1: Introduction

This Chef Essentials course provides a basic understanding of Chef's core components, basic architecture, commonly used tools, and basic troubleshooting methods.

This should provide you with enough knowledge to start using Chef to automate common infrastructure tasks and express solutions to common infrastructure problems.

Instructor Note: **Be sure to read Appendix Z at the end of this instructor guide** for training lab set up notes and additional instructor notes. **Important**: This course requires ChefDK version 0.8.1. If you use a later version such as 0.9.0, the exercises and labs won’t work properly.

Slide 2

Introduce Yourselves

- Name
- Current job role
- Previous job roles/background
- Experience with Chef and/or config management
- Favorite Text Editor

CHEF

Instructor Note: Regarding the true "Lab" exercises (not the Group Exercises), you should encourage students to use the high level hammer/wrench "Lab" slide steps first, and then resort to the subsequent detailed step slides if the students need the details to complete the lab. See Appendix Z for a visual explanation. You can still use the subsequent detailed step slides as a vehicle to review each lab.

Slide 3

Expectations

You will leave this class with a basic understanding of Chef's core components, architecture, commonly used tools, and basic troubleshooting methods

You bring with you your own domain expertise and problems. Chef is a framework for solving those problems. Our job is to teach you how to express solutions to your problems with Chef.

Chef is not, in itself, a solution to your infrastructure problems. Chef is an automation framework. You bring the domain expertise about your own business and its problems. Chef provides a platform for modeling solutions to those problems. Our job in this class is to work together to teach you how to express solutions to your unique problems with Chef.

Slide 4

Course Objectives

After completing this course, you should be able to:

- Use Chef Resources to define the state of your system
- Write and use Chef recipes and cookbooks
- Automate testing of cookbooks
- Manage multiple nodes with Chef Server
- Create Organizations
- Bootstrap nodes
- Assign Roles to nodes
- Deploy nodes to environments

