



Puppet Latest and Greatest

Dimitri Tischenko

Puppet Principal Sales Engineer



Who is talking to you?



@timidri

Name: Dimitri Tischenko

Lives: The Hague, Netherlands

History: 22 years IT as company owner / free-lancer

Skills: Dev, Ops, Devops, Coach, Architect

Job: SE at Puppet since September 2017

Fun fact 1: Dances + teaches Argentine Tango

Fun fact 2: Originally from St Petersburg, Russia

Fun fact 3: Tries to speak German

Agenda

Puppet Overview

Puppet Latest and Greatest

Demo

Q+A?

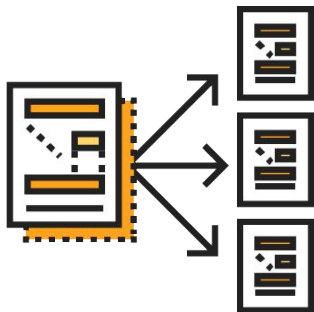
What is Puppet?



An automatic way to ...



Know what you
have



Control it and
enforce consistency



Secure it and
keep it compliant




Modernize it

Using a common language

Across everything, no matter where it runs

Using a common language

Get a standard way to deliver & operate all of your software



```
class firewall::redhat (
  $ensure = running,
  $enable = true
) {
  service { 'iptables':
    ensure    => $ensure,
    enable    => $enable,
    hasstatus => true,
  }
}
```

- Define once with an easy-to-understand language & automate endlessly
- Improve collaboration by unifying processes and tooling
- Get started quickly by choosing from thousands of free modules

Infrastructure as Code

Describe the ideal environment with a simple, commonly understood language

```
building { 'home':  
  ensure      => 'clean',  
  front_door  => 'closed',  
  keys        => 'key_hook',  
  jacket      => 'closet',  
  floor       => 'vacuumed',  
  litter_box  => 'empty',  
  remote      => 'coffee_table',  
}
```



Infrastructure as Code

```
file { '/tmp/hello.txt':  
  content => 'Hello World!',  
  owner   => 'root',  
  mode    => '0644',  
}
```

```
package { 'httpd':  
  ensure => installed,  
}
```

```
service { 'httpd':  
  ensure => running,  
}
```


Infrastructure as Code

```
class profile::app::sample_website::linux (
  String $doc_root = '/var/www/html',
  Integer $webserver_port = 80,
  String $website_source_dir = 'puppet:///modules/profile/app/sample_website'
) {


  class {'::profile::app::webserver::apache':
    default_vhost => false,
  }

  # configure apache
  apache::vhost { $::fqdn:
    port      => $webserver_port,
    docroot   => $doc_root,
    require   => File[$doc_root],
  }

  # ...
}
```

Puppet Forge: 5000+ modules

[Home](#) [PuppetConf](#) [Forge](#) [Docs](#) [Learn](#) [Support & Services](#) [Contact Us](#)



[Supported](#) [Approved](#) [With Tasks](#) [Find](#)

Found 46 modules using filters [Latest release](#) | [Most Downloads](#)

Filters [clear](#)

Operating System

- Any -

Puppet Version

- Any -

Puppet Enterprise Version

- Any -

Supported or Approved

Supported


☐ Only modules with Tasks

☐ Include deleted modules

[Apply Filters](#)


Note: Modules that do not have information about compatibility in their metadata will not appear in filtered results.

Authors: [Learn how to add compatibility to your modules.](#)

 **puppetlabs/stdlib** [SUPPORTED](#)


Standard library of resources for Puppet modules.

Version 4.20.0 • Sep 11, 2017 • 6,557,600 downloads [37,401,239](#) | [5.0](#)

 **puppetlabs/concat** [SUPPORTED](#)


Construct files from multiple fragments.

Version 4.0.1 • Jun 14, 2017 • 18,124,019 downloads [26,888,003](#) | [4.6](#)

 **puppetlabs/ntp** [SUPPORTED](#)


Installs, configures, and manages the NTP service.

Version 6.3.0 • Oct 4, 2017 • 2,379 downloads [24,396,391](#) | [4.8](#)

 **puppetlabs/powershell** [SUPPORTED](#)

Adds a new exec provider for executing PowerShell commands.


Version 2.1.2 • Jul 27, 2017 • 77,688 downloads [13,665,747](#) | [5.0](#)

 **puppetlabs/apt** [TASKS](#) [SUPPORTED](#)

Provides an interface for managing Apt source, key, and definitions with Puppet

Tasks: [init](#)

Version 4.3.0 • Oct 11, 2017 • 4,211 downloads [11,579,189](#) | [4.7](#)

 **puppetlabs/vcsrepo** [SUPPORTED](#)

Puppet module providing a type to manage repositories from various version control systems

Version 2.0.0 • Jun 30, 2017 • 67,806 downloads [9,120,214](#) | [4.5](#)

How Puppet Works

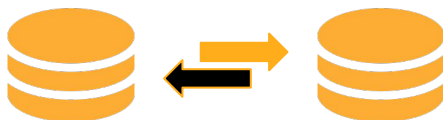
1. Define your desired state

```
service { 'w32time':  
  ensure => running,  
  enable => true,  
  subscribe => Registry_value[$key],  
}
```

2. Simulate configuration



3. Enforce configuration



4. Report



Overview: Puppet Enterprise

Integrations



vmware



Packaging + out-of-the-box scalability

Supported modules

User interface

Role-based
access control

Visualization
& reporting

Orchestration

Supported platform

Service

Training

Support

Open source Puppet

Thorsten Biel, Porsche PuppetConf 2017



[Puppet Enterprise] helps me sleep at night.
And in my eyes, that's worth a license fee.

