IBM z Systems
Introduction
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Chef and IBM z Systems

Frequently Asked Questions

Worldwide

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What is Chef?

Chef server is a configuration management tool used to streamline the task of configuring and maintaining a company's servers across multiple data centers, public and private clouds, and in heterogeneous environments. Chef server works in concert with Chef client, which is installed on nodes which are to be managed. Configuration is accomplished via "recipes" written in a ruby-based Domain-Specific-Language. These recipes, along with supporting files, are packaged in Chef "cookbooks". Chef is ideal for installing and configuring operating system and middleware components. Chef can also be used for installing and configuring applications, although in more advanced software lifecycle management and DevOps scenarios, application installation and configuration may be more appropriately performed by products such as those in the IBM UrbanCode® product suite, which offer more advanced features.

Is Chef open source?

Chef is open source. As announced in September 2014, starting with the Chef Server 12, "There is only one completely free, fully Open Source, Chef Server." The Chef company offers premium features and professional support and services for profit, but Chef server itself is open source.

How does Chef work with IBM z Systems?

Chef server and client have been verified as working with Linux® on IBM z Systems®. (See https://github.com/linux-on-ibm-z/docs/wiki). Furthermore, Chef is collaborating with IBM to deliver integration between the Chef 12 Client and Chef 12 Server and IBM z Systems.

The joint engineering effort will deliver seamless integration between Chef's IT automation platform and IBM z Systems, enabling users to easily manage and deploy Linux environments on the platform.

What are some example use cases for Chef?

Chef supports a wide variety of use cases, with IBM z Systems utilized either as Chef server or Chef client. Here are some examples:

Keeping Servers Current

The Chef client runs on all (heterogeneous) server nodes. By default, every 30 minutes the Chef client nodes query the Chef server for recipe updates. Recipes are re-run on the client nodes and changes are made as necessary to keep the nodes up to spec. As changes propagate through the nodes, the network as a whole converges to the desired configuration state.

Load balancing

Chef makes network-wide configuration searchable. Periodic configuration updates can use this global information, so load balancers can automatically notice new web servers being deployed, and can begin to route requests to them.

Continuous delivery

Continuous delivery is a process that accelerates the release of software and services. Chef provides an API designed for integrating with other "DevOps" tools allowing management of infrastructure and applications jointly, since they are innately dependent.

Integration with Docker

Chef integrates with Docker using recipes that can:

- Create a container image.
- Provision and configure the Docker host environment.
- Launch container instances.
- Manages new containers as they run

Installing and configuring IBM middleware using 'IBM Custom Patterns for Linux on z Systems' 'IBM Custom Patterns for Linux on z Systems', announced on January 14, 2015, are a set of Chef cookbooks that cover a broad range of IBM middleware products such as WebSphere Application Server, WebSphere® MQ®, DB2®, and more. Each cookbook targets a specific IBM middleware product and can help to simplify the installation and configuration of that product.

Integration of Chef with OpenStack® Heat Templates enabled by UrbanCode Deploy
UrbanCode Deploy provides a “Chef hook” which is a way to invoke a Chef-client run when a server instance is created from an OpenStack Heat template. Using this hook, the UrbanCode Deploy blueprint designer (for UCD 6.2) or the UrbanCode Deploy with Patterns design server (for UCD 6.1.x) can be used to invoke a Heat template that can launch Linux on z Systems instances on supported versions of IBM Cloud Orchestrator or IBM Cloud Manager with OpenStack, and then run Chef recipes on these instances.

For more information, see the Chef Blog post.

For a complete list of Open Source applications and tools available for IBM z Systems, please visit the IBM developerWorks® Open Source Community Forum site.

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