Configuration Management and the Cloud

by Google

About this Course
In this course, you'll learn how to apply automation to manage fleets of computers. You'll understand how to automate the process for deploying new computers, keeping those machines updated, managing large-scale changes, and a lot more. We'll discuss managing both physical machines running in our offices and virtual machines running in the Cloud.

We'll start by looking into an automation technique called configuration management, which lets you manage the configuration of our computers at scale. Specifically, you'll learn how to use Puppet, the current industry standard for configuration management. We'll look at some simple examples, and then see how we can apply the same concepts to more complex cases. You'll be a Puppet-master in no time!

Later on, you'll expand your automation skills by understanding how to use the Cloud to help scale your infrastructure. You'll check out some best practices for handling hundreds of virtual machines running in the Cloud and troubleshooting them when things don't go according to plan.

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Basic Info	Course 5 of 6 in the Google IT Automation with Python Specialization
Level	Beginner
Language	English, **Subtitles:** Arabic, French, Portuguese (European), Italian, Vietnamese, German, Russian, Spanish **Volunteer to translate subtitles for this course**
How To Pass	Pass all graded assignments to complete the course.
User Ratings	4.8 stars

Syllabus

Week 1

Automating with Configuration Management

In this module, you'll be introduced to the concept of automation at scale and how it can be successfully achieved. You'll learn what it means to work at scale and how automation is needed to scale effectively. Next, you'll be introduced to configuration management. You'll learn the differences between unmanaged and managed configuration management. Then, you'll dive into infrastructure as code and learn about the benefits it brings, like making your fleet of nodes more reliable and repeatable. This is a major benefit when managing systems at scale. In the next lesson, you'll be introduced to Puppet. You'll learn how to apply basic configuration management and how Puppet agents and masters interact with each other. Next, you'll do a rundown of Puppet resources and classes. You'll learn how resources are basic units for modeling your configurations and how classes are a collection of resources used to achieve a single goal. The final lesson will introduce you to the building blocks of domain-specific language. You'll learn what Puppet facts are and how it uses a program called Facter to analyze, store and gather this information. Your final lesson will cover the driving principles of configuration management. You'll learn about declarative, procedural, and idempotent principals and how they differ from each other.

View Full Syllabus

How It Works

General

How do I pass?

To earn your Certificate, you'll need to earn a passing grade on each of the required assignments—these can be quizzes,

peer-graded assignments, or programming assignments. Videos, readings, and practice exercises are there to help you prepare for the graded assignments.

What do start dates and end dates mean?

Once you enroll, you'll have access to all videos, readings, quizzes, and programming assignments (if applicable). If you choose to explore the content without purchasing, you may not be able to access certain assignments. If you don't finish all graded assignments before the end of the session, you can reset your deadlines. Your progress will be saved and you'll be able to pick up where you left off.

What are due dates? Is there a penalty for submitting my work after a due date?

Within a course, there are suggested due dates to help you manage your schedule and keep work from piling up. Quizzes and programming assignments can be submitted late without consequence. However, it is possible that you won't receive a grade if you submit your peer-graded assignment too late because classmates usually review assignment within three days of the assignment deadline.

Can I re-attempt an assignment?

Yes. If you want to improve your grade, you can always try again. If you're re-attempting a peer-graded assignment, re-submit your work as soon as you can to make sure there's enough time for your classmates to review your work. In some cases you may need to wait before re-submitting a programming assignment or quiz. We encourage you to review learning material during this delay.

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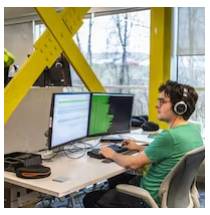
Course 5 of Specialization

Learn in-demand skills like Python, Git, and IT automation to advance your career



Google IT Automation with Python

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