DEMO

Puppet Enterprise

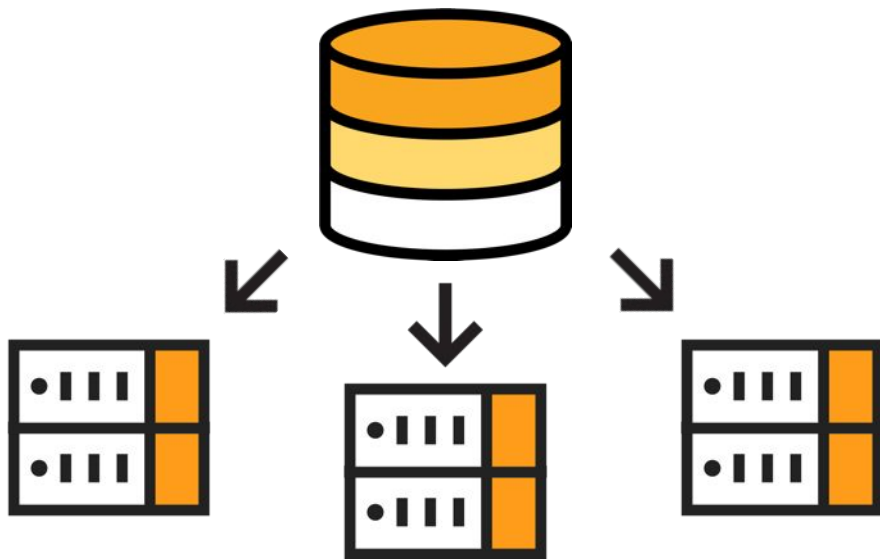


Puppet Tasks

Latest and Greatest

Puppet excels at modern automation

Model-driven approach helps scale your automation footprint across your organization



- Model your desired state
- Continually monitor and enforce desired configurations
- Automatically remediate any unexpected changes or drift

But sometimes you just need to make point in time changes

Quickly troubleshooting systems & devices

Deploying one-off changes to individual systems

Executing sequenced actions as part of a deployment workflow

Stopping and restarting services where there may be multiple changes in state

Migrating databases

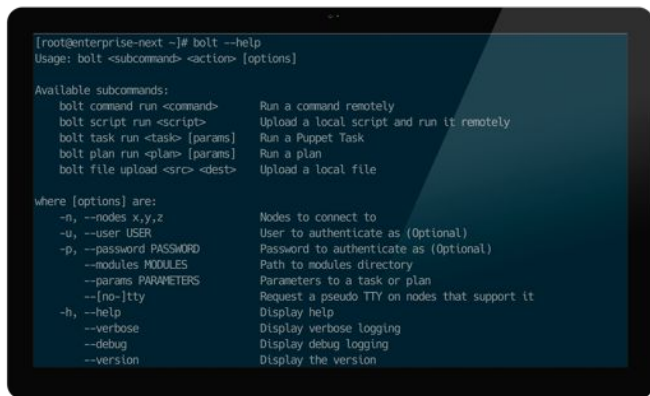
Introducing Puppet Tasks.

Easily **automate** ad hoc tasks.
Eliminate **manual** work.

Puppet Tasks comes in two flavors

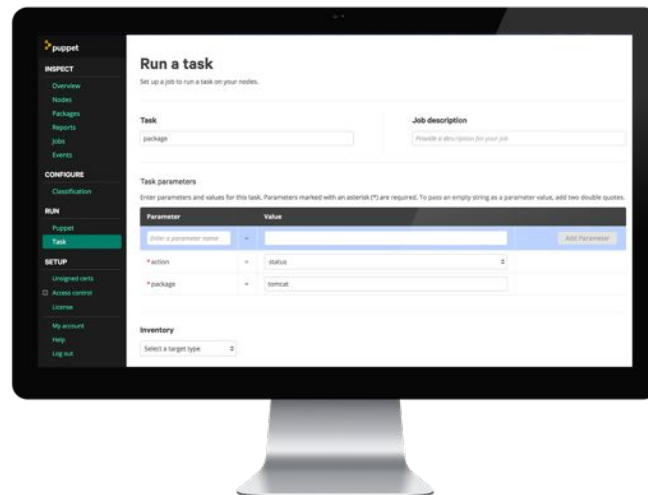
Puppet Bolt

Automate tasks across smaller infrastructures with a simple, agentless, extensible open source task runner