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Agenda

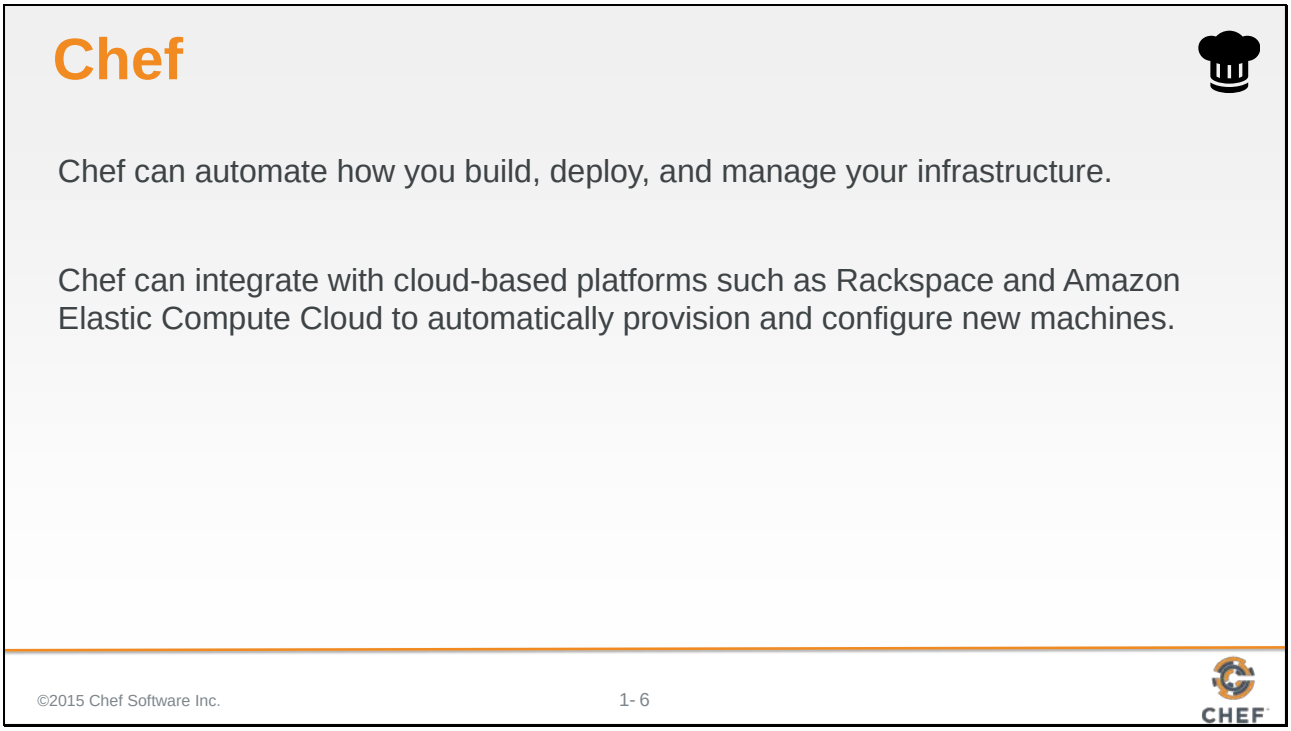
Day 1

- Getting a Workstation
- Using Resources
- Building Cookbooks
- Testing with Test Kitchen
- Details About a System
- Desired State and Data
- Local Workstation Installation

Day 2

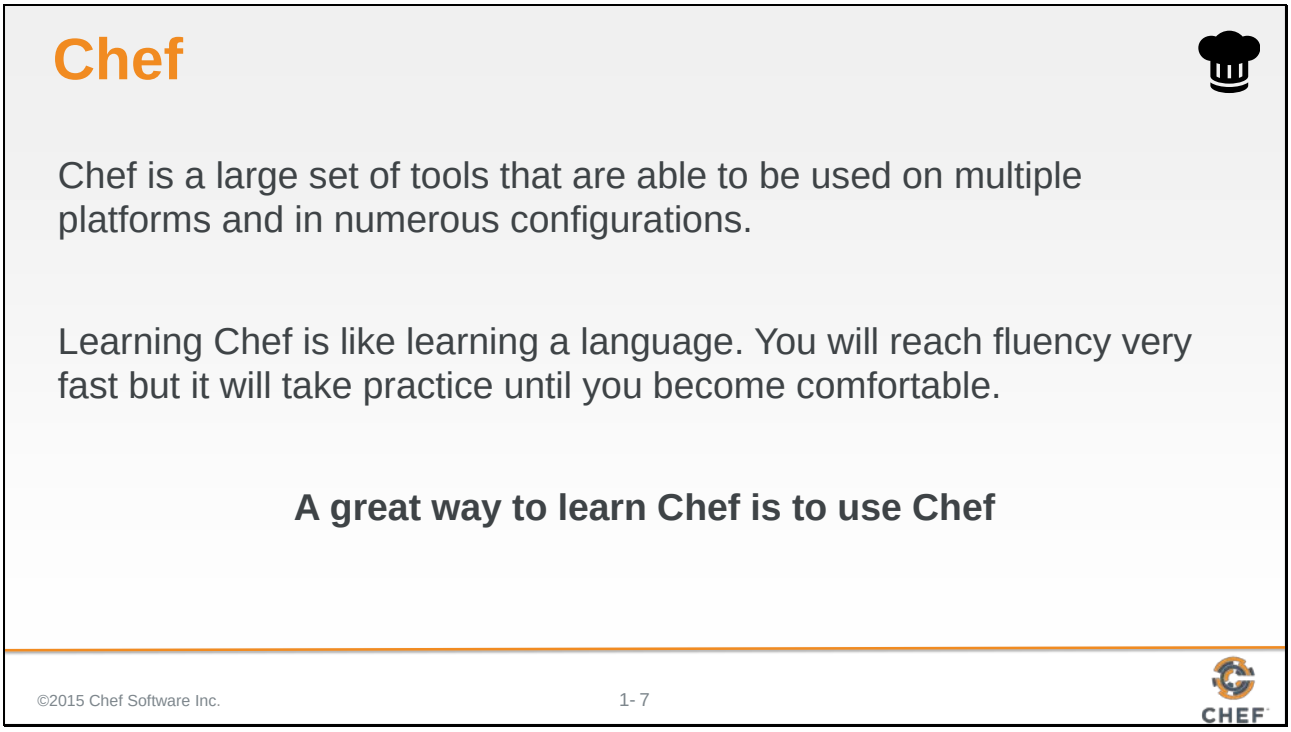
- Connecting to Chef Server
- Community Cookbooks
- Managing Multiple Nodes
- Roles
- Search
- Environments

Slide 6



Chef can automate how you build, deploy, and manage your infrastructure. Your infrastructure becomes as versionable, testable, and repeatable as application code enabling you to automate the process of configuring, deploying and scaling servers and applications

Slide 7



Chef is a large set of tools that are able to be used on multiple platforms and in numerous configurations. We will have time to only explore some of its most fundamental pieces.

Learning Chef is like learning a language. You will reach fluency very fast but it will take practice until you become comfortable.

