



## CAM Template Designer



# Topics

- Explore the CAM Template Designer
- Explore the CAM Template Library
- Connect CAM Template Designer to a GitHub repository
- Create and edit CAM templates


# Working with CAM Templates

 IBM Cloud Automation Manager Docs Support 

## Welcome to IBM Cloud Automation Manager


Use Cloud Automation Manager to accelerate application delivery by automating provisioning with cloud resource templates and service blueprints.

Let's get started.




### 1. Connect to a Cloud

To start using cloud automation manager, connect to a cloud in the [cloud connection](#) page.




### 2. Create Your Template

Quickly find the perfect infrastructure template, or import your own template in the [library](#) page.



### 3. Create your Service

Next head to the [service library](#) to create a service that can be published into the ICP catalog.



### 4. Manage Deployed Instances

View and manage all requested service instances in the [deployed instances](#) page.

Use the available library of templates and edit to create new ones

# Working with CAM Template Library

- Using the template library, you can either use or edit and create new templates
- You can import templates into the library or create new templates from scratch

IBM Cloud Pak for Multicloud Management

Library

Templates Services

All namespaces

All Templates (171)

My Templates (0)

Middleware (77)

Integration (7)

Import Existing (2)

Starterpacks (85)

Search Templates

Create Template

Import Template

Name	Provider	Created
VMware vRealize Automation single node catalog deployment <i>Globally Accessible</i>	VMware vRealize Automation	06/22/2020 2:57 AM
VMware NSX-T Sample to create a logical switch <i>Globally Accessible</i>	VMware NSX-T	06/22/2020 2:57 AM
Tomcat on a Single VM <i>Globally Accessible</i>	VMware vSphere	06/22/2020 2:57 AM
Strongloop 3 Tier Deployment on VMware <i>Globally Accessible</i>	VMware vSphere	06/22/2020 2:57 AM
Strongloop Stack on a Single VM on VMware <i>Globally Accessible</i>	VMware vSphere	06/22/2020 2:57 AM
SingleWindowsVirtualMachine <i>Globally Accessible</i>	VMware vSphere	06/22/2020 2:57 AM
Single Virtual Machine with Private SSH Key <i>Globally Accessible</i>	VMware vSphere	06/22/2020 2:57 AM
SingleVirtualMachine	VMware vSphere	06/22/2020 2:57 AM

# Inbuilt CAM Templates

- **Starterpack Templates**

Basic starter templates for use without a content runtime.

For example, deploying virtual machine and basic scripts to configure/install software like MEAN stack as well as cloud native automation templates

- **Middleware Templates**

Chef based middleware templates to install and configure single node or multi node middleware products.

References to Chef cookbooks for use with a content runtime.

For example, WebSphere Application Server middleware, DB2, MQ.

# Example: Deploy Single VM Template

IBM Cloud Pak for Multicloud Management

← Template Library

SingleVirtualMachine

Edit

Overview

Template Source

Parameters

Create Virtual Machine with single vnic on a network label by cloning

AUTHOR

TYPE

ASSIGNED ACCESS

CREATED

CLOUD

VERSION

IBM

Terraform

Globally Accessible

06/22/2020 2:57 AM

VMware vSphere

2.4

Template Version

2.4(default)

URL

<https://github.com/IBM-CAMHub-Open/starterlibrary/tree/2.4/VMware/terraform/hcl/singleVM>

To clone the template click the Git repository link, clone the repository and then create a template with the new repository information.

Features

• Clouds

VMware

• Default Virtual Machine settings

Standard machine type with 1 virtual CPU and 1 GB of memory.

• Topology

Single virtual machine

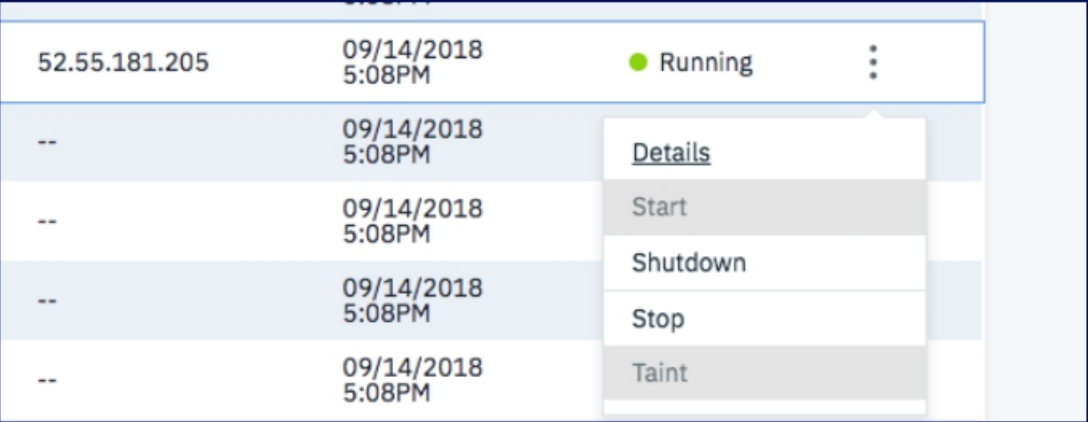
• Usage and special notes

A typical deployment takes < 1 minute.

