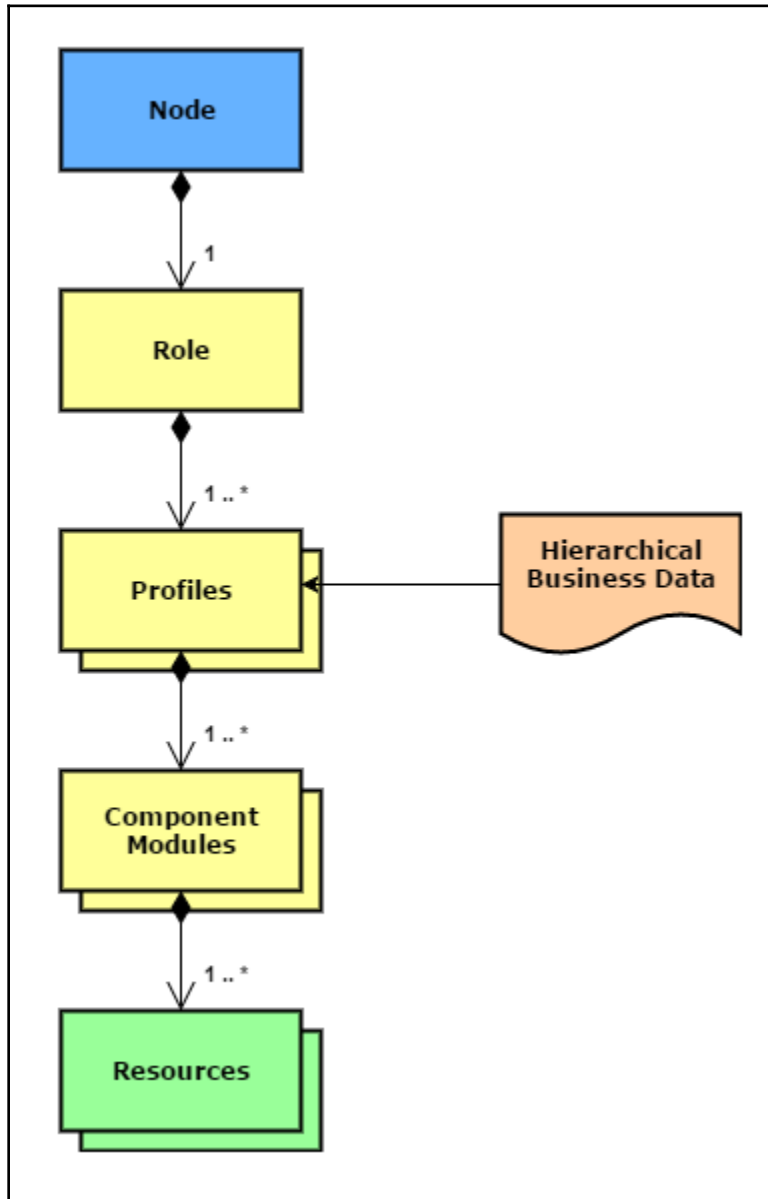
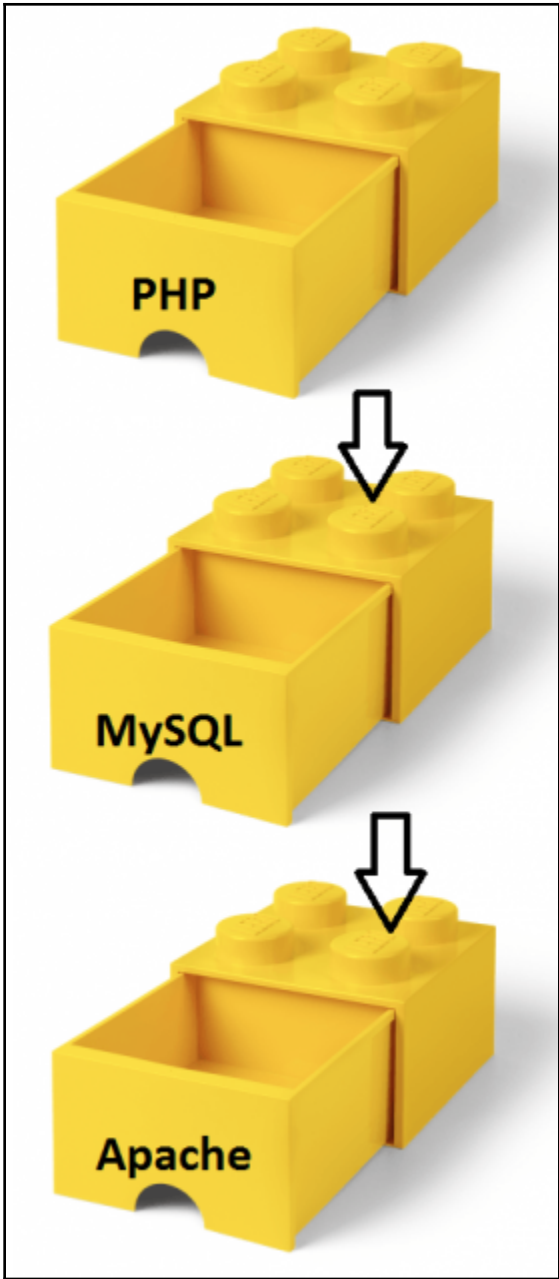