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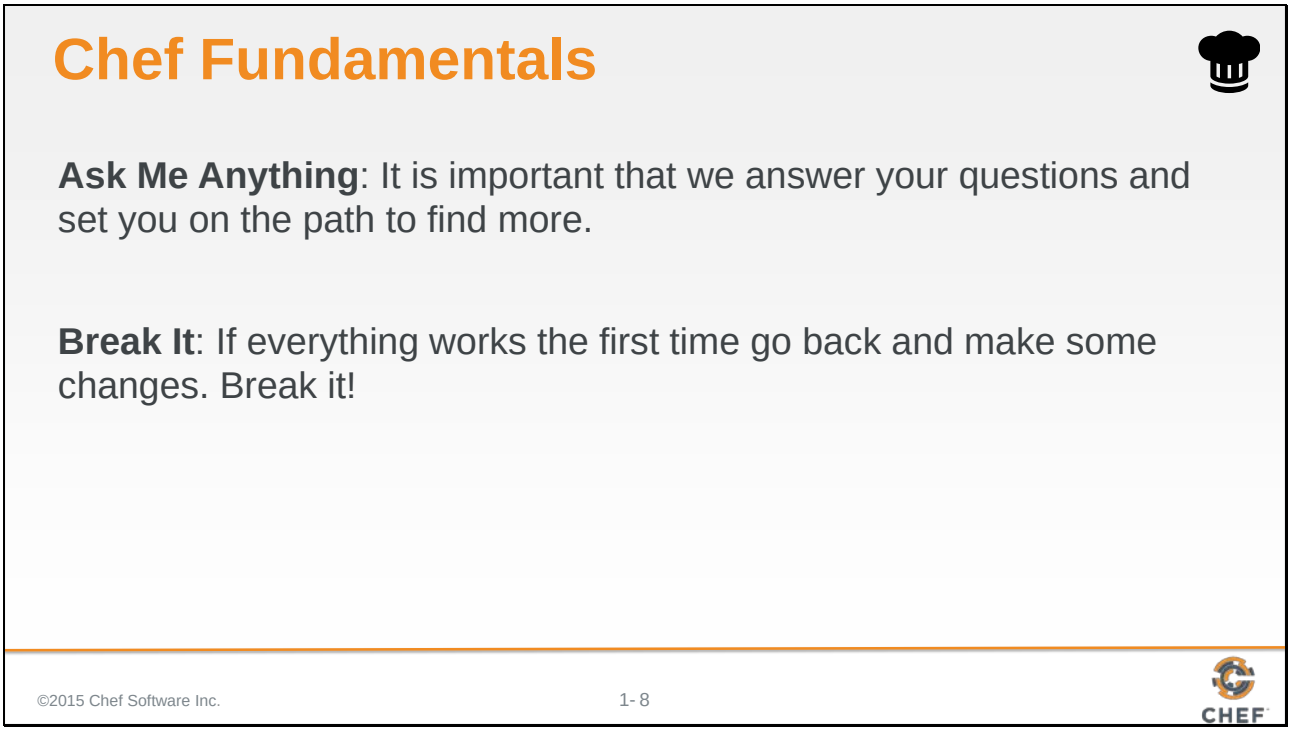

Ask Me Anything: All of us are coming here with *unique* experiences and from *unique* teams that are using Chef in *unique* ways. It is important that we answer your questions and set you on the path to find more.

Break It: If everything works the first time go back and make some changes. Break it! It's rare that you have a safe space like this to explore. Sometimes its more important to know what something looks like when it does not work than when it does work.

Slide 9

Chef Lab System Architecture

In this course you will use two different architectures:

1. Initially, you'll use a virtual workstation so you can start using Chef right away.
2. Later, you'll use a common production type of architecture that includes a Chef Server.

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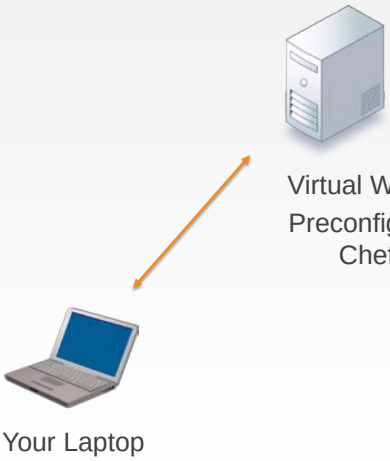
Chef Lab System Architecture

Architecture 1



This is the architecture you'll start using in a few minutes. To ensure the smoothest setup experience, you'll be using a virtual workstation with all the necessary tools installed so you can start using Chef right away.