Deploy

6

# VM operation commands available in the CAM for Deployed Instances



52.55.181.205	09/14/2018 5:08PM	● Running	⋮
--	09/14/2018 5:08PM	Details	
--	09/14/2018 5:08PM	Start	
--	09/14/2018 5:08PM	Shutdown	
--	09/14/2018 5:08PM	Stop	
--	09/14/2018 5:08PM	Taint	

- **Shutdown** - *shutdown* the OS on a VM
- **Reset** – *reset and restart* a VM
- **Snapshot** - *snapshot* a VM
- **Stop** - *power off* a VM
- **Start** - *re-start* a powered off VM, *start* a shutdown OS
- **Taint** - mark a resource for cleanup on the next Terraform plan/apply
- **Untaint** – *unmark tainted resource*

**Note:** Not all cloud providers offer every options

# Importing CAM Templates

- Templates can be imported from a version control repository or directory uploading the source content into CAM
- Access can be restricted to a specific namespace

×

Import Template

\* Indicates a required field

Assign Access

☒ Make Template Globally Accessible (available to all users)

☐ Make Template part of a namespace

\* Select a namespace

Import template source

GitHub

✓ GitLab

Bitbucket Server

From Scratch

From URL (.zip file)

From Folder

From File(.zip)

Enter GitLab URL

GitLab Access Token ⓘ

[Learn how?](#)

Enter GitLab access token

Cancel

Import



# Working with CAM Template Designer Blueprints

- Blueprints provide you with components that you can use to assemble a new collection into a services
- Give you access to Blueprints of existing resources
- Diagram tab displays the graphical view of the component
- Instances provide you with options for different clouds
- You can create and save new components

The screenshot displays the IBM Cloud Automation Manager Template Designer interface. The top navigation bar includes the IBM logo, the title 'Cloud Automation Manager Template Designer', and user/session information. The left sidebar contains a navigation menu with 'Home', 'Blueprints' (highlighted with a yellow circle), 'Environments', and 'Repositories'. The main content area shows a list of blueprints, including 'AWS/terraform/multifile/hcl/variables.tf', 'AWS/terraform/multifile/hcl/ssh/key\_pair.tf', and 'AWS/terraform/multifile/hcl/scenario1.tf'. A pink callout bubble points to the 'diagram' tab in the main content area, with the text 'Additional tabs for Terraform code'. The 'diagram' tab is selected, showing a graphical view of the component 'demo-VMWare'. The 'diagram' tab is also highlighted with a yellow circle. The right sidebar contains a 'Components' section with a list of instances: 'AWS Instance', 'Azure Virtual Machine', 'IBM Cloud Virtual Machine', 'OpenStack Compute', and 'VMware Virtual Machine'. The 'Instances' section is highlighted with a yellow circle. Below the 'Instances' section are sections for 'Networks', 'Storage', 'Security', 'Modules', and 'Other'.

# Working with CAM Template Designer Blueprints

Toolbar to create new or edit existing templates. The new templates are then saved and pushed to the the GitHub repository