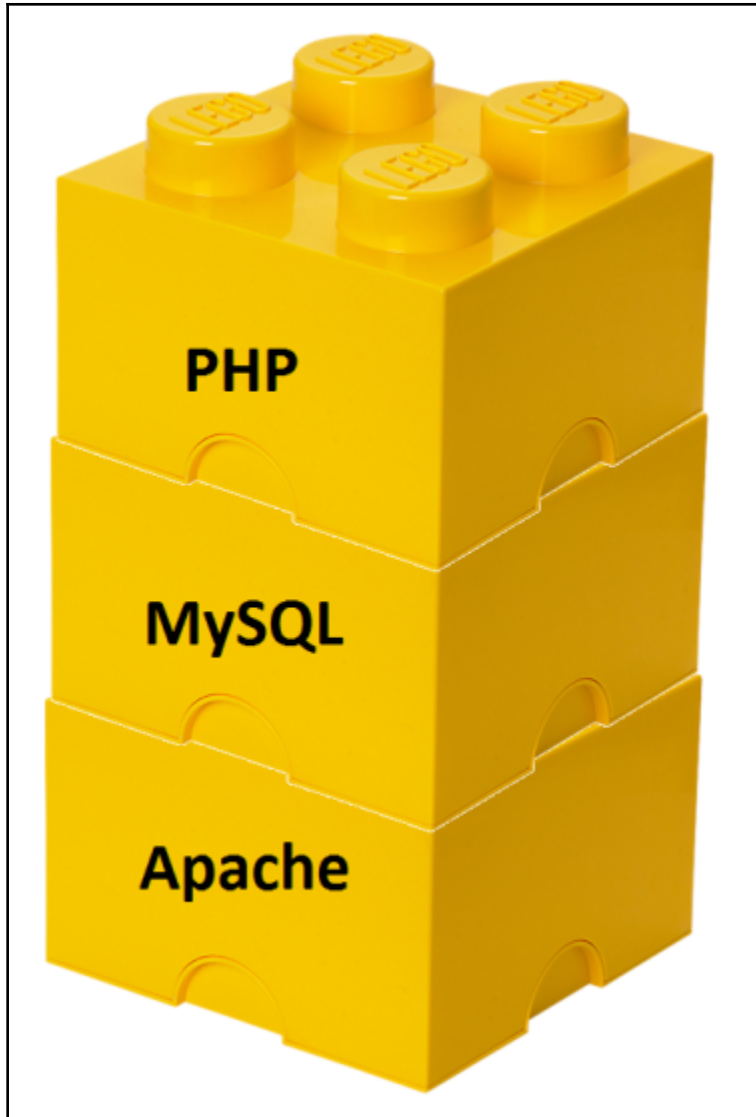


