

Using the Packer Provider for CloudStack: What's Missing

Cloudstack Collaboration Conference 2024

Swen Brüseke

- Founder & CEO proIO GmbH
- Open Source fan
- CloudStack Community Member since 2013
- Non-Technical Committer to the project
- Mario Kart enthusiast



proIO GmbH

- Founded in 2004
- Based in Frankfurt am Main
- Using virtualisation since 2008
- Second office in Hamburg in 2008
- Using CloudStack since 2013
- Managed Hosting | IaaS | RemoteHands
- Open Source in our DNA



Open Source is our DNA

- We believe in open source as the only way to achieve secure software and transparent data security.
- For a sovereign cloud, it is not just the location that is crucial, but also the question of who operates the cloud and what technology is used.
- Vendor lock-in is slowing down the rate of innovation and limiting flexibility.
- If you want Enterprise support, get it.

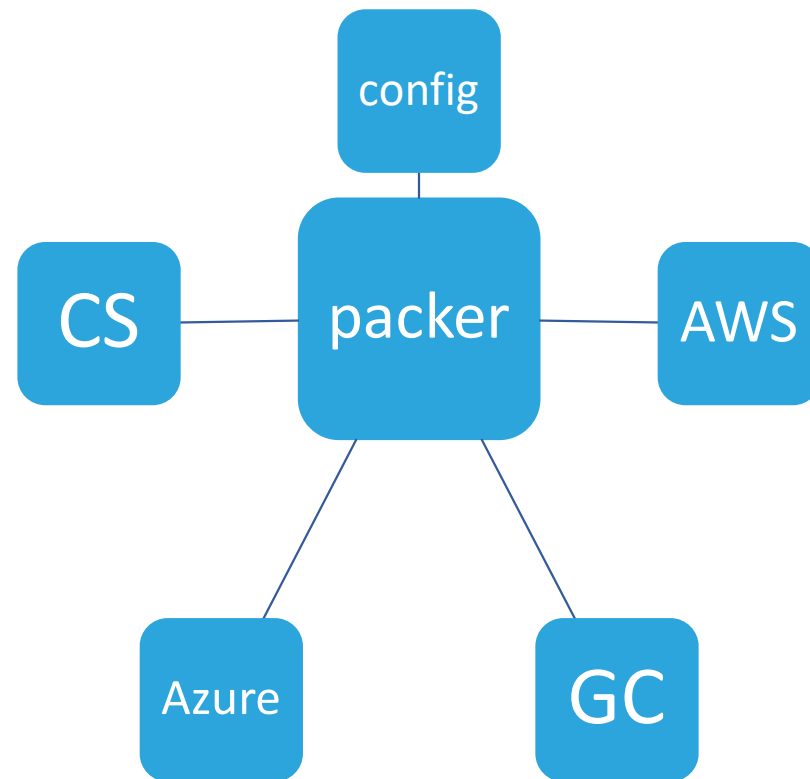
HOW WE USE CLOUDSTACK

Managed Hosting

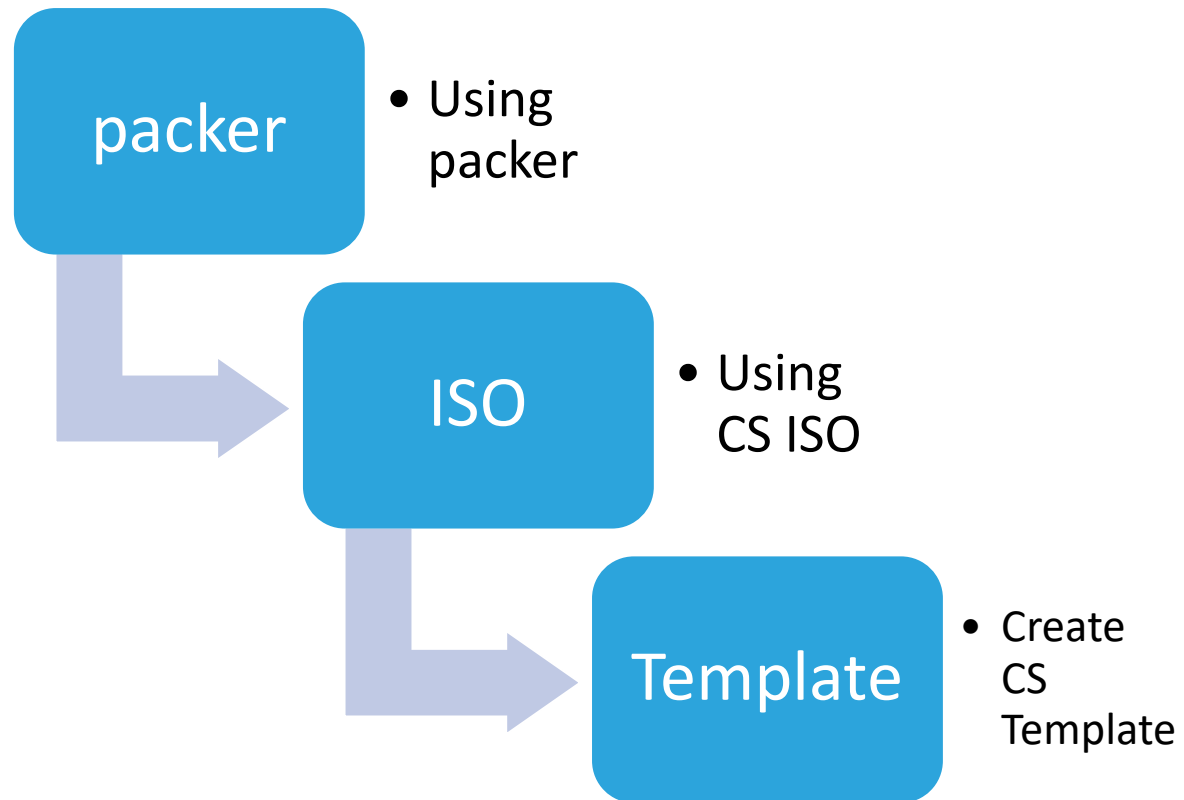
Private Clouds

Public Cloud

What is Packer?