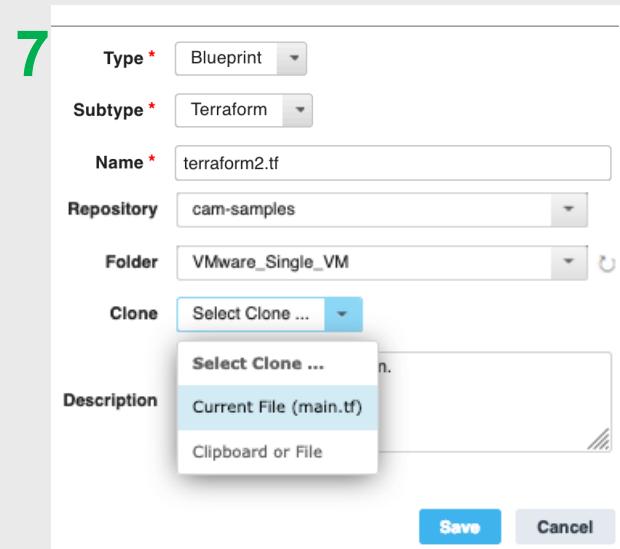
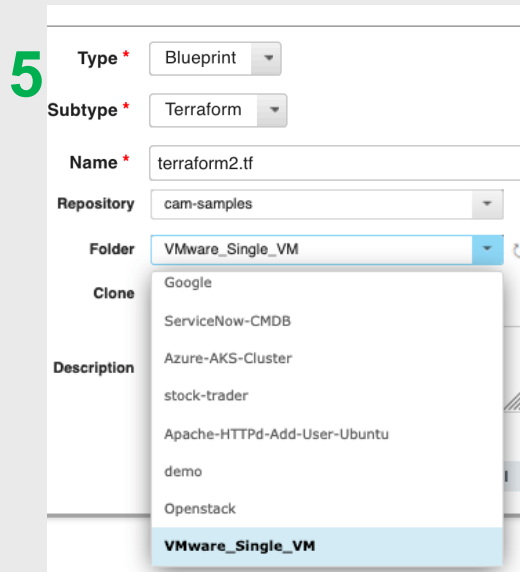
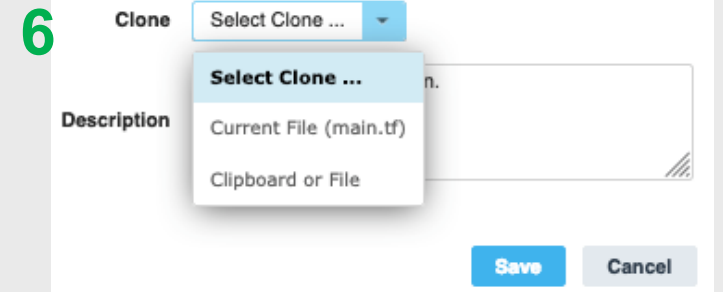
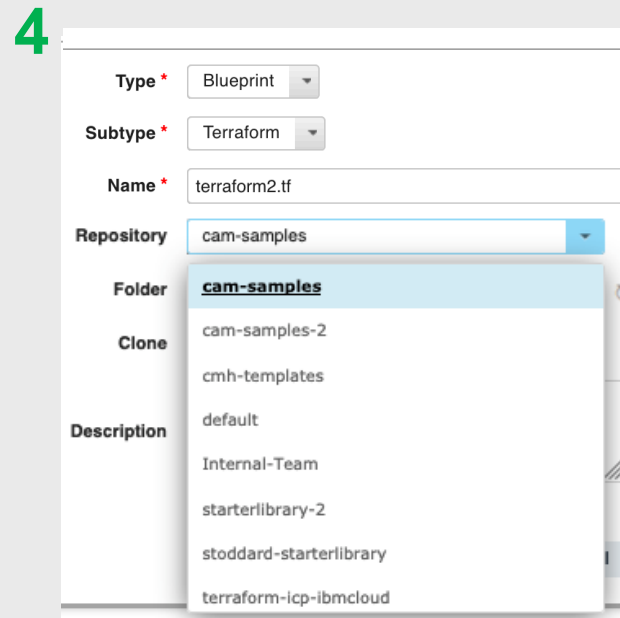
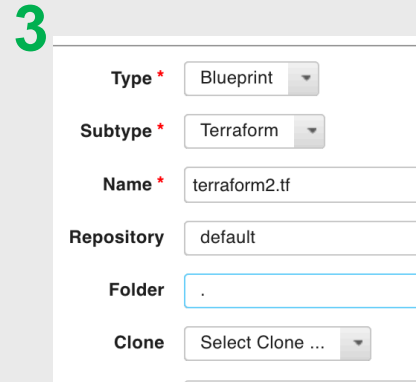
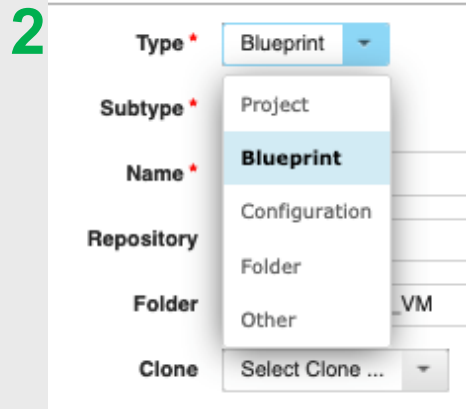
The screenshot displays the IBM Cloud Automation Manager Template Designer interface. The top toolbar includes buttons for 'New...', 'Save', 'Commit...', and 'Publish...', along with various icons for navigation and editing. A green arrow points from the 'New...' button to a callout box containing a list of warnings:

- 89: main: Unused variable: 'vm\_1\_cluster'
- 132: main: Unused variable: 'vm\_1\_root\_disk\_type'
- 138: main: Unused variable: 'vm\_1\_root\_disk\_controller\_type'