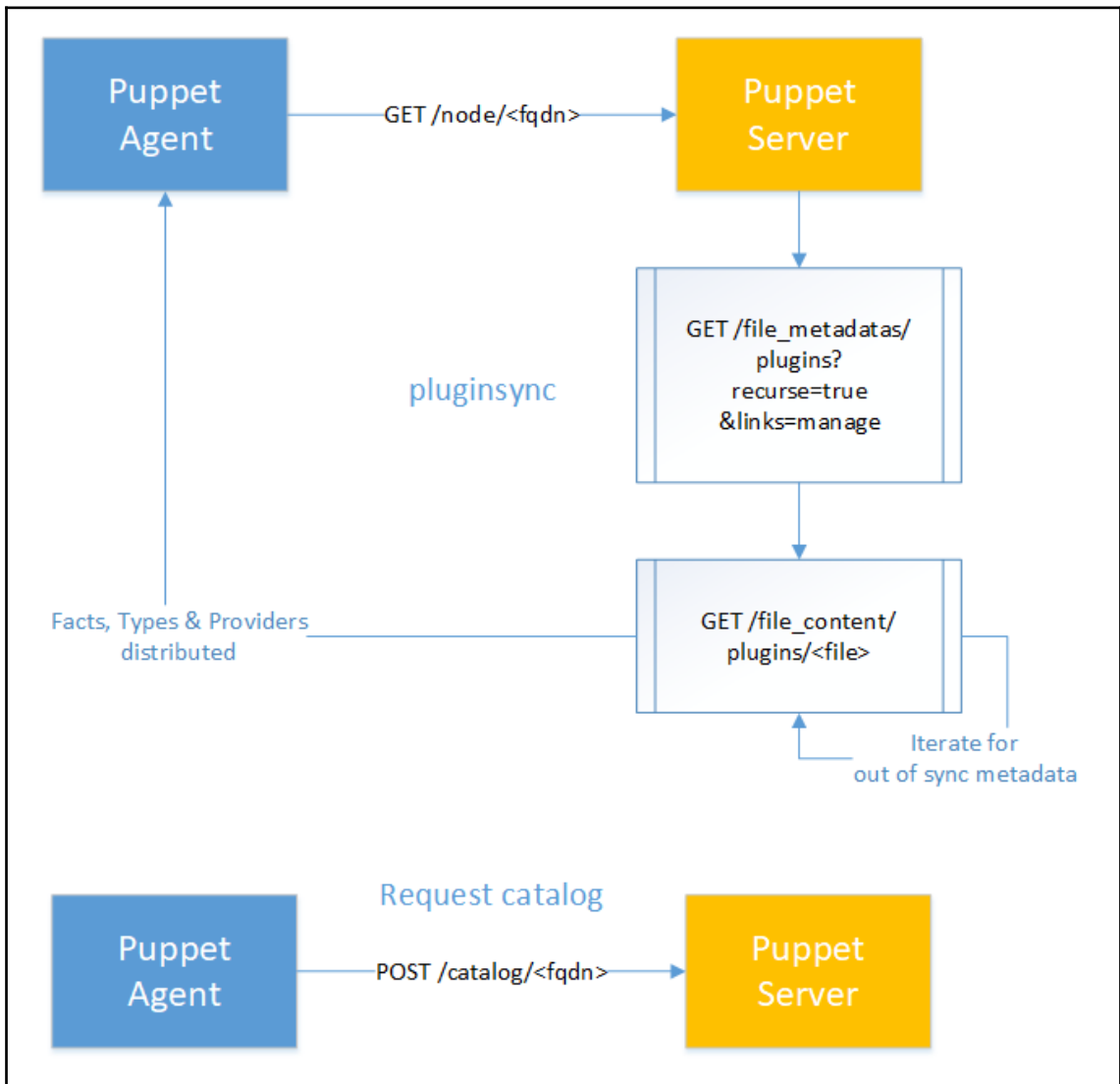
Chapter 2: Roles and Profiles



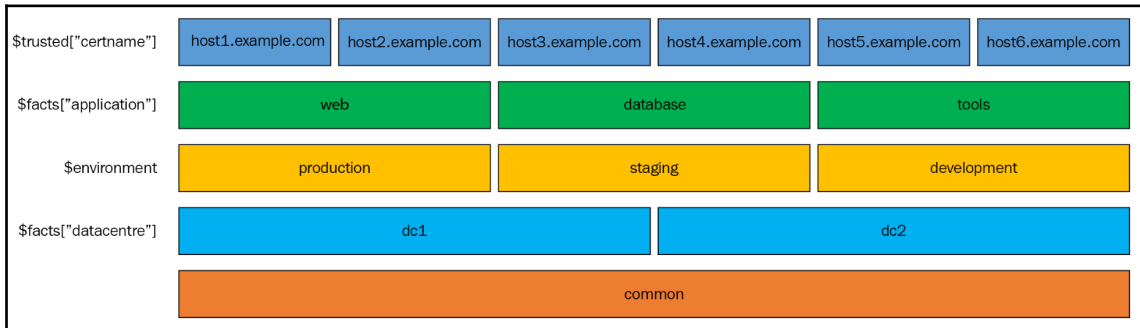




Chapter 3: Extending Puppet



Chapter 4: Hiera 5



Chapter 5: Managing Code

Class: puppet_enterprise::profile::master

Parameter	Value	
<input type="text" value="Parameter name"/>	=	<input type="text"/> Add parameter
r10k_private_key	=	"/etc/puppetlabs/puppetserver/ssh/id-control_repo.rsa" Edit Remove
r10k_remote	=	"git@git.yourcompany.com:control-repo.git" Edit Remove
code_manager_auto_configure	=	true Edit Remove

[Remove this class](#)

Code Deployers

Synchronizes code from version control system to Puppet Servers. [Edit role metadata](#)

[Member users](#) [Permissions](#) [Activity](#)

User name	Login	Status	
<input type="text" value="Select a user to add to the role."/>	-	-	Add user
Ryan Russell-Yates	rary	Added manually	Remove

Code Deployers

Synchronizes code from version control system to Puppet Servers.

[Edit role metadata](#)