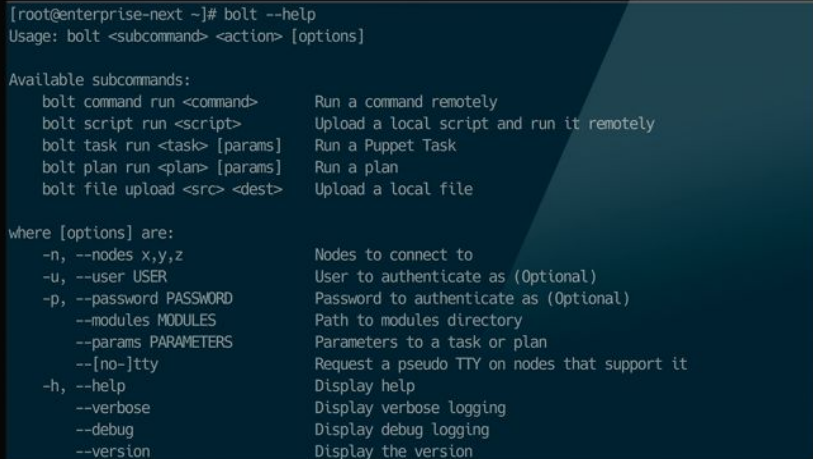
Puppet Enterprise Task Management

Get scale, governance and flexibility for larger organizations & infrastructures



Puppet Bolt

Open source, agentless task runner to automate ad hoc work



```
[root@enterprise-next ~]# bolt --help
Usage: bolt <subcommand> <action> [options]

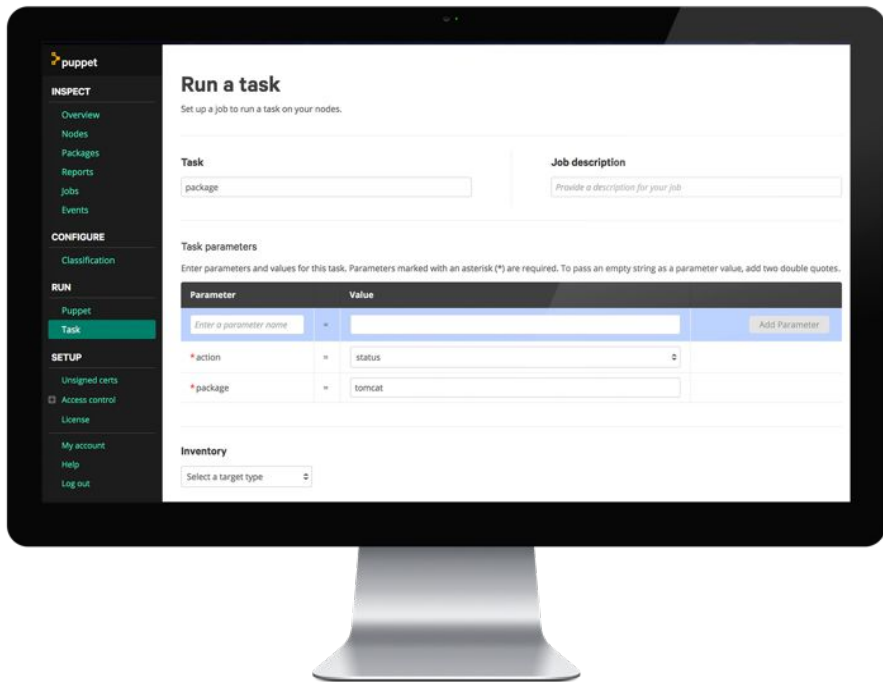
Available subcommands:
  bolt command run <command>      Run a command remotely
  bolt script run <script>         Upload a local script and run it remotely
  bolt task run <task> [params]    Run a Puppet Task
  bolt plan run <plan> [params]    Run a plan
  bolt file upload <src> <dest>    Upload a local file

where [options] are:
  -n, --nodes x,y,z               Nodes to connect to
  -u, --user USER                 User to authenticate as (Optional)
  -p, --password PASSWORD         Password to authenticate as (Optional)
  --modules MODULES               Path to modules directory
  --params PARAMETERS             Parameters to a task or plan
  --[no-]tty                      Request a pseudo TTY on nodes that support it
  -h, --help                     Display help
  --verbose                      Display verbose logging
  --debug                        Display debug logging
  --version                      Display the version
```

- **Simple**
 - Quickly get started automating manual, repetitive work
- **Agentless**
 - Simply connect to devices remotely and execute scripts written in any framework
- **Extensible**
 - Start automating simple tasks and simplify adoption of Puppet Enterprise

Puppet Enterprise Task Management

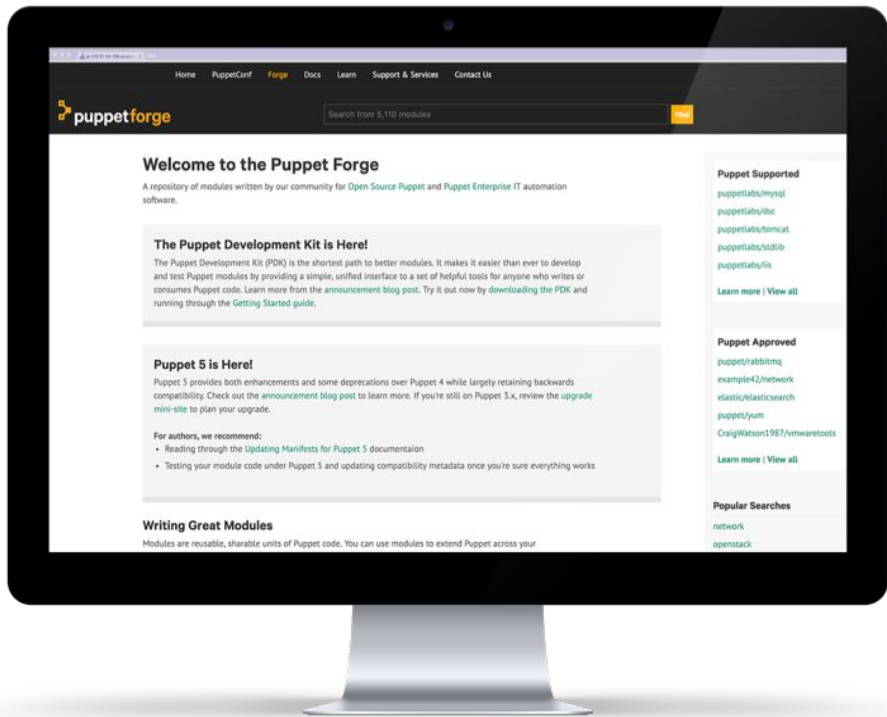
Powerful ad hoc task automation and visibility for larger infrastructures and teams



- **Scale**
 - Instantly run tasks across tens of thousands of nodes
- **Governance**
 - Control who runs which tasks
 - View audit histories of every action taken
- **Flexibility**
 - Run tasks from web UI, API or CLI
 - Filter and target infrastructure for task runs

Get started faster with modules that enable tasks

Pre-written modules on Puppet Forge enable you to quickly begin automating



- Learn about Puppet Tasks
- Find modules with pre-built tasks
- Read in-line documentation about tasks
- Learn how to write tasks
- Contribute tasks as Puppet modules

Tasks Summary

- An API for execution of scripts written in any language
- Tasks live in modules

bolt	Puppet Enterprise Task Manager
Does not need puppet server or agent	Needs Puppet Enterprise
Uses ssh or winrm	Works with the Puppet Orchestrator
Limited by machine running bolt	Scales to 100K nodes

DEMO

Puppet Tasks



Puppet Discovery

Latest and Greatest

The World is made up of Resources

Resources

Operating System



RHEL



Windows



Ubuntu



Solaris



AIX

...