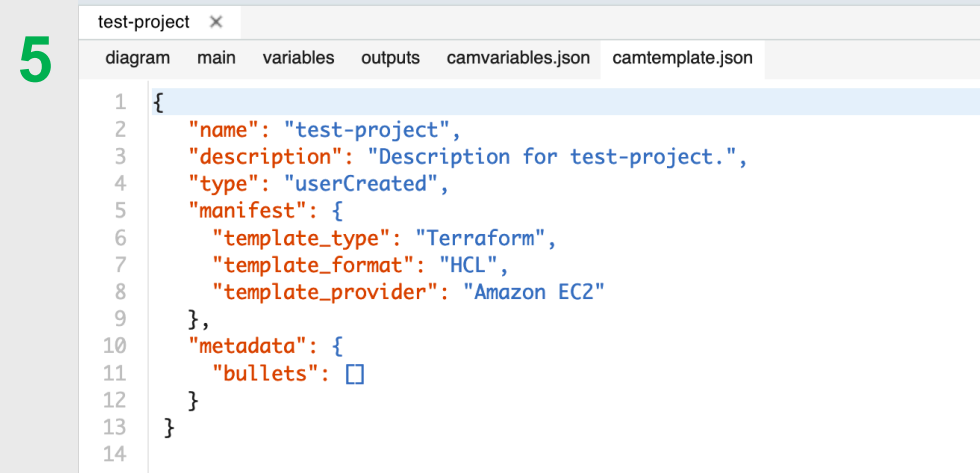
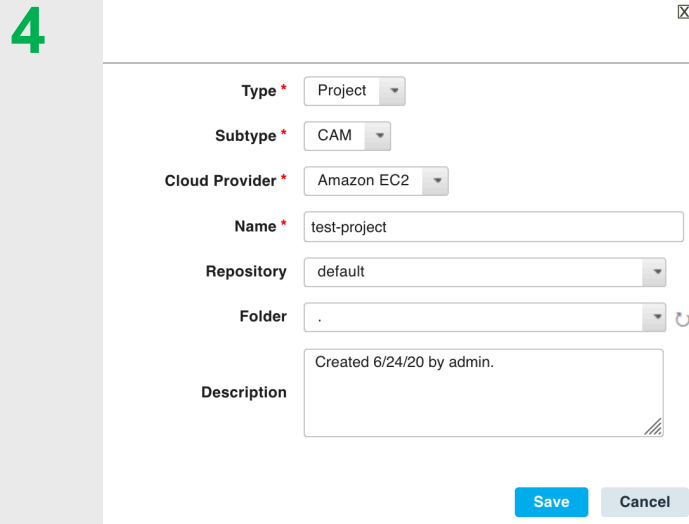
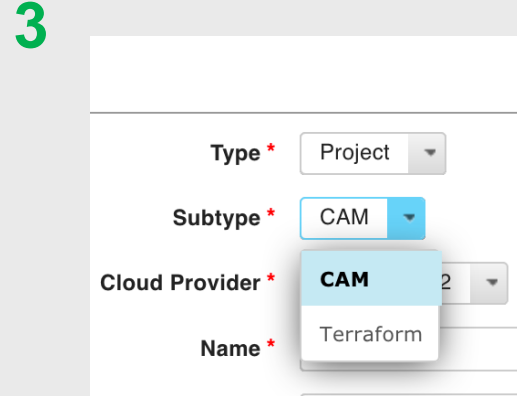
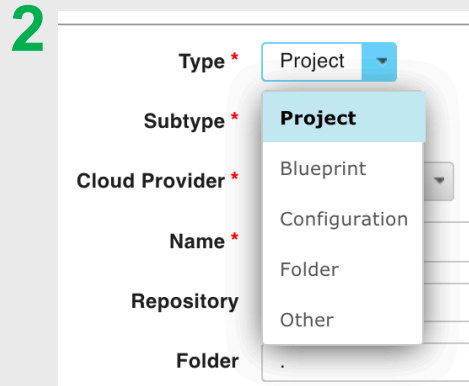
The main workspace shows a diagram of a 'vm\_1' instance of the 'vsphere\_virtual\_machine' component, connected to a 'network\_reference' cloud icon. The 'main' tab is selected, and the 'diagram' tab is also visible. The right sidebar lists components and instances, including 'AWS Instance', 'Azure Virtual Machine', 'IBM Cloud Virtual Machine', 'OpenStack Compute', and 'VMware Virtual Machine'. The bottom right pane displays the Terraform configuration code for the template, generated from blueprint89:

```
1 # This is a terraform generated template generated from blueprint89
2
3 #####
4 # Keys - CAMC (public/private) & optional User Key (public)
5 #####
6 variable "allow_unverified_ssl" {
7   description = "Communication with vsphere server with self signed certificat
8   default     = "true"
9 }
10
11 #####
12 # Define the vsphere provider
13 #####
14 provider "vsphere" {
15   allow_unverified_ssl = "${var.allow_unverified_ssl}"
16   version              = "~> 1.3"
17 }
18
19 provider "camc" {
20   version = "~> 0.2"
21 }
22
```

