Interprocess communication</li> <li>• Grep, tail, sed</li> </ul>   |
| <b>Linux system</b>                          | <ul style="list-style-type: none"> <li>• System Utilities</li> <li>• Linux processes</li> <li>• System signals</li> <li>• VI &amp; VIM &amp; nano</li> <li>• SSH server &amp; client</li> <li>• Public and private keys</li> <li>• SFTP</li> </ul>  |

| <b>Working with Containers</b>              |  |
|---|--|
| <b>Overview</b>                             | <ul style="list-style-type: none"> <li>• What is, and why Docker?</li> <li>• Use case of Docker</li> <li>• Container Life Cycle</li> <li>• Docker vs. Virtualization</li> <li>• Docker types</li> <li>• Environment setup</li> <li>• Docker commands</li> </ul>  |
| <b>Docker basic</b>                         | <ul style="list-style-type: none"> <li>• Docker architecture</li> <li>• YAML</li> <li>• Docker images</li> <li>• Docker compose</li> <li>• Services</li> <li>• Docker image download</li> <li>• Working multiple containers</li> <li>• Contexts</li> <li>• Docker HUB</li> </ul>   |
| <b>Docker advanced</b>                      | <ul style="list-style-type: none"> <li>• VNC (Virtual Network Computing)</li> <li>• Docker-Jenkins integration</li> <li>• “Dockerizing” your code</li> <li>• Creating a custom image</li> <li>• Running a container from the custom image</li> <li>• Docker networking</li> <li>• Docker volumes</li> <li>• Best practices</li> <li>• Docker-Jenkins integration</li> <li>• Containers dependencies</li> <li>• Environment files and configurations</li> </ul> |
| <b>Container Orchestration - Kubernetes</b> | <ul style="list-style-type: none"> <li>• Intro to Kubernetes</li> <li>• Kubernetes Architecture</li> <li>• Environment Setup</li> <li>• Kubernetes Components Hierarchy</li> <li>• The K8S API</li> </ul>  |
| <b>Working with Kubernetes</b>              | <ul style="list-style-type: none"> <li>• Objects</li> <li>• API versions</li> <li>• Desire and actual state</li> <li>• Pods, ReplicaSets, Deployment</li> <li>• Updates and reverts</li> <li>• Scaling and auto scaling</li> </ul>   |