Cloud Infrastructure



AWS



Azure



VMWare



OpenStack



Nutanix

...

Distributed Infrastructure



Kubernetes



Docker DataCenter



Mesos / DCOS



Splunk Enterprise



MySQL

...

Delivery Toolchain



Jenkins



Travis



Github Enterprise



Bitbucket Enterprise



Gitlab

...

3rd
Party
Resources

...

Discovery leads to Insights leads to Action



Discovery

Quickly identify all of the *things* that are running across your hybrid landscape

Discover Traditional
Resources



Discover Cloud and
Virtual Resources




Discover Containers and
Cloud Native Resources



Insights

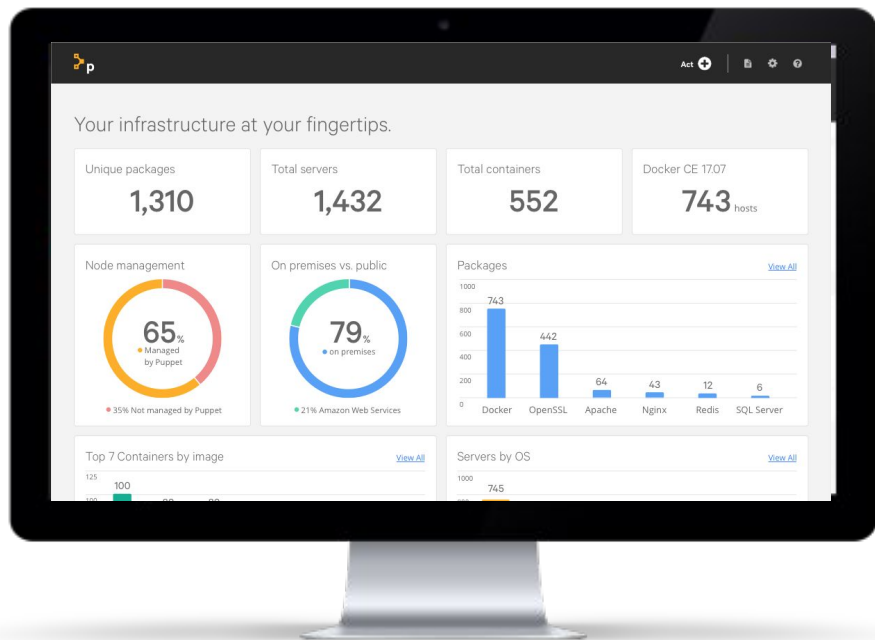


Action

Once you know what you have, manage it with  puppet

Puppet Discovery

Discover what's running on your on-premises and cloud infrastructure



<http://puppet.com/products/puppet-discovery>

Know your infrastructure.

Total servers

244

Unique packages

1,310

Docker hosts

80

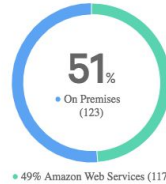
Total containers

552

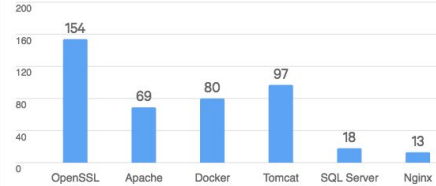
Managed by Puppet



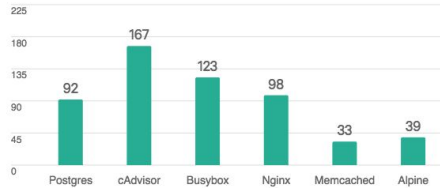
On-premises vs. public



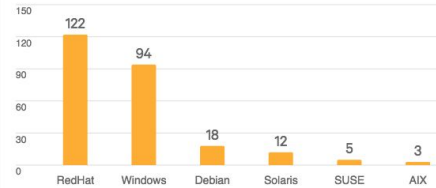
Common packages



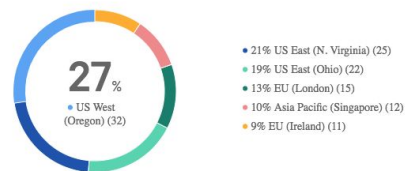
Containers by image



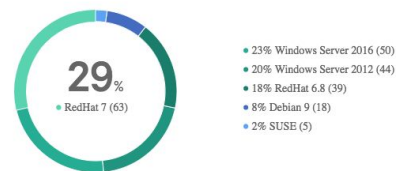
Servers by OS



EC2 instances



Linux vs. Windows



Hallo <name>,

ich möchte mich gerne auf
r für die DACH Region bei Puppet.