Member users

Permissions

Activity

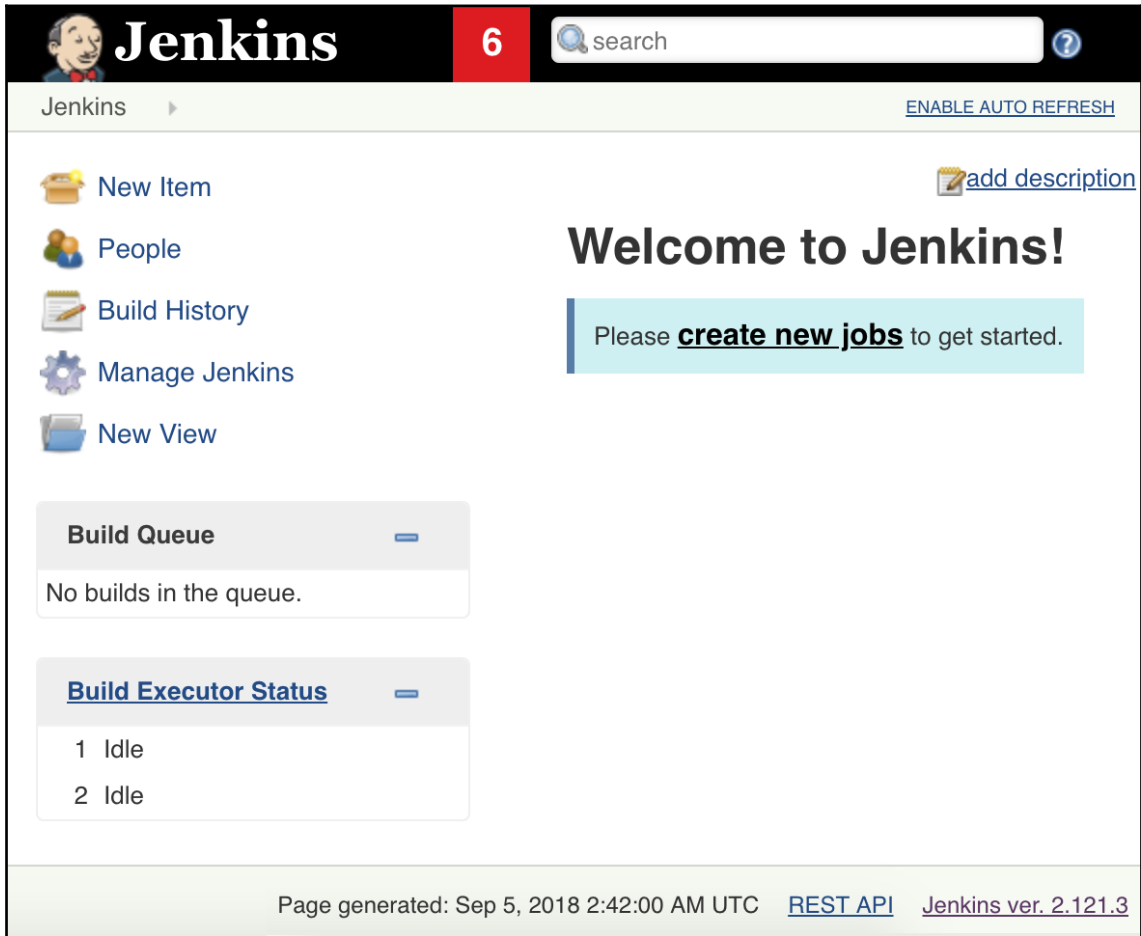
Permissions

Users in this role are allowed to manipulate objects in the following ways:

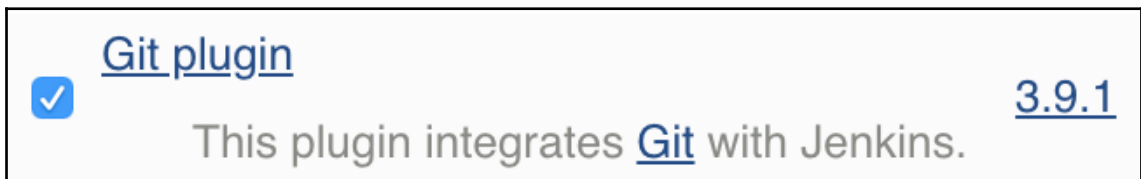
Type	Permission	Object	
Please select a type. ▾			Add permission
Puppet environment	Deploy code	All	✕ Remove

[✕ Remove all permissions](#)

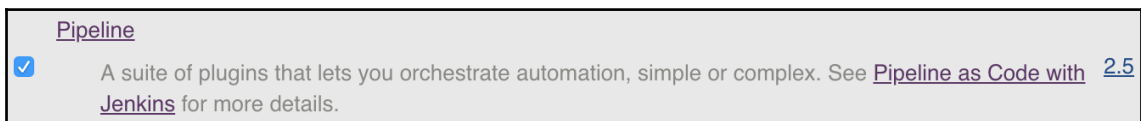
Chapter 7: Continuous Integration



The screenshot shows the Jenkins dashboard. At the top left is the Jenkins logo (a cartoon man) and the word "Jenkins". To its right is a red square with the number "6". Further right is a search bar with the text "search" and a question mark icon. Below the header is a navigation bar with "Jenkins" and a right-pointing arrow, and a link "ENABLE AUTO REFRESH". On the left side, there is a sidebar menu with icons and labels: "New Item", "People", "Build History", "Manage Jenkins", and "New View". On the right side, there is a "Welcome to Jenkins!" message with a sub-message: "Please **create new jobs** to get started." Below the sidebar, there are two expandable sections: "Build Queue" (collapsed) showing "No builds in the queue." and "Build Executor Status" (expanded) showing "1 Idle" and "2 Idle". At the bottom of the dashboard, it says "Page generated: Sep 5, 2018 2:42:00 AM UTC" followed by links for "REST API" and "Jenkins ver. 2.121.3".



A banner for the Git plugin. On the left is a blue checkmark icon. To its right is the text "Git plugin" in blue. On the far right is the version number "3.9.1" in blue. Below this, the text reads "This plugin integrates Git with Jenkins."



A banner for the Pipeline plugin. On the left is a blue checkmark icon. To its right is the text "Pipeline" in blue. Below this, the text reads "A suite of plugins that lets you orchestrate automation, simple or complex. See Pipeline as Code with 2.5 Jenkins for more details."






Jenkins 5 search

Jenkins > All >

Enter an item name

profile

» Required field

-  **Freestyle project**
This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.
-  **Pipeline**
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.
-  **Multi-configuration project**
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.
-  **Folder**
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name as long as they are in different folders.
-  **Multibranch Pipeline**
Creates a set of Pipeline projects according to detected branches in one SCM repository.

OK

Branch Sources

Git X

Project Repository ?

Credentials ?

Behaviors

Discover branches X ?

Property strategy ?

Scan Multibranch Pipeline Triggers

Periodically if not otherwise run ?

Interval ?

Jenkins 5

Jenkins [ENABLE AUTO REFRESH](#)

- New Item [add description](#)
- People
- Build History
- Manage Jenkins
- Credentials
- New View

S	W	Name ↓	Last Success	Last Failure	Last Duration
		profile	32 sec - log	N/A	8.6 sec

Icon: [S](#) [M](#) [L](#) [Legend](#) [RSS for all](#) [RSS for failures](#)

Build Queue -

No builds in the queue.

Build Executor Status -

1 Idle

2 Idle

Page generated: Sep 10, 2018 12:32:12 AM UTC [REST API](#) Jenkins ver. 2.121.3

Build Triggers


- Build after other projects are built ?
- Build periodically ?
- Poll SCM ?

Schedule ?

Do you really mean "every minute" when you say "*****"? Perhaps you meant "H*****" to poll once per hour












Would last have run at Monday, September 10, 2018 12:44:49 AM UTC; would next run at Monday, September 10, 2018 12:44:49 AM UTC.

