

Tart: macOS VMs on Apple Silicon

for Mac Admins

20-Jul-2022



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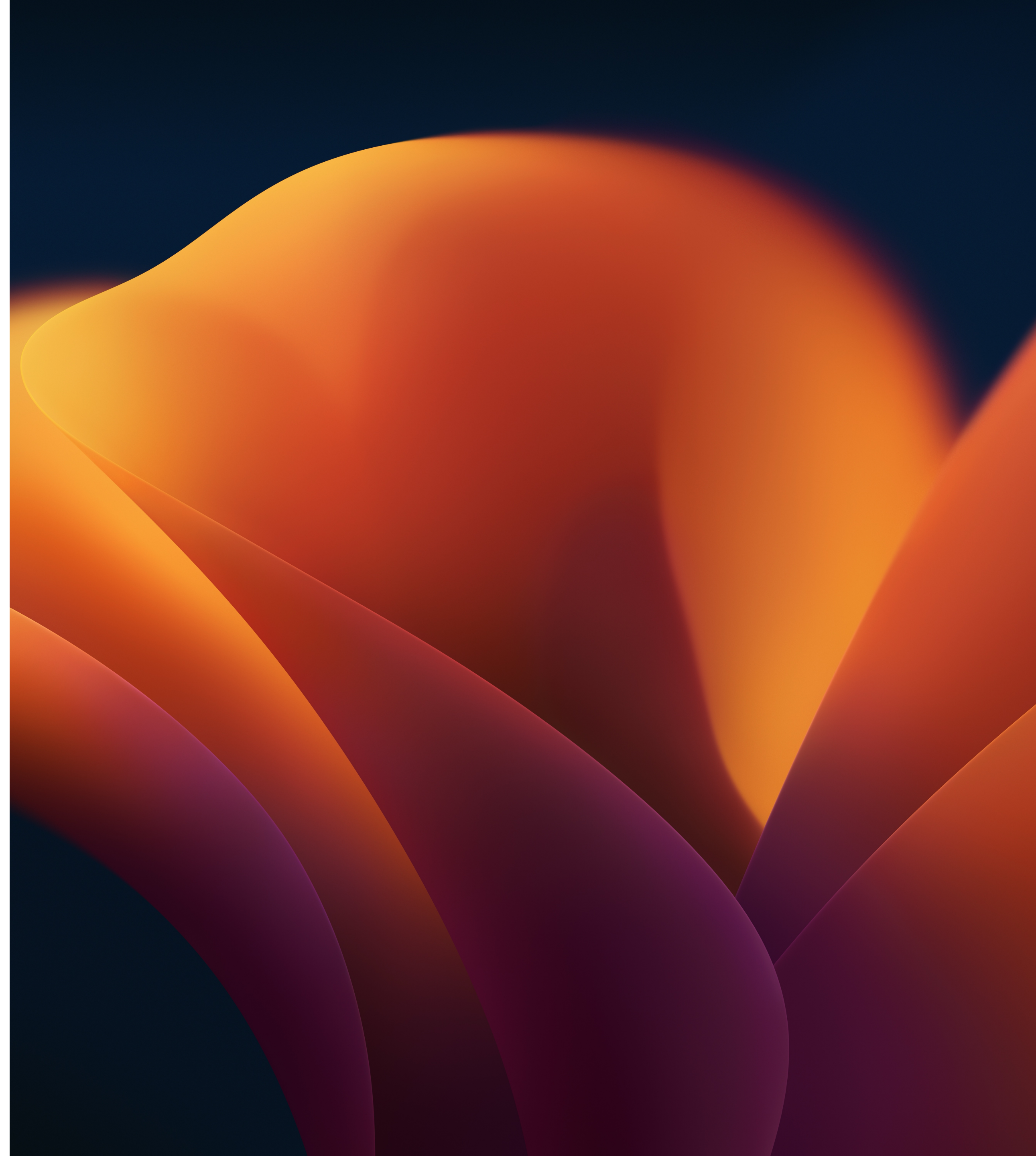


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Tart for Mac Admins

Agenda

- Continuous Integration
- Cirrus CI
- Origins of Tart
- Using Tart
- Questions & Answers
- Resources



Continuous Integration

Continuous Integration

- Golden environment for building things
- Much more powerful than a single laptop
- Key for an agile release process

Cirrus CI

Cirrus CI

- Modern CI built for Cloud Computing
- Bring your own infrastructure
- Arguably most cost efficient CI there is

Origins of Tart

Origins of Tart

- Tried Anka - problems with scaling
- Tried Parallels - problems with building and distributing of VM images
- Apple introduced built-in Virtualization.Framework
- Had to build our own virtualization