diese etwas unpersönliche Weise v

In dieser Rolle werde ich Ihr techni

Ich hoffe Sie bald zu treffen und freue mich

Mit freundlichen Grüßen,

Dimitri Tischeko

DEMO

Puppet Discovery

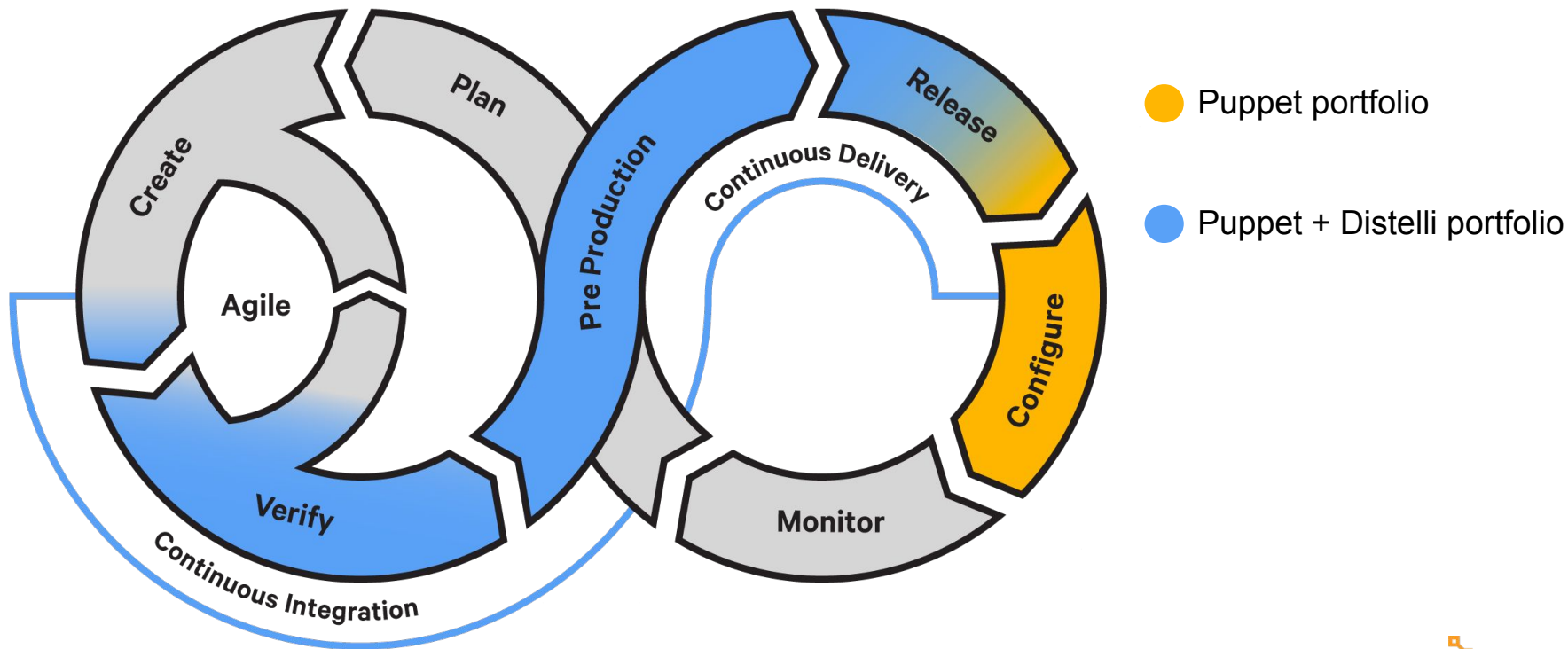


Puppet Pipelines

Latest and Greatest

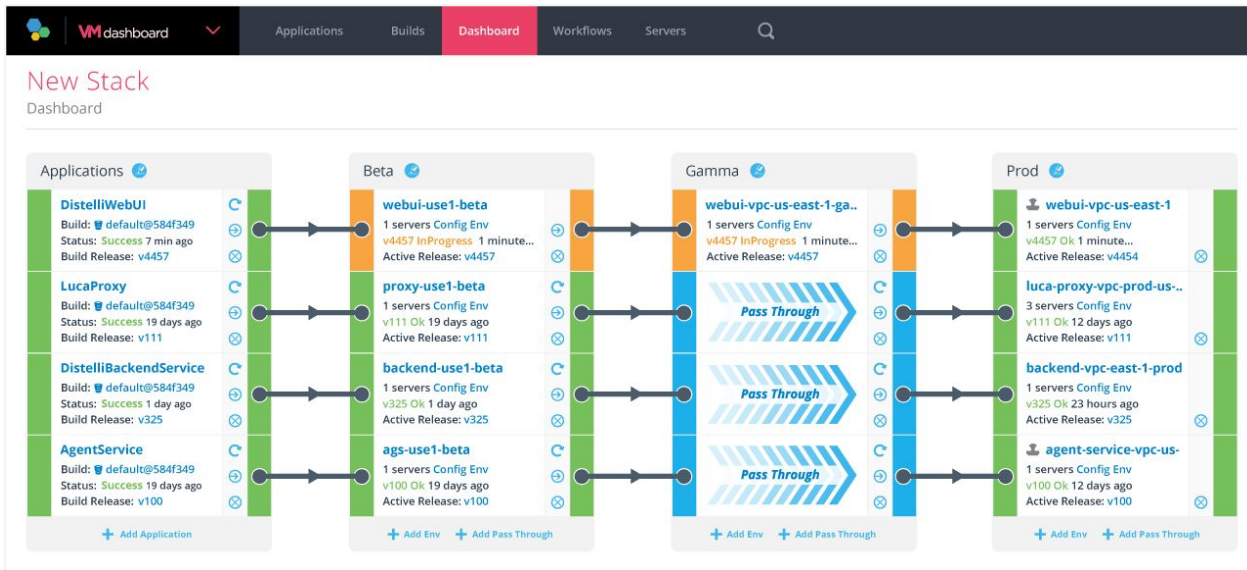
Puppet and Distelli

Orchestrating and automating the entire software delivery lifecycle



Puppet Pipelines for Applications

Build and deploy containers to virtual machines on any cloud



access controls and audit trails • automate deployments and pipelines with gates
dashboards for complete visibility • integrated build system • cloud server management and provisioning • notifications to Slack, Hipchat and email • on cloud and on-premises

Puppet Pipelines for Containers

Build containers and deploy to Kubernetes on any cloud

Clusters

Connect, sync, or add new clusters.

