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# DOCKER INTERMEDIATE TRAINING

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Level - Intermediate

Email – [contact@DevOpsSchool.com](mailto:contact@DevOpsSchool.com)

## TRAINING AGENDA

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### DAY 1

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#### Introduction to Configuration Management & Puppet

- Why Configuration Management matters
- Puppet vs. other CM tools (Ansible, Chef, Salt)
- Puppet Open Source vs Puppet Enterprise (differences, use cases)
- Puppet 2025 release highlights & deprecated features

#### Puppet Architecture & Workflow

- Puppet Master / Server, Puppet Agent, Catalog compilation
- PuppetDB overview
- Puppet run lifecycle & transactions

#### Installation & First Setup

- Infrastructure requirements & architecture choices
- Installing Puppet Server & Agents (\*nix & Windows)
- Crash demo: setting up Puppet Master, Agent, and environment
- Accessing the Puppet Enterprise console
- Role-based access control (RBAC) overview

## Working with Facter

- Core facts and custom facts
- Using `facter.conf` for configuration
- Writing simple custom facts

# DAY 2

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## Puppet Language Basics

- Resources & attributes (file, package, service, exec, user, group, notify, etc.)
- Variables, expressions, ordering & relationships
- Classes and node definitions
- Templates (EPP & ERB)

## Hiera & Data Management

- Introduction to Hiera
- `hiera.yaml` structure
- Data lookups & overrides
- Using Hiera in manifest

## Module Development with PDK

- Puppet Development Kit overview & installation
- Creating new modules
- Converting existing modules to PDK
- Module structure & customization
- Building and packaging modules

## Testing & Best Practices

- Puppet style guide
- `puppet-lint` & `metadata-json-lint`
- `rspec-puppet` basics for unit testing
- Hands-on: writing, validating, and testing a module

## DAY 3

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### Puppet Enterprise Administration

- Managing nodes in the console
- Node classification & groups
- Managing access and permissions
- Inspecting infrastructure via PE console

### Orchestration with Puppet

- Puppet orchestrator & running Puppet on demand
- Bolt overview: tasks & plans
- Orchestrating multi-node runs
- Demo: deploy & orchestrate a module across multiple nodes

### SSL & Certificates

- Puppet CA commands
- Autosigning & CSR attributes
- Regenerating certificates
- External CA & SSL termination (intro level)

### Maintenance & Troubleshooting (Intermediate Level)

- Common Puppet errors & debugging catalogs
- Logs and report analysis
- Puppet Enterprise backup & restore (overview)
- Demo: troubleshoot a failing Puppet run