Using Tart

Topics

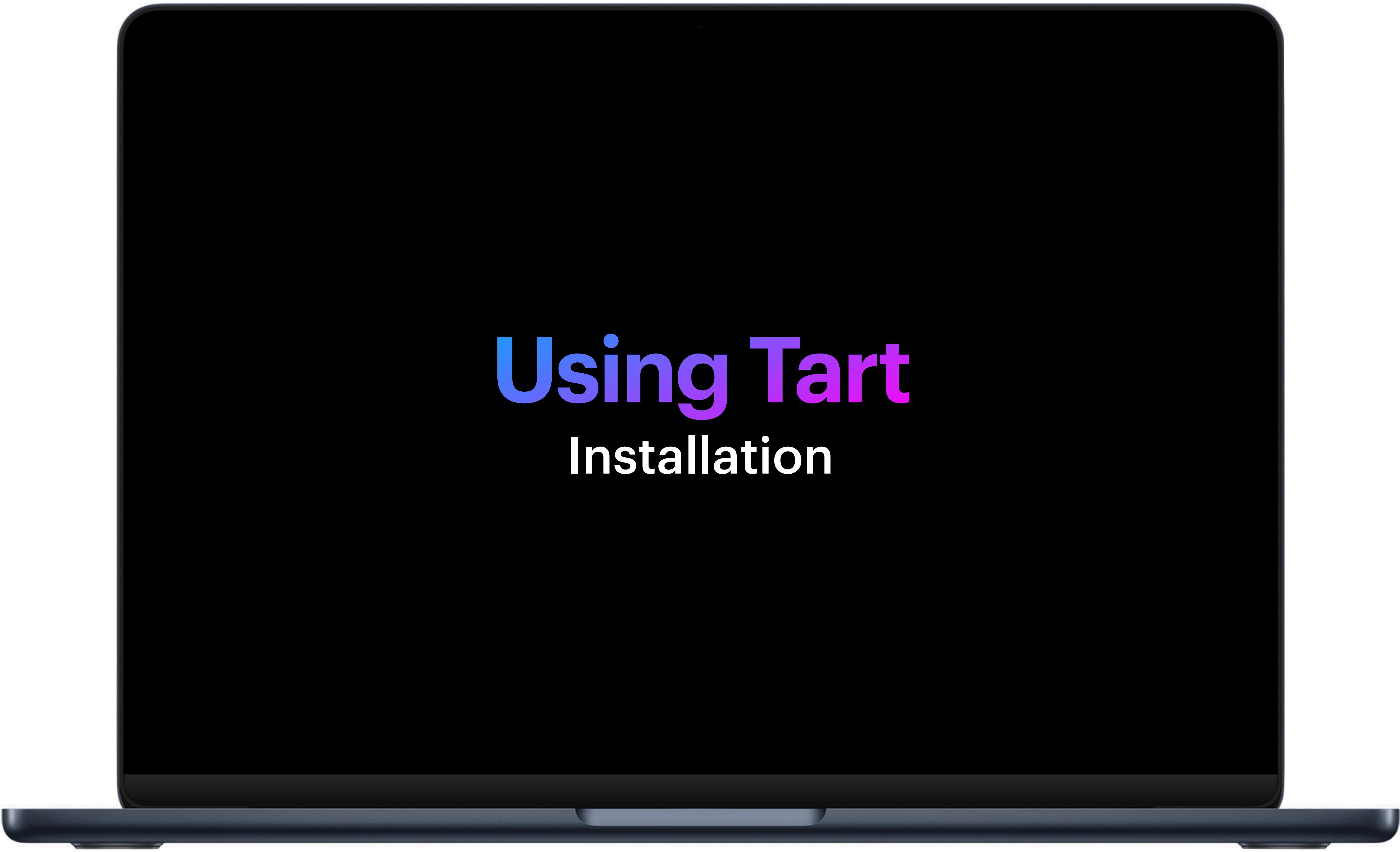
- Installation
- Base VM
- Creating from Scratch
- Cloning
- Leveraging VNC
- Racing Stripes



Using Tart

Installation

- Install Homebrew
 - <https://brew.sh>
- Install Tart
 - `brew install cirruslabs/cli/tart`
- Confirm installed version
 - `tart --version`
- Review Tart's built-in Help
 - `tart --help`

A dark blue laptop is shown from a front-facing perspective, slightly angled. The screen is black and displays the title 'Using Tart Installation' in a large, bold font. The laptop's body is a dark blue color, and the screen is framed by a thin black border.

