

# Tracking Repository Health at Scale



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**How healthy is  
your estate?**

**Would you know if  
it changed?**





## Health Check Bot

Now

LDX3 Repository is now locked due to its poor health score – click to see resolutions.

Now



# How big is your estate?



# Estate size



# Web @ Trainline

Booking Flow

Landing Pages

Customer

Trainline  
Business

White label

Affiliate widgets

# Web @ Trainline

Booking Flow

Landing Pages

Customer

Trainline Business

White label

Affiliate widgets

Web Platform

# Before Platform

- Cluster model
- Engineers are specialists
- Loose conformance
- Multiple communities
- 3-10 repos per cluster
- Manual Health checks

# After Platform

- Horizontal/Vertical model
- Engineers are generalists
- Tighter conformance
- One Web community
- ~160 repos
- Needs a different approach

**What is health?**





# Health Principles

**Secure**

**Securing Customers data**



# Health Principles

## Productive

Easy to release, up to date and self service



# Health Principles

**Consistent**

**Consistent experience for customers and engineers**



# Health Principles

## Conformant

Meets shared understanding of what good looks like

# What is Repository health?



# Healthy?

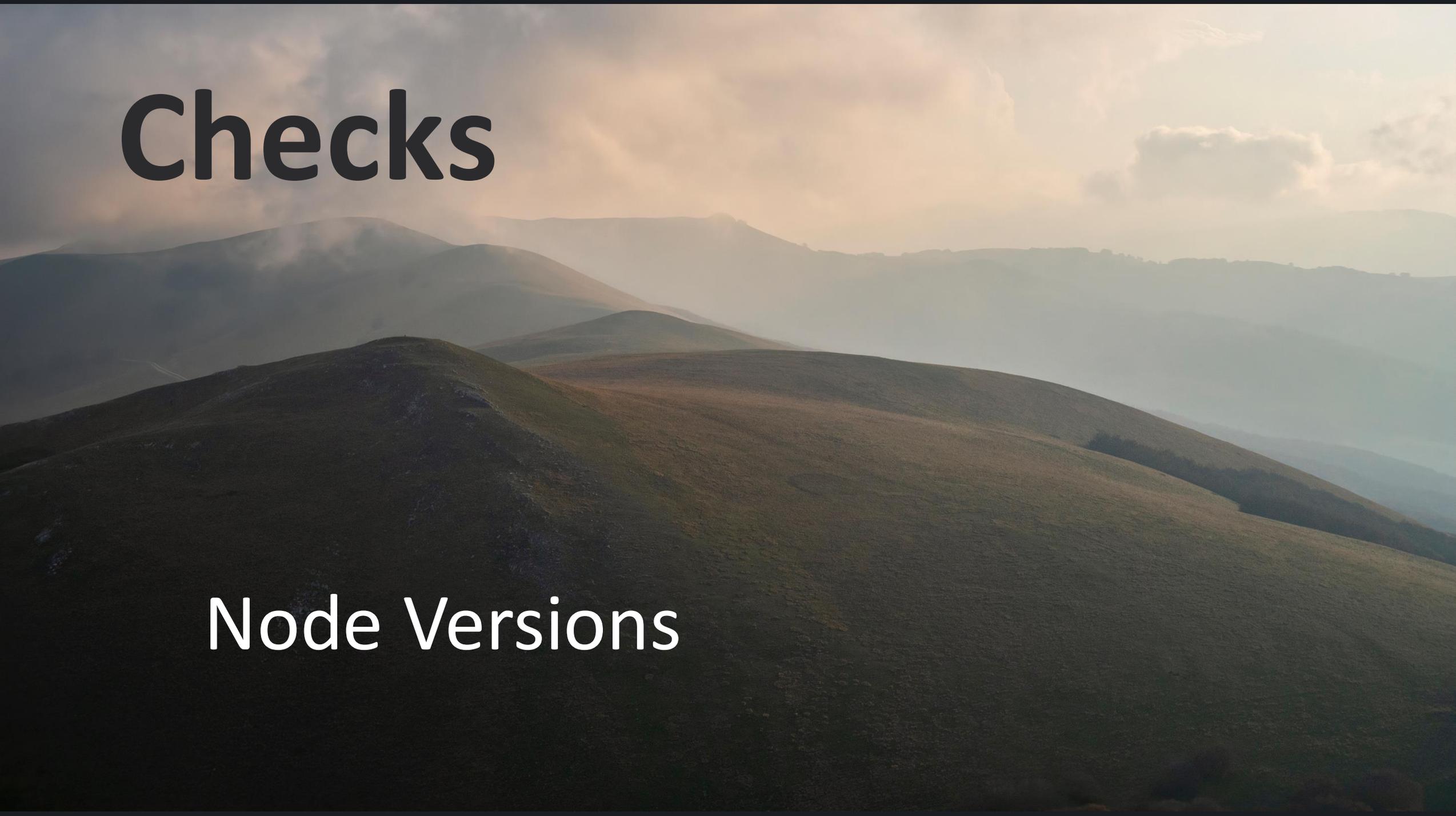
- Uptime / availability
- Latency / Response times
- Error Rates
- Throughput / RPS
- DORA Metrics
- Static Code Analysis
- Analytics
- Business Metrics
- Test coverage
- Core Web Vitals (LCP, FID, CLS)
- Build time / status