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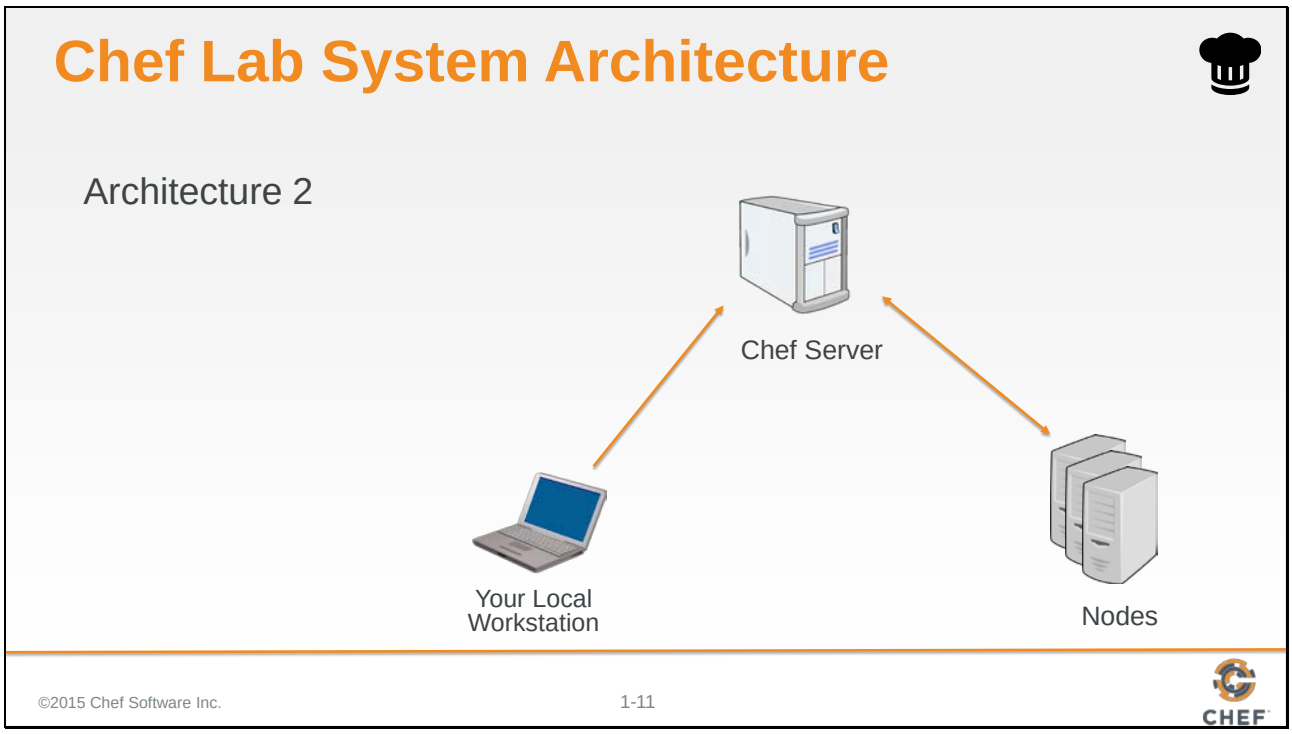

This is the architecture you'll be using later in this course. When using this architecture, the Chef tools will be installed on your laptop and you'll perform your configurations locally before pushing them to the Chef server and ultimately to the nodes you will be managing.

In this way, when you complete this course you will have a code repository on your laptop that can be used and modified to solve real business problems.

We'll discuss the items in this architecture in more detail later in this class.

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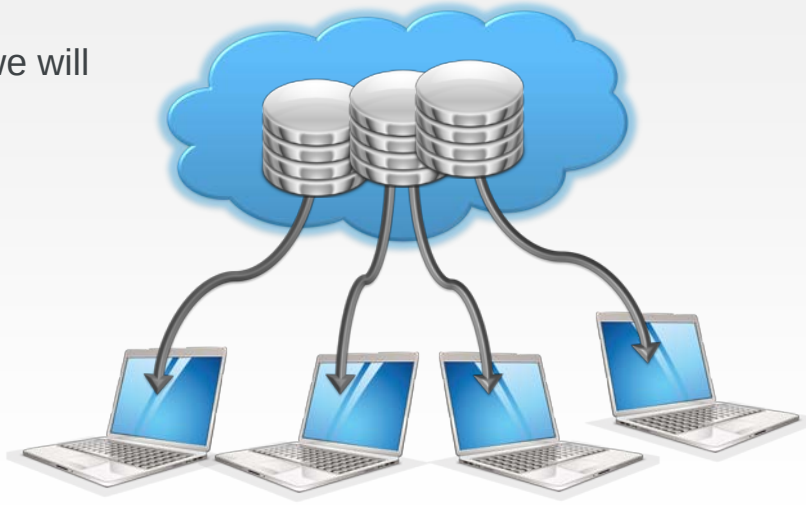
Getting a Workstation

Around the end of Day 1, we will have an Install Fest.



