**Puppet & Cloud**

*Prepared for Home Depot*

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# Amazon Web Services

Marketing Page: <https://puppet.com/products/managed-technology/aws>

## Overview

There are various ways to enforce your policies dependably and consistently across your AWS environments:

* [Puppet Enterprise in AWS Marketplace](https://aws.amazon.com/marketplace/seller-profile?id=164e0bc9-6764-4505-9bab-116ec7dce366)
* Pay-as-you-go-license
* Bring your own license
* Manage cloud infrastructure at scale
* Consistently provision AWS instances with the [AWS Module](https://forge.puppet.com/puppetlabs/aws/readme) (Supported)

## PE in AWS Marketplace

From the AWS Marketplace it’s easy to find and launch PE directly. When going this route there are two options for running PE in [AWS: pay-as-you-go license](https://aws.amazon.com/marketplace/pp/B071YVSBQW) or [bring your own license](https://aws.amazon.com/marketplace/pp/B01MRIIWAR) to the AWS cloud.

## Pay-as-you-go license

The [pay-as-you-go](https://aws.amazon.com/marketplace/pp/B071YVSBQW) PE image on the AWS Marketplace allows you to pay only for what you consume. Here you have the ability to purchase PE directly from AWS.

To lower the barrier to entry and simplify setup the AMI:

* Comes with Puppet pre-installed and Puppet automatically and securely is configured while booting the EC2 instance
* Includes scripts to automate common tasks and configure PE to manage nodes whether they live - on-prem, off site data centers, EC2 or other cloud providers.

## Provision AWS Instances

Regardless of where your PE infrasture lives (i.e. AWS or on-prem) the [AWS Module](https://forge.puppet.com/puppetlabs/aws/readme) (Supported) can be used to provision, configure and manage AWS resources consistently and predictably.

The module allows you to:

* Easily audit AWS resources
* Launch Auto Scaling Groups in VPC (Virtual Private Cloud)
* Perform Unit Testing

The module supports:

* EC2
* Virtual Private Cloud (VPC)
* Elastic Load Balancing
* Auto Scaling
* Security Groups
* Route53 DNS

## Additional Resources

[Amazon Web Services Marketplace Image User Guide](https://docs.puppet.com/pe/latest/ami_intro.html?_ga=2.136021169.1247682861.1506971837-458880946.1490723619)

[Puppet's Supported AWS module](https://forge.puppet.com/puppetlabs/aws?_ga=2.160165821.1247682861.1506971837-458880946.1490723619)

# Microsoft Azure & Windows Automation

Marketing Page: <https://puppet.com/products/managed-technology/microsoft-windows-azure>

## Overview

Puppet Enterprise lets you automate the entire lifecycle of your Azure infrastructure, from initial provisioning through application deployment. Our Azure module allows you to provision and manage Azure VMs, plus give you consistency and visibility into your infrastructure. And it's included in your Puppet Enterprise support package.

There are two avenues for using PE in Azure:

1. PE Infrastructure in Azure
2. Management of Azure resources with PE

## Resources

[Getting Started Guide for Deploying Puppet Enterprise in Azure](https://puppet.com/resources/white-paper/getting-started-deploying-puppet-enterprise-microsoft-azure)

[Puppet Supported Azure module](https://forge.puppet.com/puppetlabs/azure)

# Google Cloud Platform

Marketing Page: <https://puppet.com/products/managed-technology/google>

## Overview

Google Cloud Platform and Puppet work together to offer a collection of [modules available on Puppet Forge](https://forge.puppet.com/google) to create these various managed services automatically. The modules work with [Puppet Enterprise](https://puppet.com/products) to integrate the management of your GCP cloud resources into the same proven Infrastructure as Code paradigms pioneered by Puppet. The modules have been crafted by Google engineers to conform to Puppet best practices and to help you provision resources quickly. Manage virtual machines, container clusters, databases and storage with these modules.

The Puppet modules for GCP, freely available on the [Puppet Forge](https://forge.puppet.com/), quickly help you create virtual machines, globally distributed databases, fully managed Kubernetes clusters, and more.

Google Cloud Platform lets you rapidly provision of everything from on-demand virtual machines with pay-by-the-minute pricing to serverless databases and machine learning.

## Use Cases

Below you can find a few examples that showcase the power of Puppet and Google Cloud Platform together.

### Allocate and manage SQL data repositories

Google Cloud SQL provides managed, zero headache SQL service to host your data. You can deploy, manage and operate your Google Cloud SQL using Puppet:

1. [google/gsql](https://forge.puppet.com/google/gsql) allows to deploy hosted services, instances, databases, manage users and network security
2. Once your hosted environment is deployed you can use
   1. [puppetlabs/mysql](https://forge.puppet.com/puppetlabs/mysql) to manage your MySQL databases
   2. [puppetlabs/postgresql](https://forge.puppet.com/puppetlabs/postgresql) to manage your PostgreSQL databases

### Deploy and manage your container infrastructure

Google Container Engine (GKE) provides a simple way to create and scale container-based applications without having to build an entire Kubernetes cluster from scratch. You can deploy and manage your Kubernetes containers using [google/gcontainer](https://forge.puppet.com/google/gcontainer) to provision your [Kubernetes containers](https://forge.puppet.com/garethr/kubernetes). Once deployed, use the standard Kubernetes module to manage your containers.