Overview Filter by... > cluster name

	distelli-test-cluster aws	us-east-1 2 Nodes
	distelli-beta-cluster gke	us-east-1 3 Nodes
	distelli-beta-cluster gke	us-east-1 3 Nodes

Healthy

Platform: [gke](#)
Project: [distelli-alpha](#)
us-west-1-a: 3 nodes
Machine: n1-standard-1
Disk Size (GB): 100
Address Range: 10.0.0.0/14
Master Version: 1.5.7
Endpoint: 104.154.183.93
Namespaces: [bmcgehee](#), [custom-bmtest](#), [default](#), [europa](#), [europa-ce](#), [europa-ee](#), [europa-pe](#), [europa1](#), [kida-beta](#), [kida-prod](#), [kube-system](#), [kubernetesclient-test](#) 14 more...

Pod Sets | 15 sets

heapster-v1.2.0.1 | 1 Pod

Pod: [heapster-v1.2.0.1-1382115970-x1sr9](#) Start Time: 3:56PM Apr 17, 2017
Container(s): [heapster](#) - [gcr.io/google_containers/heapster:v1.2.0](#) [heapster-nanny](#) - [gcr.io/google_containers/addon-resizer:1.7](#)

[View Replica Set Details](#)

kube-dns | 2 Pods

Pod: [kube-dns-2185667875-xjn9pv3](#) Start Time: 3:56PM Apr 17, 2017
Container(s): [kubedns](#) - [gcr.io/google_containers/kubedns-amd64:1.9](#) [dnsmasq](#) - [gcr.io/google_containers/kube-dnsmasq-amd64:1.4.1](#) 2 more...

[View Replica Set Details](#)

kube-dns-2185667875-xjn9p

Pod: [kube-dns-2185667875-xjn9p](#) Start Time: 11:41AM May 7, 2017
Container(s): [kubedns](#) - [gcr.io/google_containers/kubedns-amd64:1.9](#) [dnsmasq](#) - [gcr.io/google_containers/kube-dnsmasq-amd64:1.4.1](#) 2 more...

[View Replica Set Details](#)

kube-dns-autoscaler | 1 Pod

Pod: [kube-dns-autoscaler-395097547-11vs1](#) Start Time: 3:56PM Apr 17, 2017
Container(s): [autoscaler](#) - [gcr.io/google_containers/cluster-proportional-autoscaler-amd64:1.1.0-r2](#)

[View Replica Set Details](#)

Deployments Services Jobs

Filter Deployments...

Name: [k8s-mysql](#)
Namespace: [bmtest](#)
Available Replicas: 1
Observed Generation: 2
Desired Replicas: 1
Updated Replicas: 1

Name: [k8s-mysql](#)
Namespace: [default](#)
Available Replicas: 1
Observed Generation: 2
Desired Replicas: 1
Updated Replicas: 1

create and manage Kubernetes clusters anywhere • deploy to Kubernetes • build Docker images • automate pipelines to Kubernetes clusters • track every event on your apps

Puppet Container Registry

A Docker registry for the modern world

The screenshot displays the Puppet Container Registry web interface. At the top, there's a navigation bar with 'europa' logo, 'Repositories' (active), and 'Pipelines' tabs. The user 'Acme Corp' is logged in. The main content area shows the repository 'distelli-alpha/node-kubernetes' under the 'Europa local registry'. A dropdown menu is open, showing a list of Docker pull events. The first event is highlighted, showing a full Docker pull command and its SHA hash. Below the dropdown, a table lists several Docker pull events with their IDs and timestamps. At the bottom, there are buttons for 'UPDATE15', 'UPDATE14', 'UPDATE13', and 'UPDATE12', along with 'Size: 2.3M' and 'Pushed: 2 day(s) ago'.

Overview	Tags	Events
<input checked="" type="checkbox"/>	7c51973f3331f...	
<input type="checkbox"/>	6c195657890g...	
<input type="checkbox"/>	8f368007423d...	
<input type="checkbox"/>	5b961254685e...	

gcloud docker pull gcr.io/distelli-alpha/client-service@sha256:b9b13491695c456e63eb69d50cef42f199b1737345e18fec21b0364ae655763

- docker pull 168.93.12.1/node-app:123
- docker pull 168.93.12.1/node-app:124
- docker pull 168.93.12.1/node-app:125
- docker pull 168.93.12.1/node-app:126

UPDATE15 UPDATE14 UPDATE13 UPDATE12

Size: 2.3M Pushed: 2 day(s) ago

local and remote repositories • audit trails • automated push pipelines
access control • image locality • teams • single sign-on

DEMO?