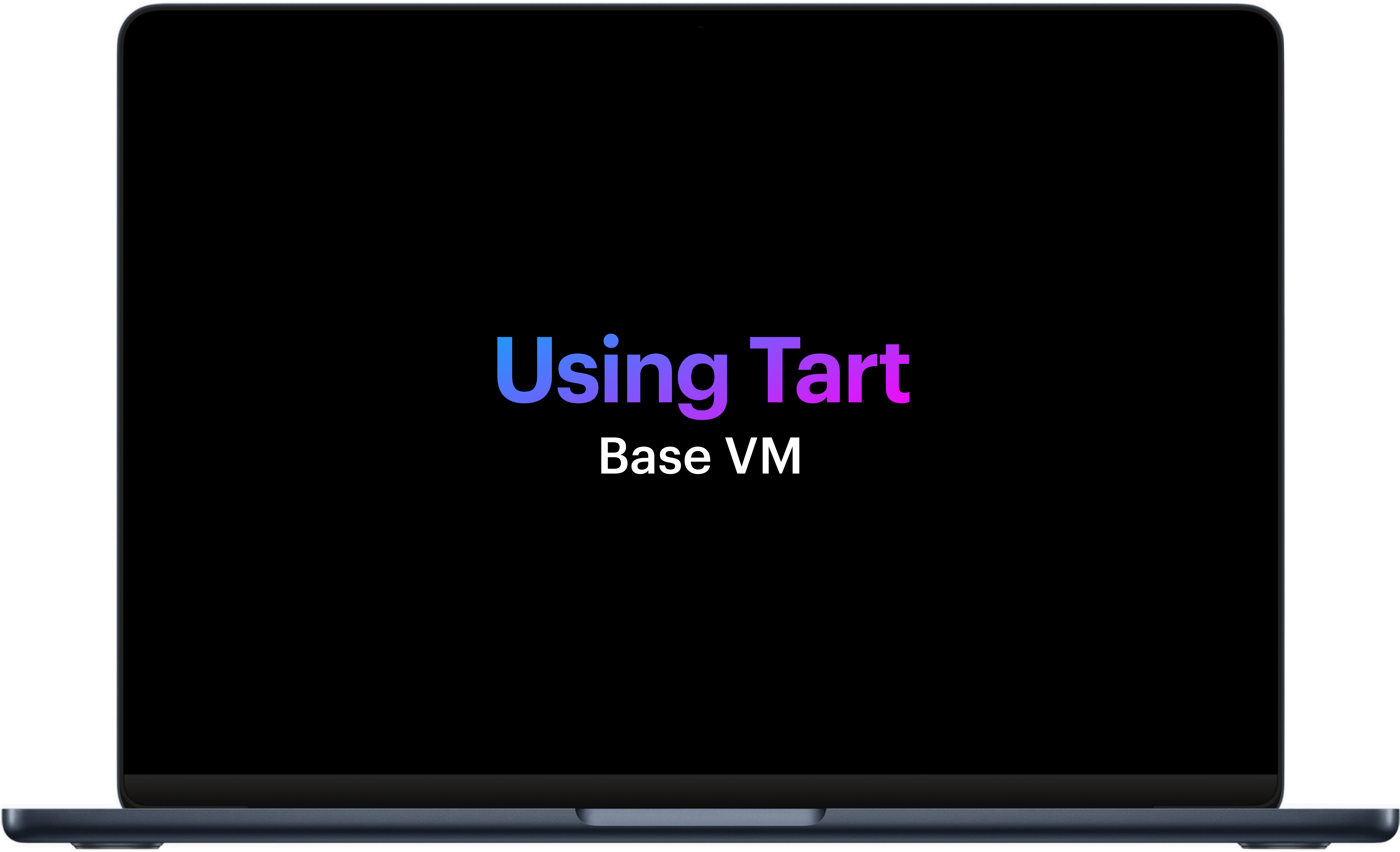
Using Tart

Installation

Using Tart

Base VM

- Clone Cirrus Labs Base
 - `tart clone ghcr.io/cirruslabs/macos-monterey-base:latest monterey-base`
- List created VMs
 - `tart list`
- Run VM
 - `tart run monterey-base`



Using Tart

Base VM

Using Tart

Creating from Scratch

- Create a “base” VM from macOS 12.4 (21F79) IPSW
 - `tart create --from-ipsw=/Users/`id -n -u`/Downloads/UniversalMac_12.4_21F79_Restore.ipsw 12.4_21F79-base`
- List created VMs
 - `tart list`
- Set VM display
 - `tart set 12.4_21F79-base --display 1024x768`
- Run VM
 - `tart run 12.4_21F79-base`