- Ignore post-commit hooks ?
- Disable this project ?
- Quiet period ?

 **Jenkins**
5

?

Jenkins > profile >
[ENABLE AUTO REFRESH](#)

-  Up
-  Status
-  Configure
-  Scan Multibranch Pipeline Now
-  Scan Multibranch Pipeline Log
-  Multibranch Pipeline Events
-  Delete Multibranch Pipeline
-  People
-  Build History
-  Pipeline Syntax
-  Credentials


Build Queue -

No builds in the queue.

Build Executor Status -







1 Idle

2 Idle



profile

Branches (2)

S	W	Name ↓	Last Success	Last Failure	Last Duration	
		master	41 min - #1	N/A	18 sec	
		pdk	7 min 37 sec - #1	N/A	28 sec	

Icon: [S](#) [M](#) [L](#)

[Legend](#)
[RSS for all](#)
[RSS for failures](#)
[RSS for just latest builds](#)

Page generated: Sep 10, 2018 1:13:18 AM UTC [REST API](#) [Jenkins ver. 2.121.3](#)

Chapter 8: Extending Puppet with Tasks and Discovery

Run a task

Set up a job to run a task on your nodes.

Task	Job description
<input type="text" value="logs::puppetserver"/>	<input type="text" value="Provide a description for your job"/>
view task metadata	

logs::puppetserver [Learn about data types](#)
Retrieve a log file from the puppetserver

Required Parameters	Optional Parameters
log Enum[console,puppetdb,puppetserver] The Puppetserver log you want to read	store Boolean Store logfile in /tmp/puppetlog.log

Task parameters

Enter parameters and values for this task. Parameters marked with an asterisk (*) are required. To pass an empty string as a parameter value, add two double quotes with no space ("").

Parameter	Value	
<input type="text" value="store"/>	=	<input type="text" value="false"/> Add Parameter
*log	=	<input type="text" value="Select a value"/> <ul style="list-style-type: none">consolepuppetdbpuppetserver

Job 56

Task: logs:puppetserver

Start time 2018-09-23 02:34 Z | Duration 00:00:00 | User Administrator | Job Details

Job complete

Run again

Job succeeded. All nodes ran without failures.

1

Node completed
(1 total nodes)

1

Node succeeded

0

Nodes failed

0

Nodes skipped

Node run results

Filter by job node status All

Apply

1 node

pe-puppet-master

Start time: 2018-09-23 02:34 Z

Run time: 00:00:00

Succeeded

```
{'puppetdb': '2018-09-23T00:20:55.115Z INFO [p.p.command] [8-1537662054876] [212 ms] 'replace facts' command processed for pe-puppet-master
2018-09-23T00:21:12.077Z INFO [p.p.command] [9-1537662071679] [370 ms] 'store report' puppet v5.5.2 command processed for pe-puppet-master
2018-09-23T00:21:53.936Z INFO [p.p.c.services] Starting sweep of stale nodes (threshold: 7 days)
2018-09-23T00:21:53.949Z INFO [p.p.c.services] Finished sweep of stale nodes (threshold: 7 days)
2018-09-23T00:21:53.949Z INFO [p.p.c.services] Starting purge deactivated and expired nodes (threshold: 14 days)
2018-09-23T00:21:53.953Z INFO [p.p.c.services] Finished purge deactivated and expired nodes (threshold: 14 days)
2018-09-23T00:21:53.953Z INFO [p.p.c.services] Starting sweep of stale reports (threshold: 14 days)
2018-09-23T00:21:53.957Z INFO [p.p.c.services] Finished sweep of stale reports (threshold: 14 days)
2018-09-23T00:21:53.957Z INFO [p.p.c.services] Starting gc packages
2018-09-23T00:21:53.958Z INFO [p.p.c.services] Finished gc packages
2018-09-23T00:21:53.959Z INFO [p.p.c.services] Starting database garbage collection
2018-09-23T00:21:54.115Z INFO [p.p.c.services] Finished database garbage collection
```



IP Addresses

Specify an IP address range, enter a CIDR block, or upload a comma-separated IP address list.

Name

Puppet Infrastructure

Type

CIDR

IP Address

10.20.1.0

Subnet Mask

24

Cancel

Discover

Your IP addresses

Select from three types to define the network or network segment for discovering resources:

- Enter a unique and descriptive name.
- Enter a range of IP addresses.
- Enter a CIDR block, including the base IP address and the subnet mask to determine the network portion of the address.
- Upload a comma-separated list of IP addresses.

Your SSH private key files

Upload your SSH private key file to authenticate Puppet Discovery with your hosts.

▼ **SSH key 1** | File name: vagrant-private.pem

Name

Which scope would you like to give to this credential?