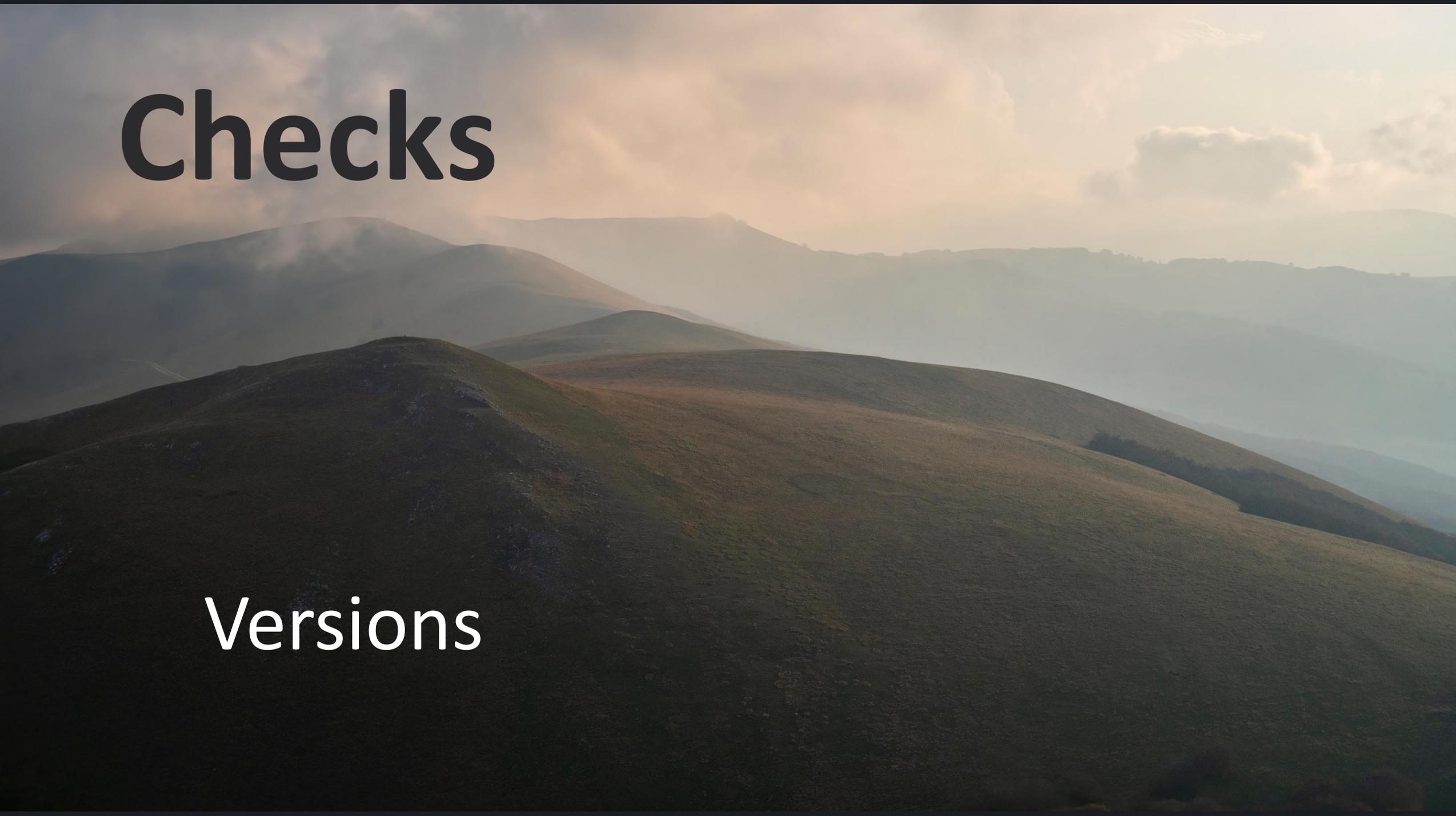
# Code at rest



# Checks

A landscape of rolling hills under a cloudy sky at sunset or sunrise. The hills are covered in green and brown vegetation, and the sky is filled with soft, golden light and scattered clouds.

