

PE401: Extend Capability

OEM: Puppet • Code: PE401

COURSE DESCRIPTION

In Puppet Enterprise 401: Extend Capability, you'll learn coding best practices and advanced Puppet code constructs for designing, building, and extending Puppet modules to automate software management while maximizing code reuse and minimizing maintenance. This one-day, instructor-led course — with hands-on labs for both Linux and Windows users — gives you the tools for scaling faster without compromising security.

COURSE CONTENT SUMMARY

- Resource abstraction layer (RAL)
- Resource declaration and ordering, resource metaparameters, and automatic relationships
- Class containment, variable scope, and built-in variables
- The Puppet run and how resources are refreshed when other resources change
- Testing with Puppet Development Kit and puppet-lint

AUDIENCE PROFILE

- This course is for you if you're a site reliability engineer (SRE), sysadmin, or DevOps engineer who manages Windows or Linux.

PREREQUISITES

- You should already know how to complete these tasks in Puppet Enterprise
- Set external and trusted facts on nodes.
- Use basic Git workflow, with commands such as pull and push.
- Use class parameters and data types to design roles and profiles that are easy to reuse and maintain.
- Implement environment-based testing using node groups so that you can test and deploy with confidence.
- We also strongly recommend that you take the first three courses in this series: Puppet Enterprise 101: Deploy & Discover, Puppet Enterprise 201: Design & Manage, and Puppet Enterprise 301: Develop & Maintain.

COURSE OBJECTIVES

By the end of this course, participants will be able to:

- Develop and test a new module using Puppet Development Kit, the puppet apply command, and the Puppet language.
- Extend the module — in this case, to support additional operating systems in your enterprise.
- Implement multiple configuration instances using defined types.
- Deploy more powerful code using conditional statements.
- Use templates to generate and manage configuration files, saving time and maintaining consistency across platforms.
- Run Bolt to deploy your extended module to test nodes for unit and acceptance testing.
- Practice data separation as part of the design — specifically, deciding what to include in Puppet code vs. using Hiera to configure class parameters that manage settings and exceptions.

COURSE OUTLINE

Module 1

- Welcome and objectives

Module 2: Develop and test a new module

- Lab 1.0 Use Puppet Development Kit to create and test a new module
- Lab 1.1 Acceptance test new modules

Module 3: Develop a module to support additional operating systems

- Lab 2.0 Extend a module to support different OS platforms
- Lab 2.1 Use Hiera to extend module capabilities
- Lab 2.2 Configure additional agent package platforms

Module 4: Develop a module to support multiple configuration instances

- Lab 3.0 Develop a module to manage configuration files
- Lab 3.1 Add defined types to a module to support virtual hosts

Module 5

- Course conclusion

DELIVERY NOTE

- This instructor-led course is taught in a cloud-hosted classroom environment and can be delivered virtually or at your facility.