Puppet Pipelines

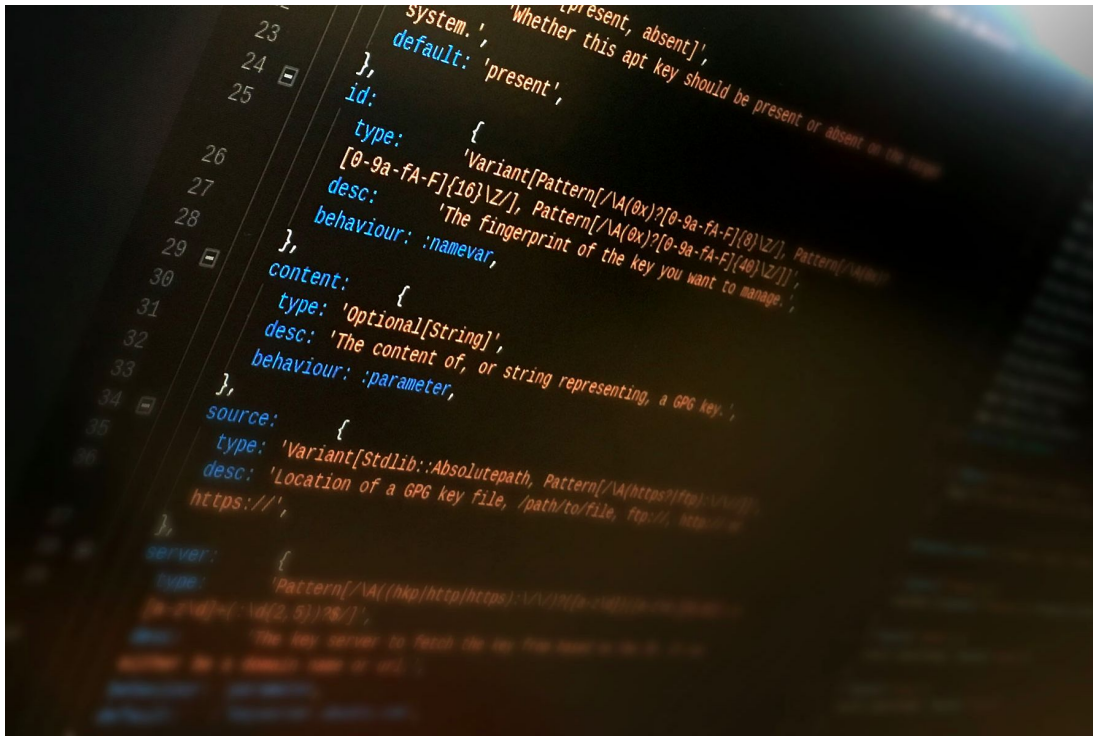


Puppet 5

Latest and Greatest

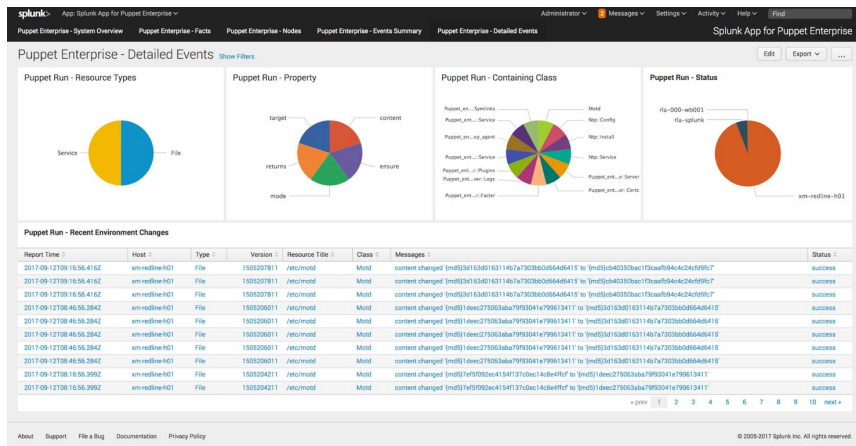
Platform 5

Download, implement and upgrade your Puppet platform more easily

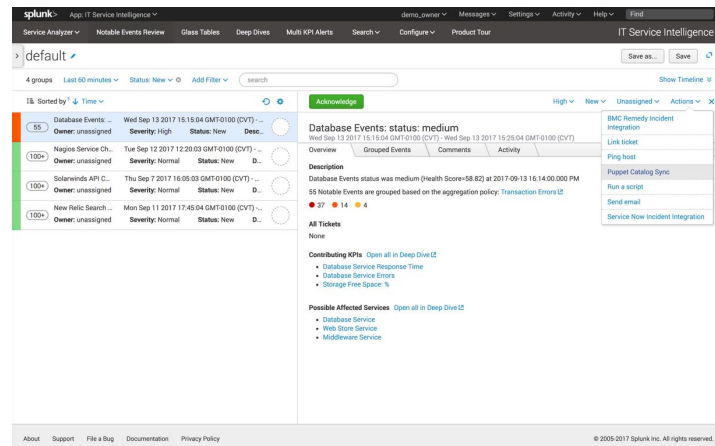


Splunk Partnership

Splunk and Puppet drive enterprise DevOps transformation with new integration and updated app



Splunk App and Add-On for Puppet Enterprise



Splunk ITSI Module for Puppet

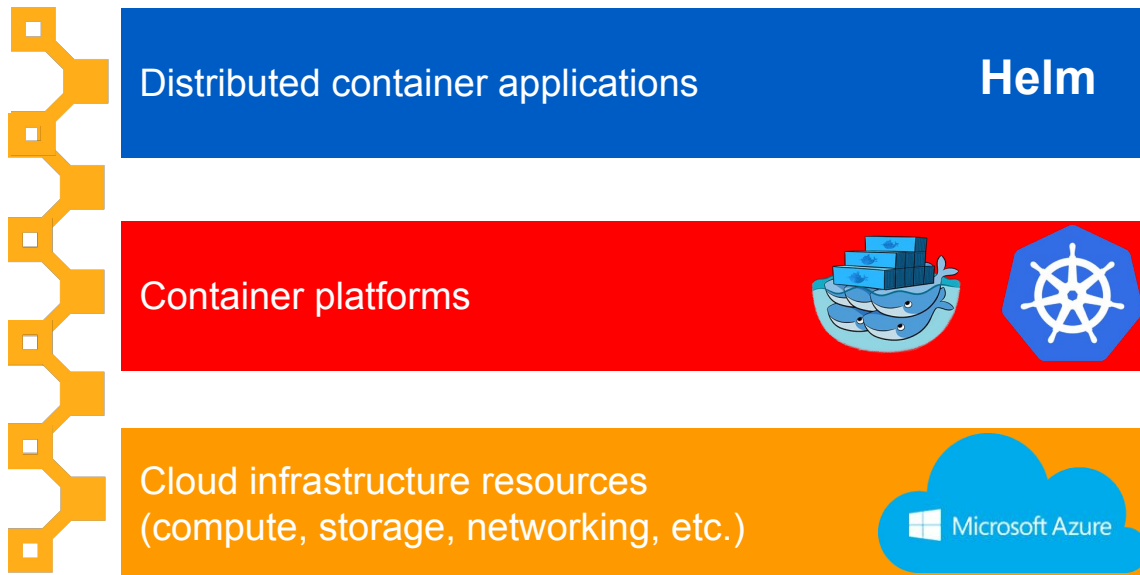


Cloud & Containers

Latest and Greatest

What we're delivering for customers

End-to-end management



AWS CloudFormation Template

Faster deployments of Puppet Enterprise





Azure Marketplace image and module

Updated to Puppet Enterprise 2017.3 and supported in both Azure and AzureStack



Google Cloud Platform

Updates and new additions to Google Cloud modules on Puppet Forge

 Search from 5,147 modules 

Found 7 modules by Google

Latest release | Most Downloads

Filters

clear

Operating System

- Any -

Puppet Version

- Any -

Puppet Enterprise Version

- Any -

Supported or Approved


- Any -

☐ Include deleted modules

Apply Filters


Note: Modules that do not have information about compatibility in their metadata will not appear in filtered results.