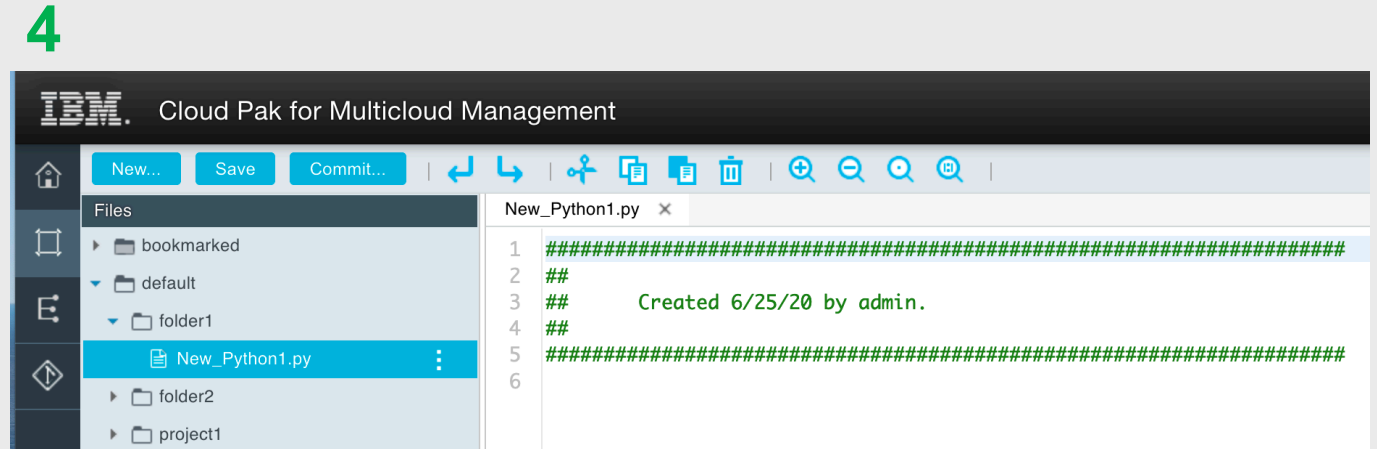
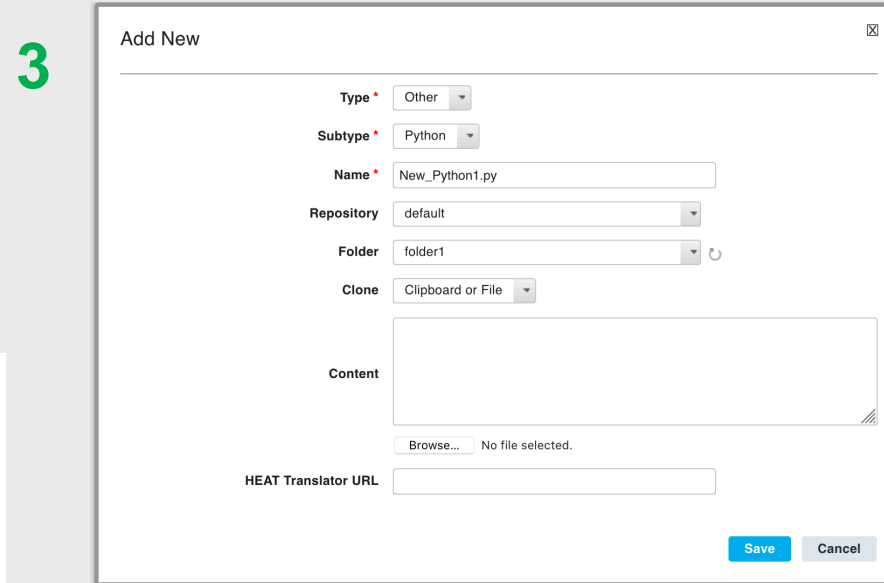
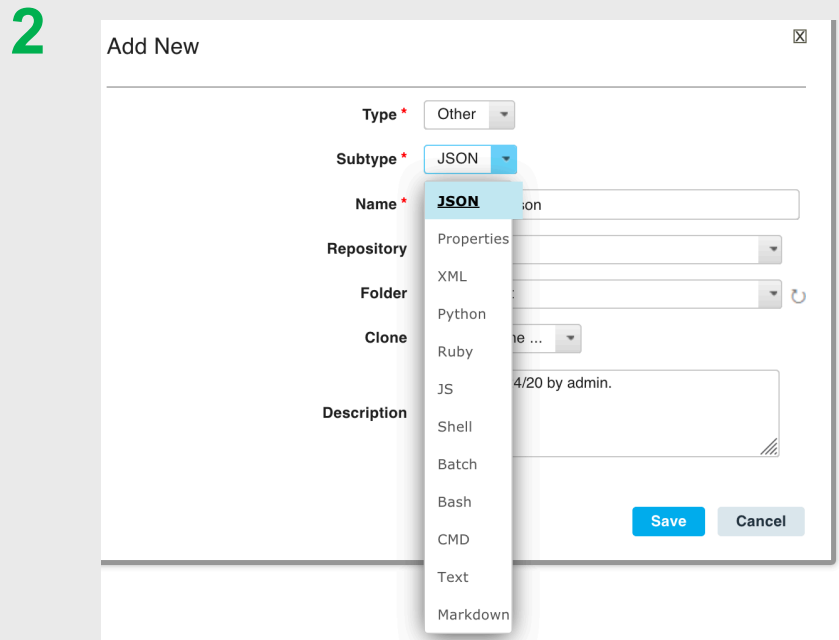
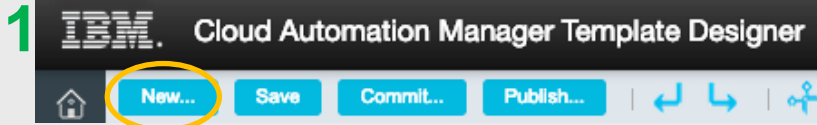
# Working with CAM Template Designer – Create new Blueprint!