Using Tart

Creating from Scratch

Using Tart

Cloning

- Capture the current date / time for repeated use
 - `timestamp=$(date '+%Y-%m-%d-%H%M%S')`
- Create a timestamped-clone of “base” VM
 - `tart clone 12.4_21F79-base 12.4_21F79-base-clone-$timestamp`
- Run VM
 - `tart run 12.4_21F79-base-clone-$timestamp`
- Boot to macOS Recovery
 - `tart run 12.4_21F79-base-clone-$timestamp --recovery`

A dark blue laptop is shown from a front-facing perspective, slightly angled. The screen is black and displays the text 'Using Tart Cloning' in a large, bold, sans-serif font. The word 'Using' is blue, 'Tart' is purple, and 'Cloning' is white. The laptop's keyboard and trackpad are visible at the bottom edge.

Using Tart Cloning

Using Tart

Leveraging VNC

- Interact with your Tart VMs via a VNC client
 - `tart run 12.4_21F79-base --no-graphics --vnc`



Using Tart

Leveraging VNC

Using Tart

Racing Stripes

- Exclude Tart from Time Machine backups
 - `tmutil addexclusion -p ~/.tart`



Using Tart

Time Machine

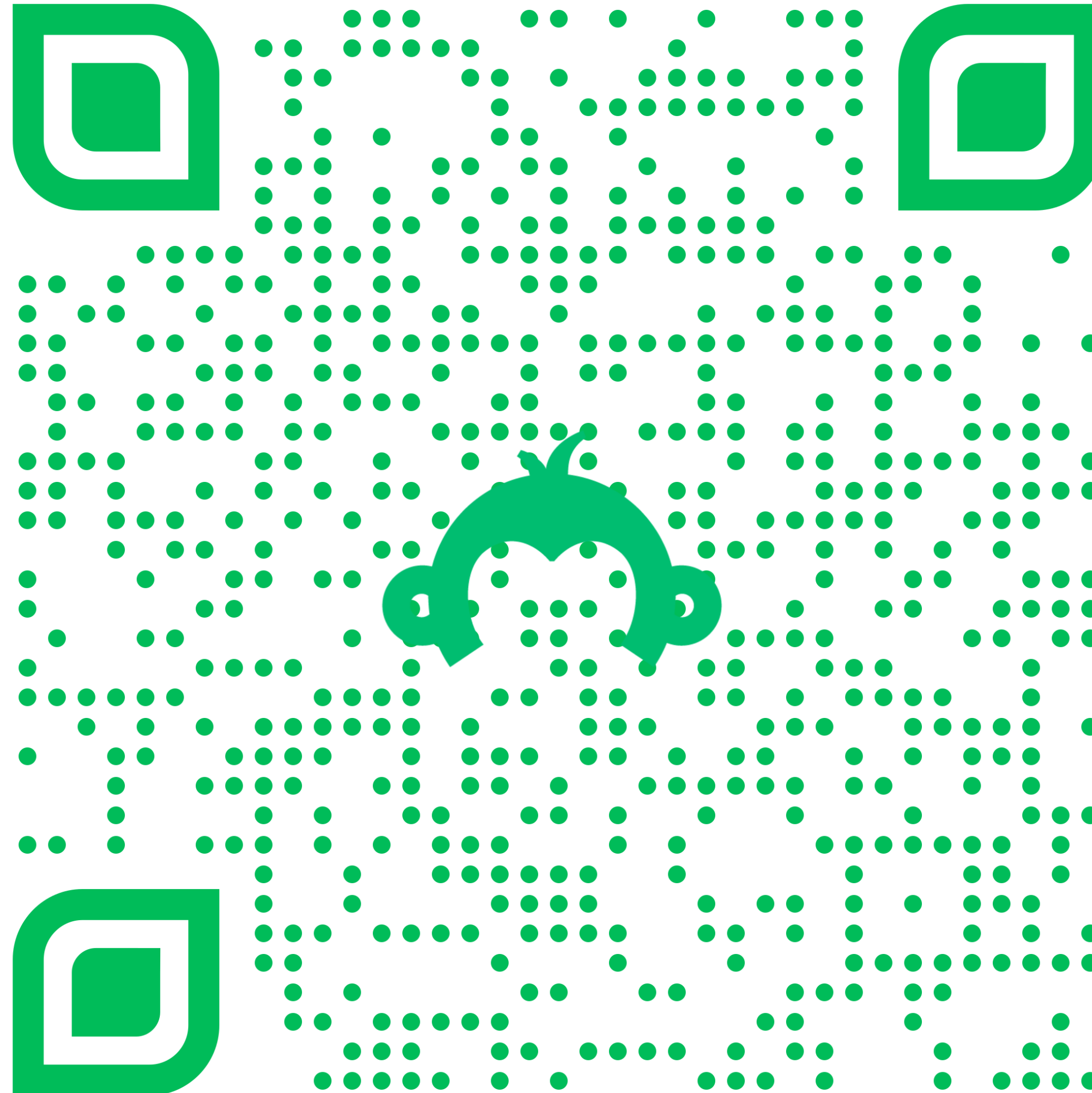
Questions & Answers

Please use Chat to ask questions

Resources

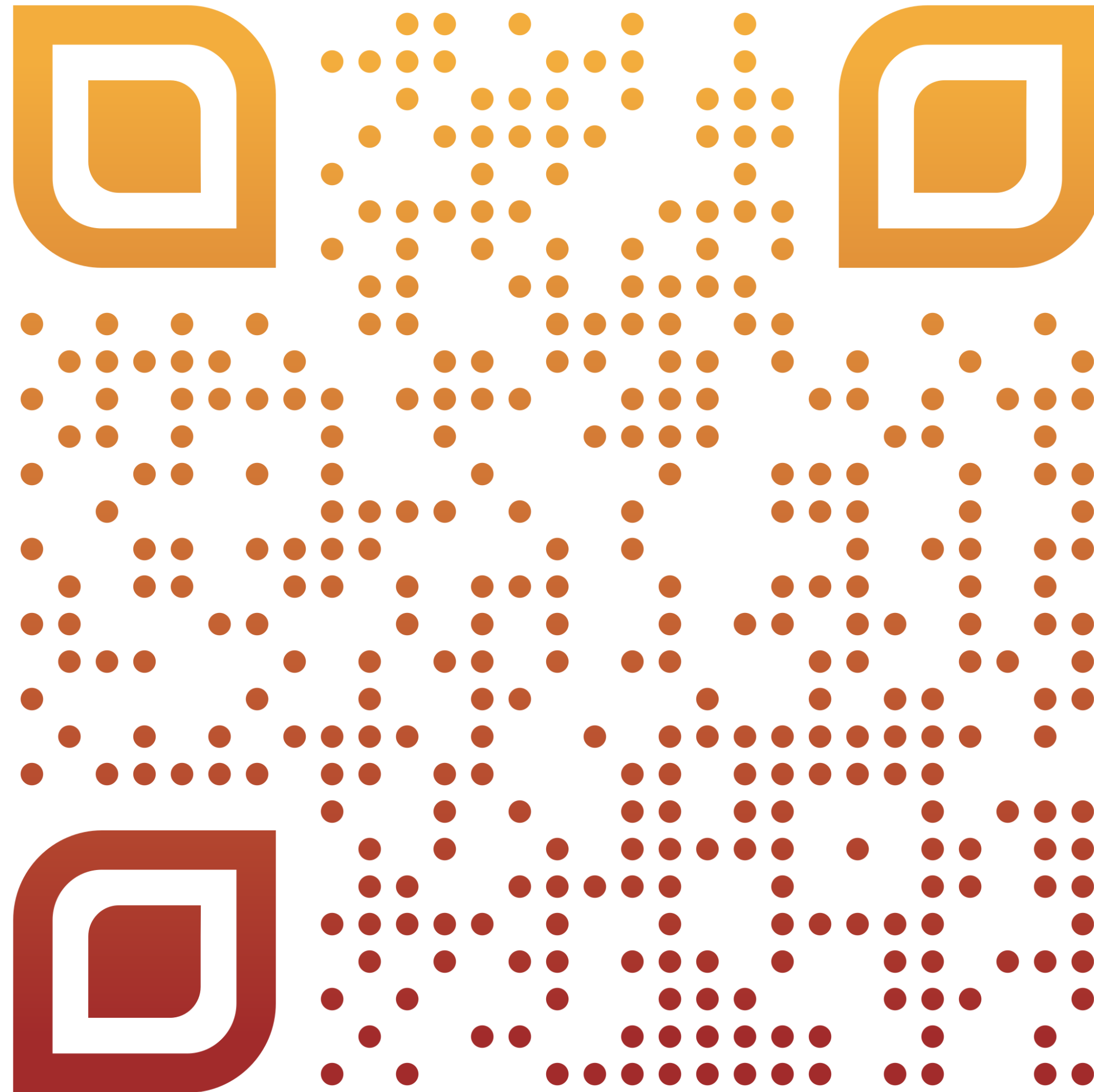
Resources

Survey



Resources

[GitHub.com/CirrusLabs/Tart](https://github.com/CirrusLabs/Tart)



Resources

Snelson.us/Tart



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