Around the end of Day 1, we will have an Install Fest.

During that time we will install all the necessary tools on your workstation (your laptop) and troubleshoot any installation issues you may experience.

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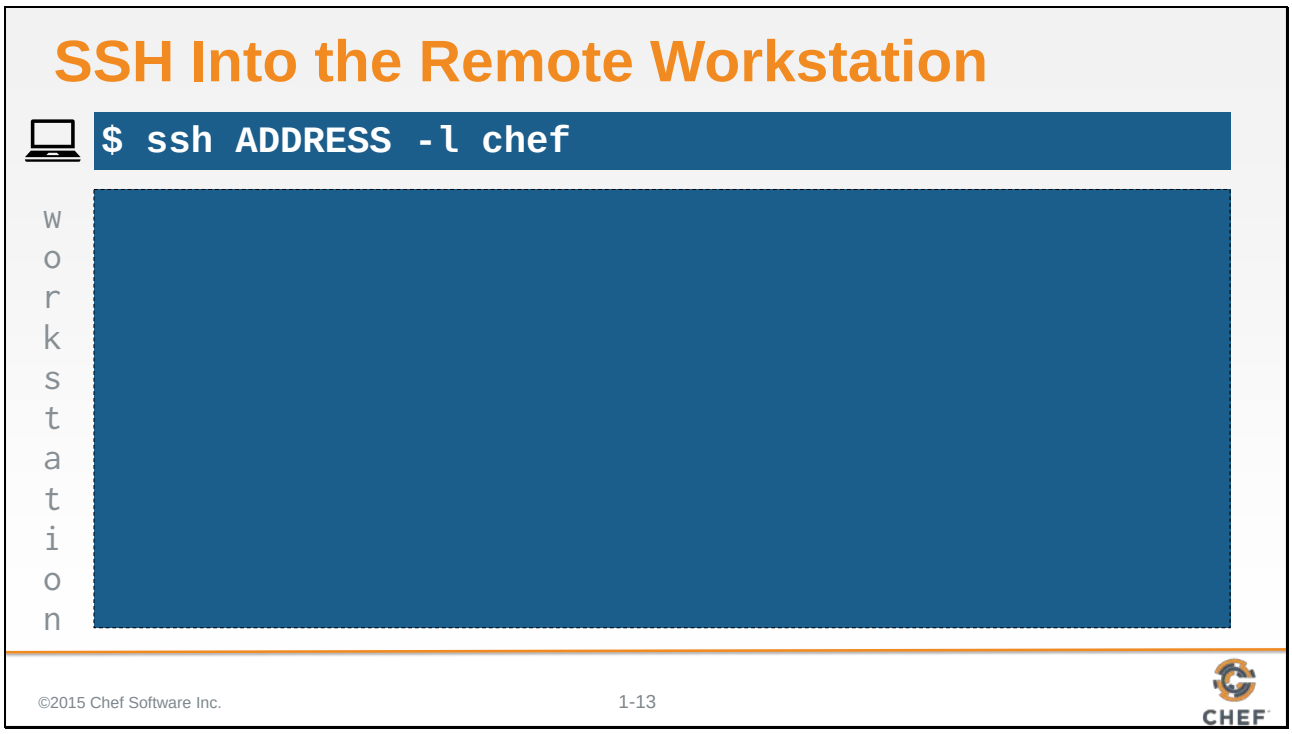

You should use an ssh client like PuTTY to connect to the remote workstation that we assign to you. You'll need to ssh into your assigned workstation in order to issue Chef commands.

Instructor Note: You should assign the participants their “Day 1” virtual workstations (AMIs) at this time. The login credentials and password for the virtual workstations is chef/chef.

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Getting a Workstation

The chef user has been granted password-less sudoers access

The following software is installed on the remote workstation:

- Chef DK
- Docker
- kitchen-docker gem

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Hands-on Legend

- GE or Group Exercise: All participants and the instructor do this task together with the instructor often leading the way and explaining things as we proceed.
- Lab: You perform this task on your own.

In this course, various slides and pages will be tagged with either Group Exercise (or GE), or Lab. This slide defines those tags.

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