# Working with CAM Template Designer – Create new project!



# Working with CAM Template Designer – Create new file!



# Working with CAM Template Designer - Repositories

- CAM Template Designer Repositories option provides connection to backend GitHub repositories

The screenshot displays the IBM Cloud Automation Manager Template Designer interface. The top navigation bar includes the IBM logo, the application name, and user/session information. A sidebar on the left contains navigation links: Home, Blueprints, Environments, and Repositories. The 'Repositories' link is highlighted with a yellow circle, and a green arrow points from it to the main content area. The main content area shows the 'Blueprints' section with a list of files. Below this, the 'Repository' dropdown is set to 'cam-samples' (highlighted with a yellow circle), and the 'Reference' is set to 'master => origin/master'. The 'Active Branch (master)' section shows 'Working Directory Changes' with 26 files changed. The 'History' section shows a list of commits, with the 'more ...' link highlighted by a yellow circle and a green arrow pointing to the commit history view in the bottom left. The bottom left view shows the commit history for the 'demo' branch, with the 'less ...' link and commit details highlighted by a yellow circle.

IBM Cloud Automation Manager Template Designer

admin - None -

Home Blueprints Environments **Repositories**

Blueprints

AWS/terraform/multifile/hcl/variables.tf  
AWS/terraform/multifile/hcl/ssh/key\_pair.tf  
AWS/terraform/multifile/hcl/scenario1.tf  
AWS/terraform/hcl/lamp/main.tf

Repository: cam-samples Reference: master => origin/master

Active Branch (master)

Working Directory Changes

26 files changed. 0 files ready to commit.

Outgoing (0) Push

No Changes

Incoming (0) Fetch

No Changes

History

add variables  
bill on 10/5/2018, 1:06:34 PM  
committed by bill  
commit: 4bc0b63c0251a0e8f07ae7d848dafd9f5d43a8c7  
branches: demo master origin/master  
less ...

Working Directory Changes

Enter the commit message

Amend previous commit

Select All 0 files selected

Apache-HTTPd-Add-User-Ubuntu/camtemplate.json  
Apache-HTTPd-Add-User-Ubuntu/camvariables.json  
Apache-HTTPd-Add-User-Ubuntu/main.tf  
Apache-HTTPd-Add-User-Ubuntu/outputs.tf  
Apache-HTTPd-Add-User-Ubuntu/README.md  
Apache-HTTPd-Add-User-Ubuntu/variables.tf  
Azure-AKS-Cluster/variables.tf  
demo-VMWare/camtemplate.json