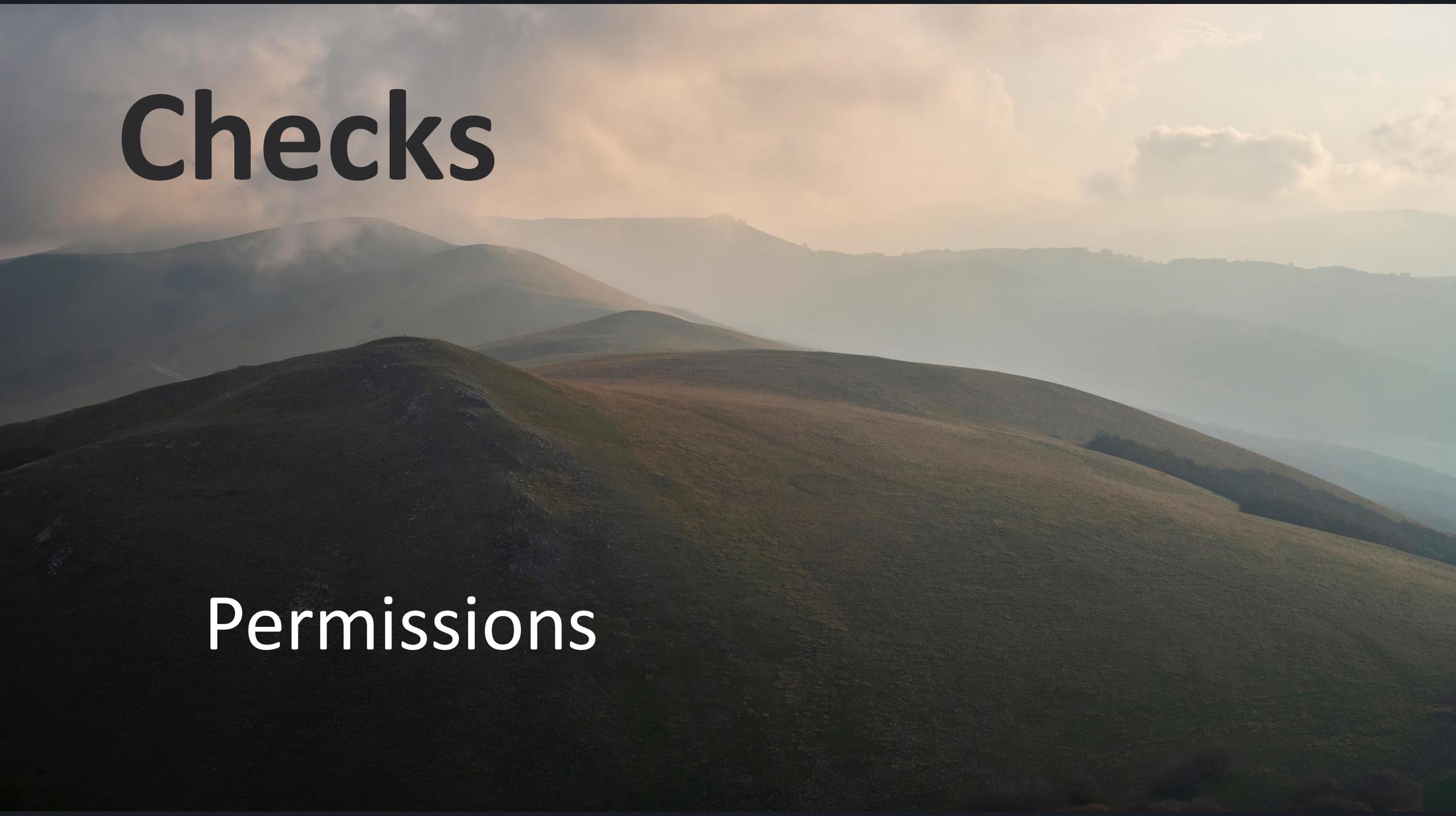
Node Versions

A landscape of rolling hills under a cloudy sky at sunset or sunrise. The hills are covered in green and brown vegetation, and the sky is filled with soft, golden light. The word "Checks" is written in large, bold, black letters in the upper left corner, and the word "Versions" is written in large, bold, white letters in the lower left corner.