Discover data on hosts

Run tasks on target hosts

Escalate privileges to root

Username

Passphrase

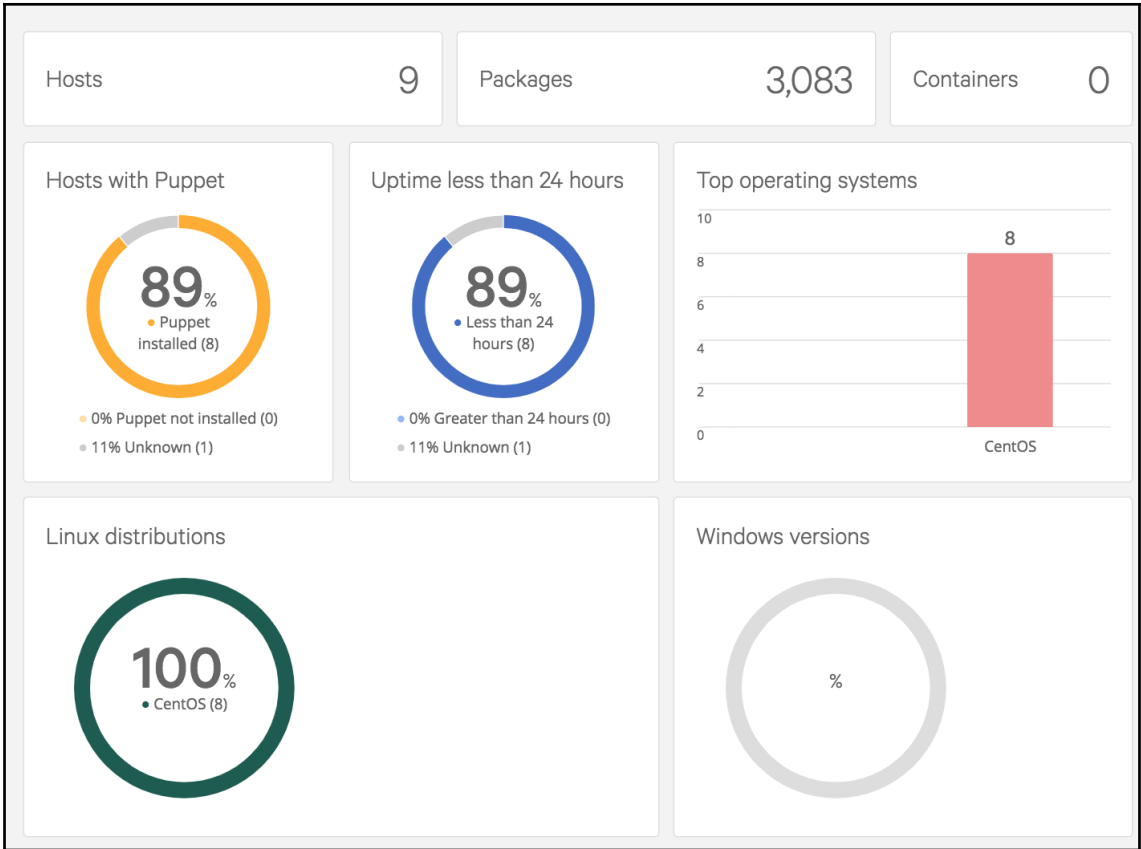
[Cancel](#)

[Add keys](#)

Your SSH private key files:

The SSH private key credentials required to authenticate Puppet Discovery with your hosts are:

- A unique and descriptive name to identify the key.
- A username and passphrase - the username to authenticate with the host, and the passphrase to decrypt the SSH key.
- A scope assigned to the SSH key - Discover (discover resources on hosts) or Tasks (run tasks on target hosts).



Discover data

Started Sep 23, 2018 1:06 PM | Status Completed

Status	Source	Details	Completion time
● Succeeded	Puppet Infrastructure	Found 9 Facets	Sep 23, 2018 1:06 PM
● Failed	Puppet Infrastructur...	Unable to connect to resource netscan://node/Puppet Infrastructure/10.20.1.1	Sep 23, 2018 1:06 PM
● Succeeded	Puppet Infrastructur...	Found 609 Facets	Sep 23, 2018 1:06 PM
● Succeeded	Puppet Infrastructur...	Found 616 Facets	Sep 23, 2018 1:06 PM
● Succeeded	Puppet Infrastructur...	Found 566 Facets	Sep 23, 2018 1:06 PM
● Succeeded	Puppet Infrastructur...	Found 535 Facets	Sep 23, 2018 1:06 PM
● Succeeded	Puppet Infrastructur...	Found 535 Facets	Sep 23, 2018 1:06 PM
● Succeeded	Puppet Infrastructur...	Found 541 Facets	Sep 23, 2018 1:06 PM
● Succeeded	Puppet Infrastructur...	Found 558 Facets	Sep 23, 2018 1:06 PM
● Succeeded	Puppet Infrastructur...	Found 565 Facets	Sep 23, 2018 1:06 PM

Hosts

This list shows all hosts running on your infrastructure. Filter list by hostname.

Hostname	IP address	Operating system	OS version	Uptime	Last scan
Puppet Infrastructure-10...	10.20.1.1				Sep 23, 2018 1:08 PM
Puppet Infrastructure-10...	10.20.1.10	CentOS	7 (Core)	39 minutes	Sep 23, 2018 1:09 PM
Puppet Infrastructure-10...	10.20.1.11	CentOS	7 (Core)	38 minutes	Sep 23, 2018 1:09 PM
Puppet Infrastructure-10...	10.20.1.12	CentOS	7 (Core)	38 minutes	Sep 23, 2018 1:09 PM
Puppet Infrastructure-10...	10.20.1.13	CentOS	7 (Core)	37 minutes	Sep 23, 2018 1:09 PM
Puppet Infrastructure-10...	10.20.1.14	CentOS	7 (Core)	37 minutes	Sep 23, 2018 1:09 PM
Puppet Infrastructure-10...	10.20.1.7	CentOS	7 (Core)	40 minutes	Sep 23, 2018 1:09 PM
Puppet Infrastructure-10...	10.20.1.8	CentOS	7 (Core)	36 minutes	Sep 23, 2018 1:09 PM
Puppet Infrastructure-10...	10.20.1.9	CentOS	7 (Core)	35 minutes	Sep 23, 2018 1:09 PM

Packages

This list shows all packages in use across your infrastructure. Filter list by package name.