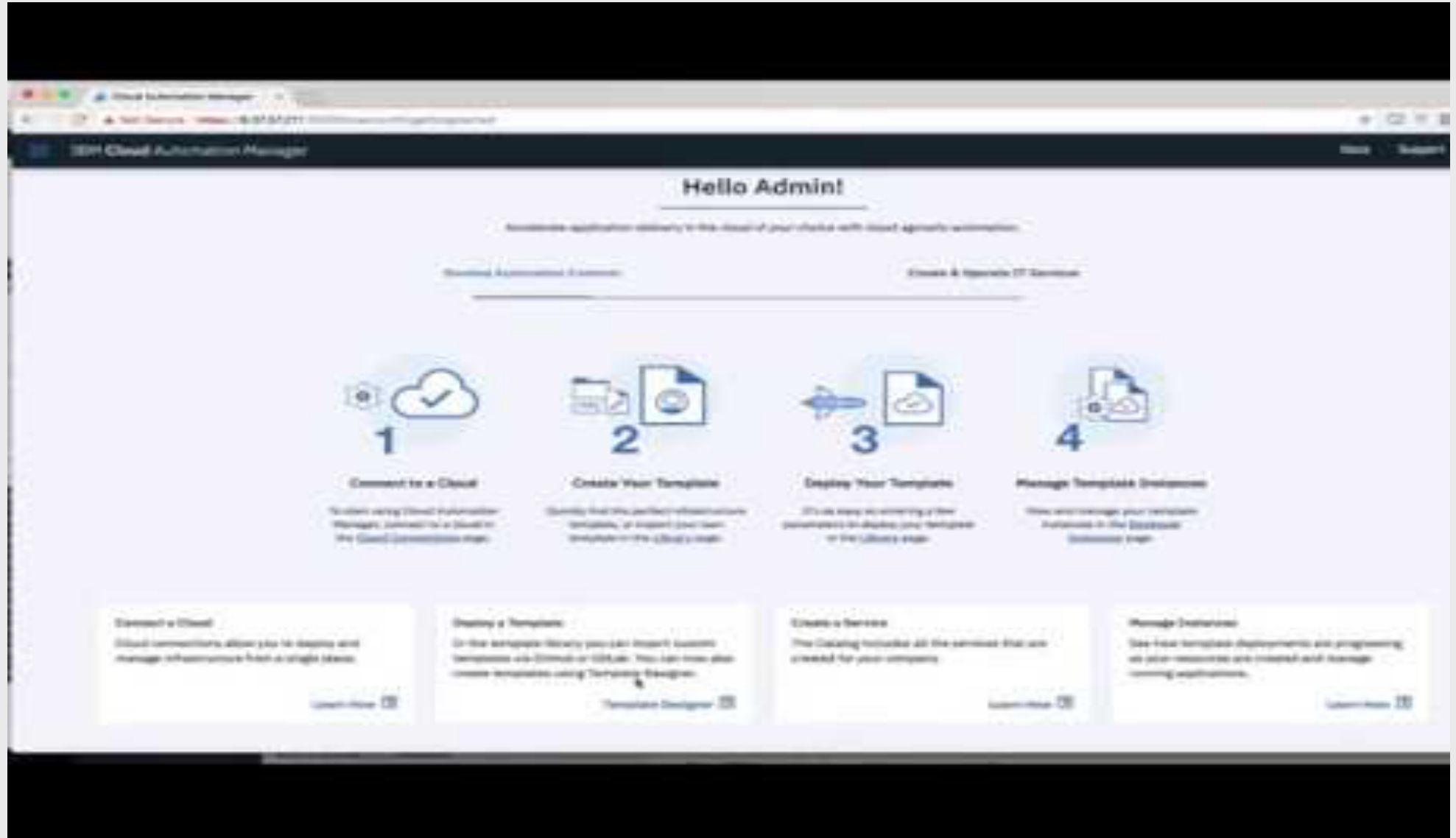
# CAM Modules

- Modules are reusable Terraform building blocks that can be imported and used in CAM Templates
- These modules are stored, managed and maintained in GitHub repositories
- This interface only makes them visible on CAM

The screenshot shows a web interface for managing Terraform modules. At the top, there are two tabs: 'Modules' (active) and 'System Settings'. On the left, a sidebar titled 'Terraform Modules' contains a blue button with a plus icon and the text 'Add New Module'. The main content area is titled 'Edit' and contains several form fields: 'Name' (required), 'Description', 'Module Source' (a dropdown menu currently showing 'GitHub'), 'GitHub Repository URL' (required), 'GitHub Access Token', 'GitHub Repository sub-directory', and 'GitHub Reference (branch or tag)'. Each field has a text input with placeholder text. At the bottom right, there are three buttons: 'Save' (blue), 'Cancel' (light blue), and 'Test Connection' (light blue).

# Working with CAM Template Designer

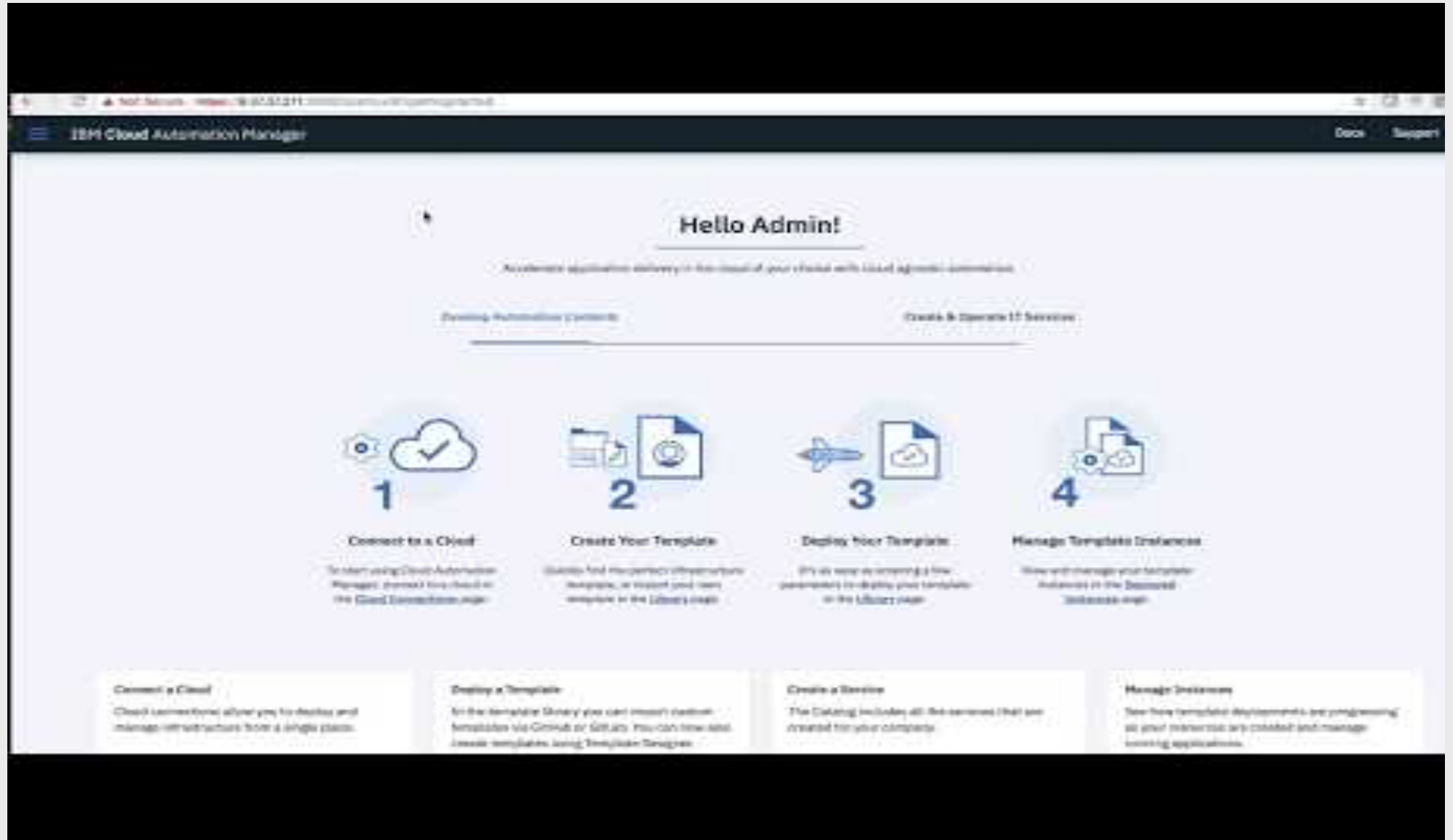
- Create and publish a new template using IBM CAM Template Designer