# Checks

# Versions

# Checks

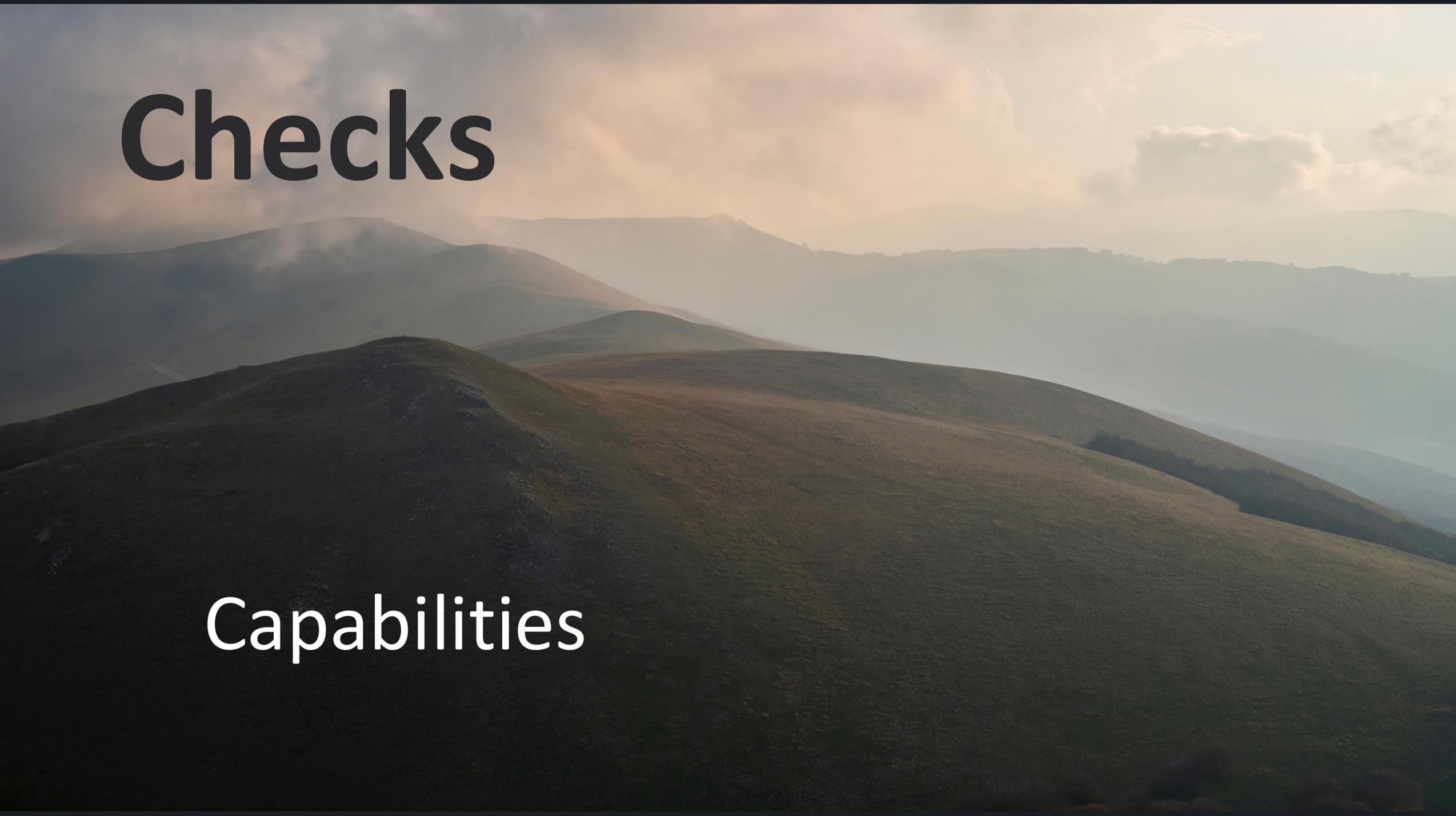
A landscape of rolling hills under a cloudy sky at sunset or sunrise. The hills are covered in green and brown vegetation, and the sky is filled with soft, golden light and scattered clouds. The overall mood is serene and atmospheric.