Package	<input type="text" value="Filter by package name"/>	<input type="button" value="Apply"/>	Total packages: 3,083
Package	Version	Package manager	Instances
GeoIP	1.5.0-11.el7-x86_64	rpm	1
NetworkManager	1.0.6-27.el7-x86_64	rpm	8
NetworkManager-libnm	1.0.6-27.el7-x86_64	rpm	8
NetworkManager-team	1.0.6-27.el7-x86_64	rpm	8
NetworkManager-tui	1.0.6-27.el7-x86_64	rpm	8
PyYAML	3.10-11.el7-x86_64	rpm	1

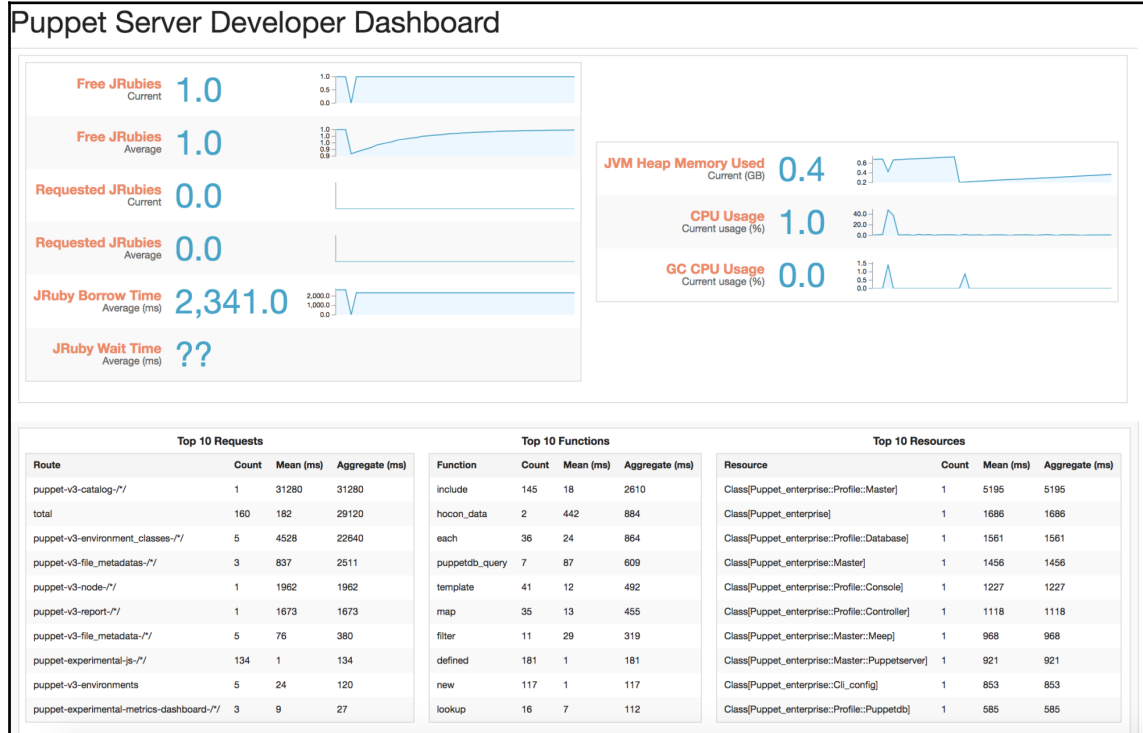
Select a task

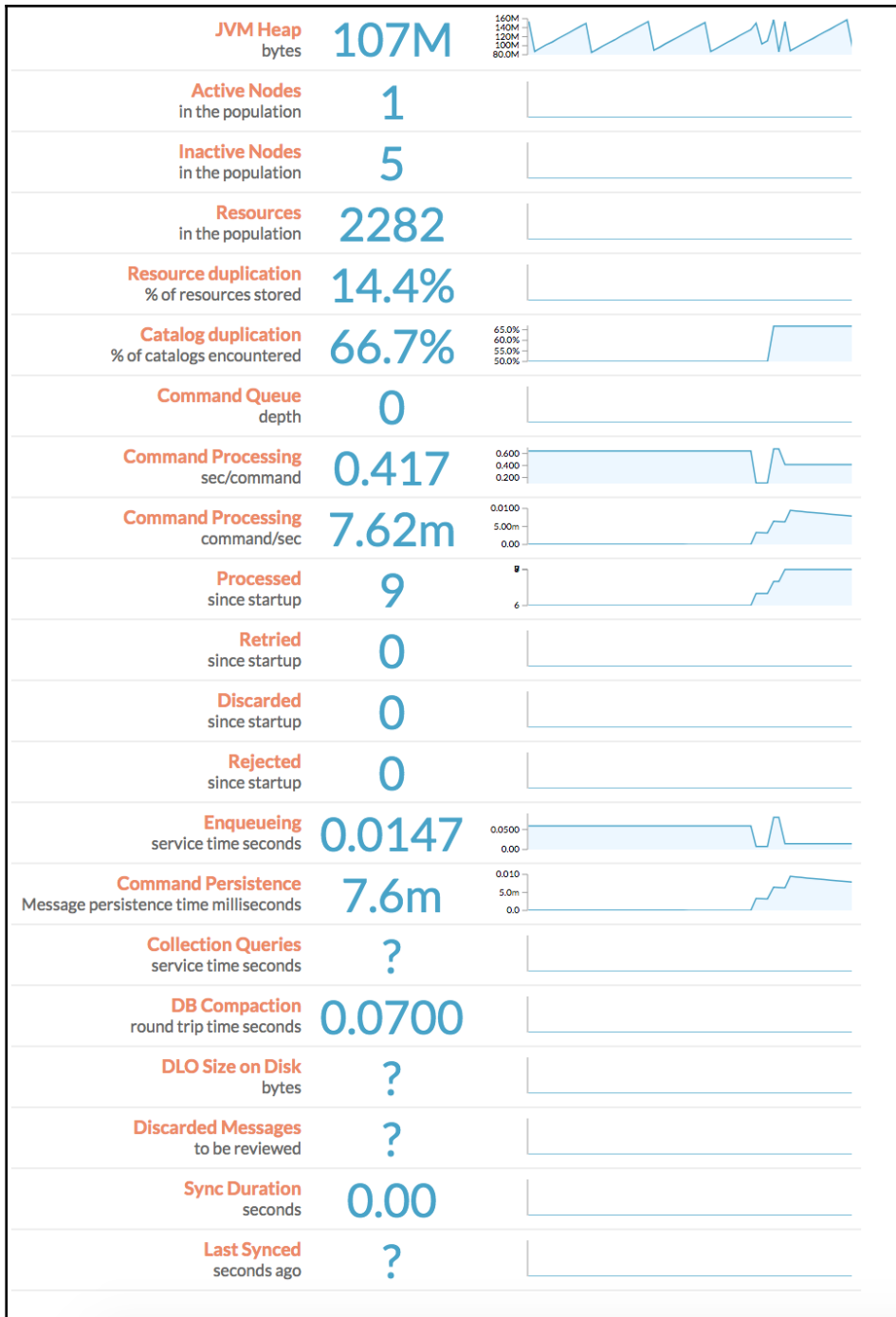
Enter your task details and continue to select your target hosts.

Tasks

Install Puppet agent on Linux		▼
Install Puppet agent on Linux	Bootstrap a node with puppet-agent for Linux	
Install Puppet agent on Windows	Bootstrap a node with puppet-agent for Windows	
Manage service on Linux	Manage the state of services (without a puppet agent)	
Manage service on Windows	Manage the state of Windows services (without a puppet agent)	

Chapter 11: Scaling Puppet





puppet

INSPECT

Overview

Nodes

Packages

Reports

Jobs

Events

CONFIGURE

Classification

RUN

Puppet

Task

SETUP

Unsigned certs

Access control

License

My account

Help

Log out

v2018.1.2

PE Master

Parent [PE_Infrastructure](#)