### Migrate an application from on-premise to cloud

In this example we use Puppet & GCP to migrate an eCommerce portal from on-premise to the cloud: [PuppetConf '16: Puppetize ALL The Things!](https://www.youtube.com/watch?v=5V6ZubtLBE8&feature=youtu.be)

Getting started today

1. Install the [Google Cloud modules](https://forge.puppet.com/google) into your Puppet environment
2. [Define your credentials](https://forge.puppet.com/google/gauth)
3. Manage away, Puppet style!

You can find examples of each resource being managed by Puppet in the respective module documentation, or a summary of them at the [Google Cloud documentation](https://forge.puppet.com/google/cloud) for Puppet integrations.

New accounts starts [with $300 in GCP credits](https://cloud.google.com/). And you can apply for [additional $200 credit](https://cloud.google.com/partners/partnercredit/?PCN=a0n60000002XyC5AAK).

## Resources

[Watch the on-demand webinar](https://www.brighttalk.com/webcast/10619/276851?utm_source=Google&utm_medium=brighttalk&utm_campaign=276851)

[Learn more about Google Cloud Platform](https://cloud.google.com/)

[Read the docs to install modules in Puppet](https://docs.puppet.com/puppet/4.10/modules_installing.html)

[Download the GCP modules](https://forge.puppet.com/google)

[Blog: Announcing Puppet support for GCP](https://puppet.com/blog/announcing-puppet-support-google-cloud-platform)

# VMware

## Overview

[VMware and Puppet](https://blogs.vmware.com/management/2017/06/puppet-wins-vmware-partner-innovation-award.html) have partnered to help our customers automate the provisioning, configuration, and management of their vSphere-based virtual infrastructure. Puppet’s deep integrations with VMware solutions combined with our rich ecosystem of modules enables operations teams to deploy applications faster in their virtualized environments.

## Provision, configure & manage your vSphere VMs

The [Puppet Enterprise vSphere module](https://forge.puppet.com/puppetlabs/vsphere) can be used to provision virtual machines consistently and repeatedly. The module lets you treat your virtual infrastructure as code, so you can:

* Automate provisioning of new application stacks in vSphere
* Automatically and dynamically add virtual infrastructure, based on external data

## Deploy applications faster with vRealize Automation

[VMware® vRealize™ Automation](https://puppet.wistia.com/medias/26f3unpgp2) is a cloud automation platform that lets administrators configure policy-based IT services — from infrastructure through full application stacks — and make them available to users via a self-service portal. vRealize Automation Application Services integrates with [Puppet Enterprise](https://puppet.com/products), so you can use Puppet to build multi-tier stacks with one click deploys from the vRealization Automation catalog.

## Secure your vSphere-based applications

Designed for security professionals, [VMware AppDefense™](https://cloud.vmware.com/) uniquely protects applications running on VMware vSphere-based® virtualized and cloud environments. [Puppet Enterprise](https://puppet.com/products) integrated with [AppDefense](https://amp-timeinc-net.cdn.ampproject.org/c/amp.timeinc.net/fortune/2017/08/27/vmware-appdefense-security-software/?source=dam) enables security professionals to easily collaborate with operations teams to make security a priority within the application development cycle, making applications more resilient to attacks and enabling DevOps practices to extend to security teams.

## Seamlessly migrate workloads to VMware Cloud on AWS

VMware Cloud on AWS provides customers a seamlessly integrated hybrid cloud offering that gives customers the SDDC experience from the leader in private cloud, running on the leading public cloud provider, AWS. [Puppet Enterprise](https://puppet.com/products) enables seamless automation, provisioning, configuration and ongoing management of both on-premise and cloud workloads to customers of VMware Cloud on AWS.

## Resources

[Read the docs to install modules](https://docs.puppet.com/puppet/4.3/modules_installing.html)

[Download the vSphere module](https://forge.puppet.com/puppetlabs/vsphere)

[Get the Puppet Plugin for vRealize Automation](https://marketplace.vmware.com/vsx/solutions/puppet-plugin-for-vrealize-automation)

# Meeting Talking Points

## Problem Statement (i.e. Challenges)

Present day challenges when managing resources in the Cloud:

* Native tools don’t work
* Manual approaches / scripts are problematic (i.e. autoscale challenges)
* Misconfiguration creates risk

## Puppet Enterprise (i.e. Solutions)

### AWS

* Create your PE infrastructure in AWS - Use PAYG or BYOL solutions
* PE Infrastructure outside of AWS - Puppet AWS Supported Module.
  + Provision
  + Configure and manage AWS resources consistently and predictably
  + Audit AWS resources
  + Launch Auto Scaling groups in Virtual Private Cloud (VPC)
  + Perform unit testing, and more

## Azure

Similar to AWS but with Azure focused module and similar service integrations.

## Google Public Cloud

Use Forge modules to create virtual machines, globally distributed data bases, fully managed kubernetes clusters, etc. Main takeaway here is provision and manage with Puppet.

### VMWare

Will discuss if Sean shows interest.

## Looking Forward

Will achieve 1-to-1 parity with vendors

Will improve puppets ability to manage cloud resources

Enhance ability to use puppet apply