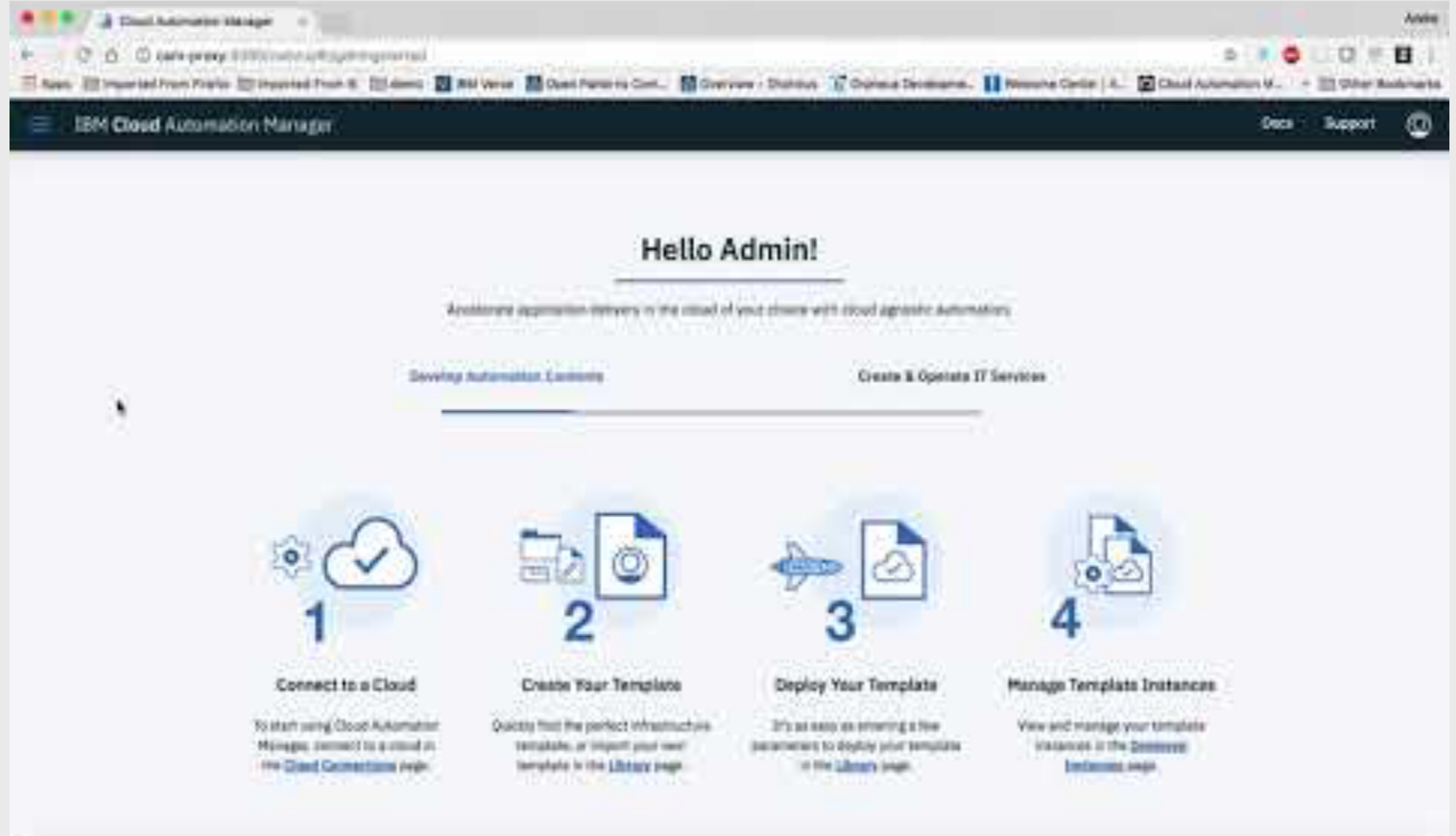
# Working with CAM Template Designer

- Edit an existing template using IBM CAM Template Designer



# Working with CAM Template Designer

- Make a change to, publish, and deploy a template using IBM CAM Template Designer



# Summary

- Explored the CAM Template Designer
- Explored the CAM Template Library
- Learned how to connect CAM Template Designer to a GitHub repository
- Learned how to create and edit CAM templates