Environment production [Edit node group metadata](#) [Remove node group](#) Run

Rules (2 changes)

Matching nodes

Configuration

Variables

Activity

Write rules to dynamically assign nodes to this group based on fact values. Begin with "trusted" to designate a trusted fact.

Nodes must match all rules.
 Nodes may match any rule. Show all node matches

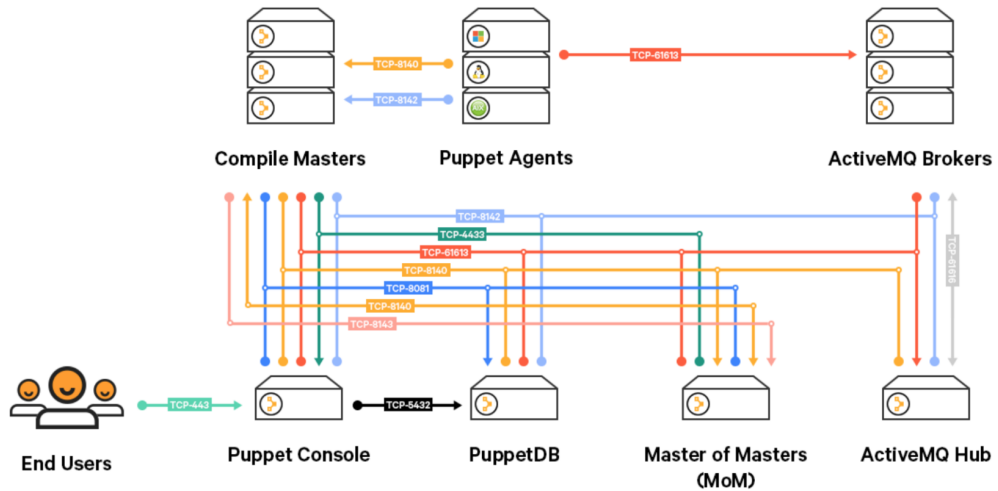
Fact	Operator	Value	Node matches
<input style="width: 95%;" type="text"/>	=	<input style="width: 95%;" type="text"/>	<input type="button" value="Add rule"/>

Number of nodes pinned to this group: 3

Certname	
<input style="width: 95%;" type="text"/>	<input type="button" value="Pin node"/>
pe-puppet-master3	Discard changes
pe-puppet-master2	Discard changes
pe-puppet-master	Unpin

Firewall configuration for large environment installations

The port requirements for large environment installation are the same as those for split installation.



Key	● Puppet Agent TCP-8140	● MCollective TCP-61613	● PuppetDB TCP-8081	● PostgreSQL TCP-5432	● Orchestration/PCP TCP-8143
	● Orchestration TCP-8142	● HTTPS TCP-443	● ActiveMQ TCP-61616	● Node Classifier API Endpoint TCP-4433	

Chapter 12: Troubleshooting and Profiling