Authors: Learn how to add compatibility to your modules.

 **google/cloud**
Puppet module bundle all Google Cloud Platform modules

Version 0.1.1 • Aug 30, 2017 • 308 downloads


472 | 5.0




 **google/gstorage**
A Puppet module to manage Google Compute Storage resources

Version 0.1.1 • Aug 25, 2017 • 340 downloads


361 | 5.0




 **google/gcompute**
A Puppet module to manage Google Compute Engine resources

Version 0.1.0 • Aug 25, 2017 • 351 downloads


351 | 5.0




 **google/gcontainer**
A Puppet module to manage Google Container Engine resources

Version 0.1.0 • Aug 25, 2017 • 347 downloads


347 | 5.0




 **google/gauth**
Authenticates Puppet on Google Cloud Platform.

Version 0.1.0 • Aug 25, 2017 • 346 downloads


346 | 5.0




 **google/gsql**
A Puppet module to manage Google Cloud SQL resources

Version 0.1.0 • Aug 25, 2017 • 340 downloads


340 | 5.0



 **google/gdns**
A Puppet module to manage Google Cloud DNS resources

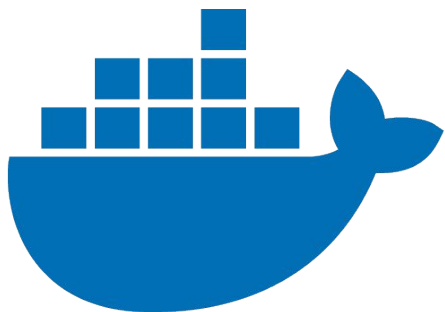
Version 0.1.0 • Aug 25, 2017 • 338 downloads

338 | 5.0



Docker module

The official Puppet | Docker module. Now supports Code Manager!



docker



puppetlabs/docker

by: [Puppet](#) [Project URL](#) [Report issues](#) [RSS Feed](#)

Module for installing and managing docker

Latest version is compatible with:

- Puppet Enterprise 2017.2.x, 2017.1.x, 2016.5.x, 2016.4.x, 2016.2.x, 2016.1.x, 2015.3.x, 2015.2.x, 3.8.x, 3.7.x, 3.3.x, 3.2.x
- Puppet >= 3.4.0
- [RedHat](#), [Ubuntu](#), [Debian](#), [CentOS](#), [Archlinux](#), [Gentoo](#), [Fedora](#)

Kubernetes and Helm modules

Deploy and manage Kubernetes. End-to-end support.



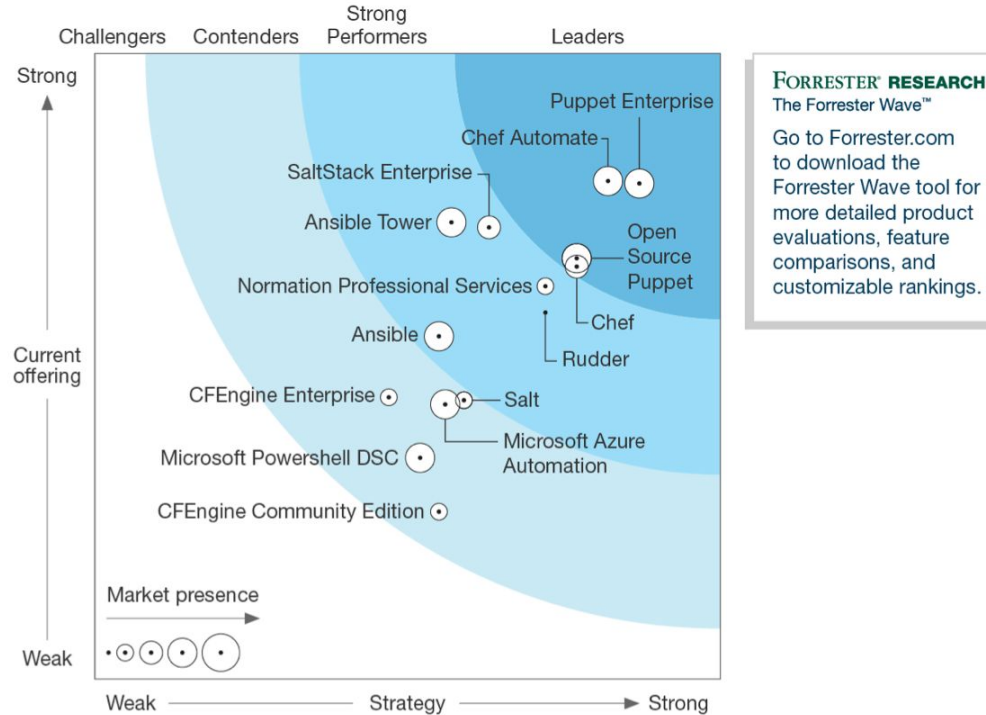


Cloud & Containers

Latest and Greatest

Last but not least

FIGURE 4 Configuration Management Software For Infrastructure Automation, Q4 '17





puppet

The shortest path
to better software.