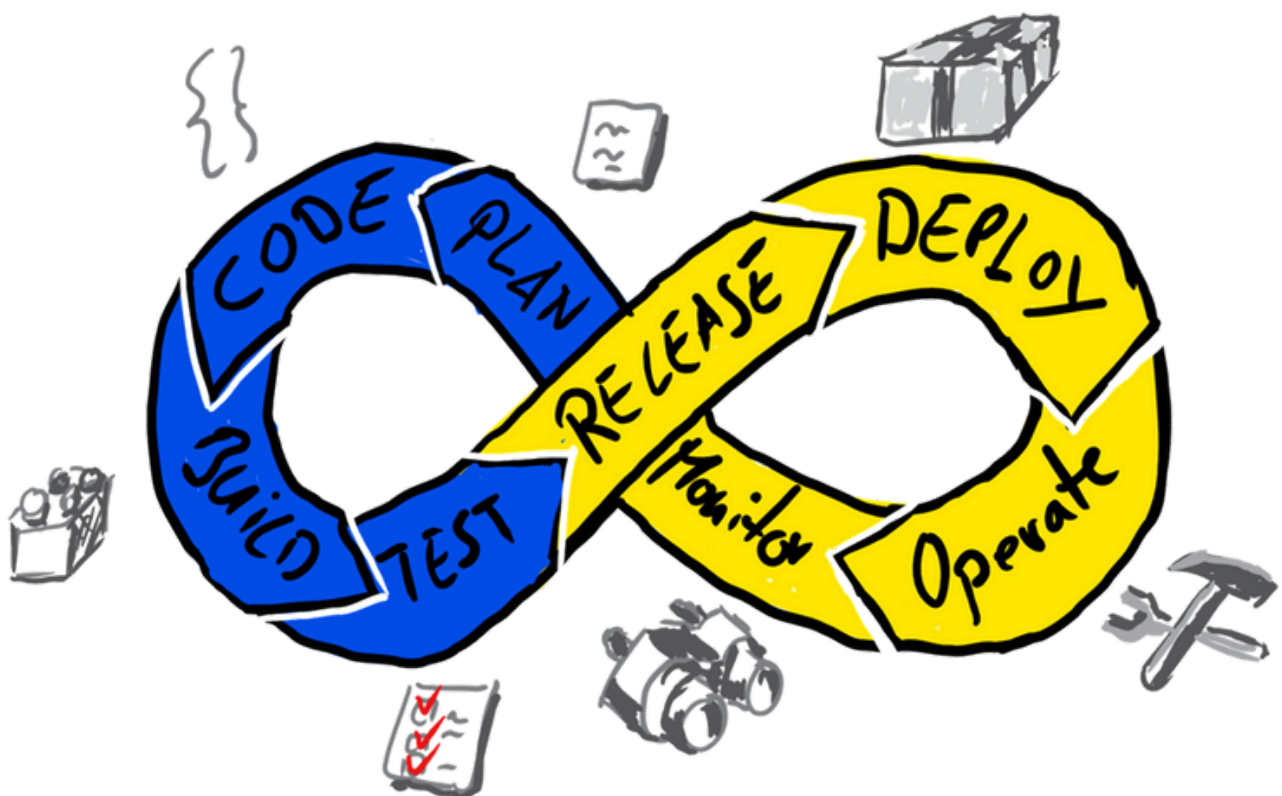
|                                      |  |
|--------------------------------------|--|
|                                      | <ul style="list-style-type: none"> <li>• Services, networking options, Exposing our cluster</li> <li>• Config maps</li> <li>• Secretes</li> <li>• Kubectl</li> <li>• Logging</li> </ul>  |
| HELM                                 | <ul style="list-style-type: none"> <li>• Intro to Helm</li> <li>• Architecture</li> <li>• Developing and managing helm charts</li> <li>• Templating</li> <li>• Parameterized deployments</li> <li>• Debugging</li> <li>• Updating charts</li> <li>• Requiring dependency as charts</li> <li>• Sharing chart with repositories</li> </ul>       |
| Hosted Kubernetes                    | <ul style="list-style-type: none"> <li>• Container Services in the cloud (GCP, AWS)</li> <li>• K8S On premise</li> </ul>   |
| CI/CD Project                        | <ul style="list-style-type: none"> <li>• Build and ship your containerized python application platform using CI/CD pipelines</li> </ul>  |
| <b><i>Provisioning Resources</i></b> |  |
| Cloud platform                       | <ul style="list-style-type: none"> <li>• Overview</li> <li>• Why cloud?</li> <li>• GCP Vs. AWS Vs. Azure</li> <li>• Cloud deployment</li> </ul>  |
| AWS (Amazon Web Services) basics     | <ul style="list-style-type: none"> <li>• AWS account</li> <li>• Regions</li> <li>• EC2 types and pricing</li> <li>• AMI's</li> <li>• EIP, allocating, associating, releasing</li> <li>• Launch instances in AWS</li> <li>• Identity Access Management (IAM)</li> <li>• Roles</li> <li>• Policies</li> <li>• Users</li> <li>• Groups</li> </ul> |



|  |  |
|--|--|
| <b>AWS hands-on</b>                    | <ul style="list-style-type: none"> <li>• AWS CLI</li> <li>• Cloud app deployment</li> <li>• Connecting to cloud remote machines</li> <li>• Working with access key and secret access keys</li> <li>• Profiles</li> <li>• Budgets</li> <li>• Cost explorer</li> </ul>   |
| <b>Terraform</b>                       | <ul style="list-style-type: none"> <li>• Infrastructure as code</li> <li>• Environment setup</li> <li>• HCL</li> <li>• Workflows</li> <li>• Commands</li> <li>• Providers</li> <li>• Resources</li> <li>• Variables</li> <li>• User data</li> <li>• Output values</li> <li>• Cloud infrastructure</li> </ul> |
| <b><i>Configuration Management</i></b> |  |
| <b>Configuration management</b>        | <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Terminology</li> <li>• Modules</li> <li>• Configurations management tools</li> <li>• Master-Agent configurations</li> <li>• Agentless operation</li> <li>• Roles</li> <li>• Environments</li> </ul>   |



|                              |   |
|------------------------------|---|
| <b>Ansible</b>               | <ul style="list-style-type: none"> <li>• Introduction to Ansible</li> <li>• Ansible advantages</li> <li>• Ansible Installation</li> <li>• Provisioning</li> <li>• Built-in security</li> <li>• Configuring Ansible Roles</li> <li>• Write Playbooks</li> <li>• Executing Ad-Hoc command</li> <li>• Declarative commands</li> <li>• Facts</li> <li>• Modules</li> <li>• Variables</li> <li>• Ansible galaxy</li> <li>• Conditionals</li> <li>• Loops</li> <li>• Vault</li> </ul> |
| <b><i>Final Project</i></b>  |   |
| <b>Final project</b>         | <ul style="list-style-type: none"> <li>• Orchestrating your containerized deployments for production-ready products</li> </ul>  |
| <b><i>Job Interviews</i></b> |   |
| <b>Job interviews</b>        | <ul style="list-style-type: none"> <li>• Most frequent interview questions and solutions</li> <li>• Course summary</li> </ul>   |



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**WISH YOU  
ALL THE BEST**