What is the Goal?



A long way to GO

The screenshot shows the HashiCorp Packer documentation page for the CloudStack builder. The page layout includes a top navigation bar with links for Packer, Install, Tutorials, Documentation, Guides, Integrations, and Try Cloud. A left sidebar contains a navigation menu with sections for Packer Integrations, CloudStack, Builders, and Resources. The main content area features a breadcrumb trail: Developer / Packer / Integrations / CloudStack / v1.0.2 / CloudStack. Below this is a card for the CloudStack builder, showing its name, description, and a GitHub link. The main text describes the builder's functionality, its configuration type, and provides a detailed configuration reference section with a list of required parameters.

Developer / Packer / Integrations / CloudStack / v1.0.2 / CloudStack

CloudStack @hashicorp
The cloudstack plugin can be used with HashiCorp Packer to create custom images on Apache CloudStack.
Community Updated 2 years ago

GitHub

CloudStack

Type: `cloudstack` Artifact BuilderId: `packer.cloudstack`

The `cloudstack` Packer builder is able to create new templates for use with [CloudStack](#). The builder takes either an ISO or an existing template as it's source, runs any provisioning necessary on the instance after launching it and then creates a new template from that instance.

The builder does *not* manage templates. Once a template is created, it is up to you to use it or delete it.

Configuration Reference

There are many configuration options available for the builder. They are segmented below into two categories: required and optional parameters. Within each category, the available configuration keys are alphabetized.

In addition to the options listed here, a [communicator](#) can be configured for this builder.

Required:

- `api_url` (string) - The CloudStack API endpoint we will connect to. It can also be specified via environment variable `CLOUDSTACK_API_URL`, if set.
- `api_key` (string) - The API key used to sign all API requests. It can also be specified via environment variable `CLOUDSTACK_API_KEY`, if set.
- `network` (string) - The name or ID of the network to connect the instance to.

A long way to GO

DEMO 1

<https://developer.hashicorp.com/packer/integrations/hashicorp/cloudstack/latest/components/builder/cloudstack>

A long way to GO

- `boot_command` is part of the docu, but not part of the plugin
- No automatic template creation with standard ISO is possible
- How do we get access to the console?
- New Feature in 4.18: API-driven Console Access (`createConsoleEndpoint`)
- Add `createConsoleEndpoint` api call in `cloudstack-go`
- Error setting the VNC over websocket client: no suitable auth schemes found.
server supported: 13. (go-vnc problem)
- Forked go-vnc (has been archived since July 22nd 2024)

A long way to GO

DEMO 2

<https://github.com/sbrueseke/packer-plugin-cloudstack>

Still a way to GO

- Still no unattended template creation possible. Packer needs to know when to unmount the ISO via Cloudstack api. Ideas?
- Any alternative for go-vnc?
- Packer variables like `{{ .HTTPIP }}` not working (no value)
- Packer Plugin Pull Request still not merged
- More Use Cases?

Q&A

LET'S DISCUSS

THANK YOU VERY MUCH!

Swen Brüseke
swen@proio.com



Glossary

- <https://developer.hashicorp.com/packer/integrations/hashicorp/cloudstack/latest/components/builder/cloudstack>
- <https://developer.hashicorp.com/packer/integrations/hashicorp/virtualbox/latest/components/builder/iso#boot-configuration>
- <https://www.shapeblue.com/api-driven-console-access/>
- <https://cloudstack.apache.org/api/apidocs-4.19/apis/createConsoleEndpoint.html>
- <https://github.com/apache/cloudstack-go?tab=readme-ov-file#developer-guide>
- <https://github.com/apache/cloudstack-go>
- <https://github.com/apache/cloudstack-go/blob/main/generate/listApis.json>
- <https://github.com/mitchellh/go-vnc>
- <https://github.com/sbrueseke/packer-plugin-cloudstack>

Use modified Packer Plugin

- Tested on Ubuntu 24.04 LTS
- apt install golang make -y
- curl -fsSL https://apt.releases.hashicorp.com/gpg | sudo apt-key add -
- sudo apt-add-repository "deb [arch=amd64] https://apt.releases.hashicorp.com \$(lsb_release -cs) main"
- sudo apt-get update && sudo apt-get install packer
- git clone <https://github.com/sbrueseke/packer-plugin-cloudstack.git>
- cd packer-plugin-cloudstack
- go build -ldflags="-X github.com/sbrueseke/packer-plugin-cloudstack/version.VersionPrerelease=dev" -o packer-plugin-cloudstack-dev
- packer plugins install --path packer-plugin-cloudstack-dev github.com/hashicorp/cloudstack