# Permissions

# Checks

A landscape of rolling hills under a cloudy sky at sunset or sunrise. The hills are covered in green and brown vegetation, and the sky is filled with soft, golden light and scattered clouds. The overall mood is serene and atmospheric.

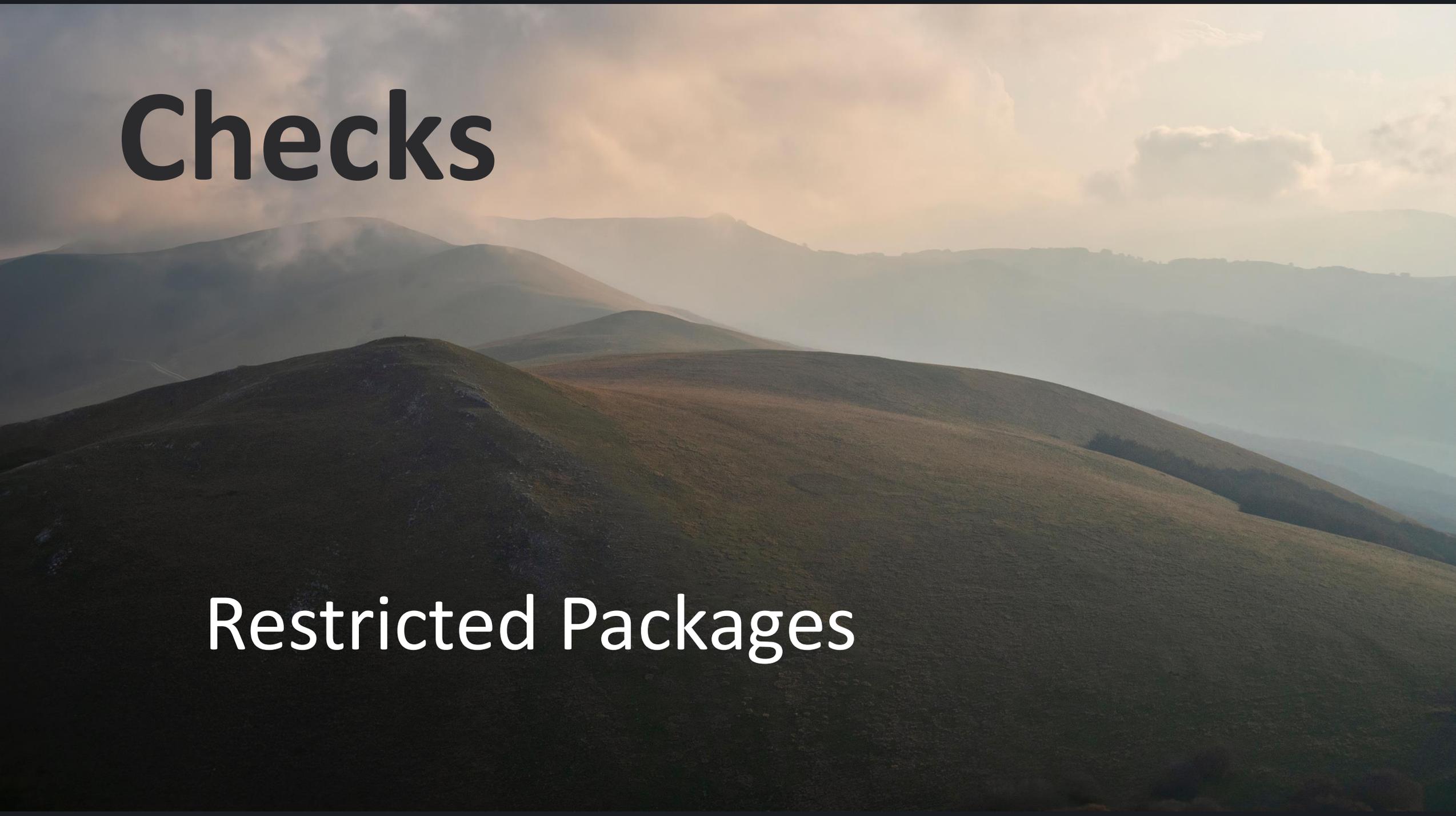
Security Audit

A landscape of rolling hills under a cloudy sky at sunset or sunrise. The hills are covered in green and brown vegetation, and the sky is filled with soft, golden light. The word "Checks" is written in large, bold, black letters in the upper left corner, and the word "Capabilities" is written in large, bold, white letters in the lower left corner.

# Checks

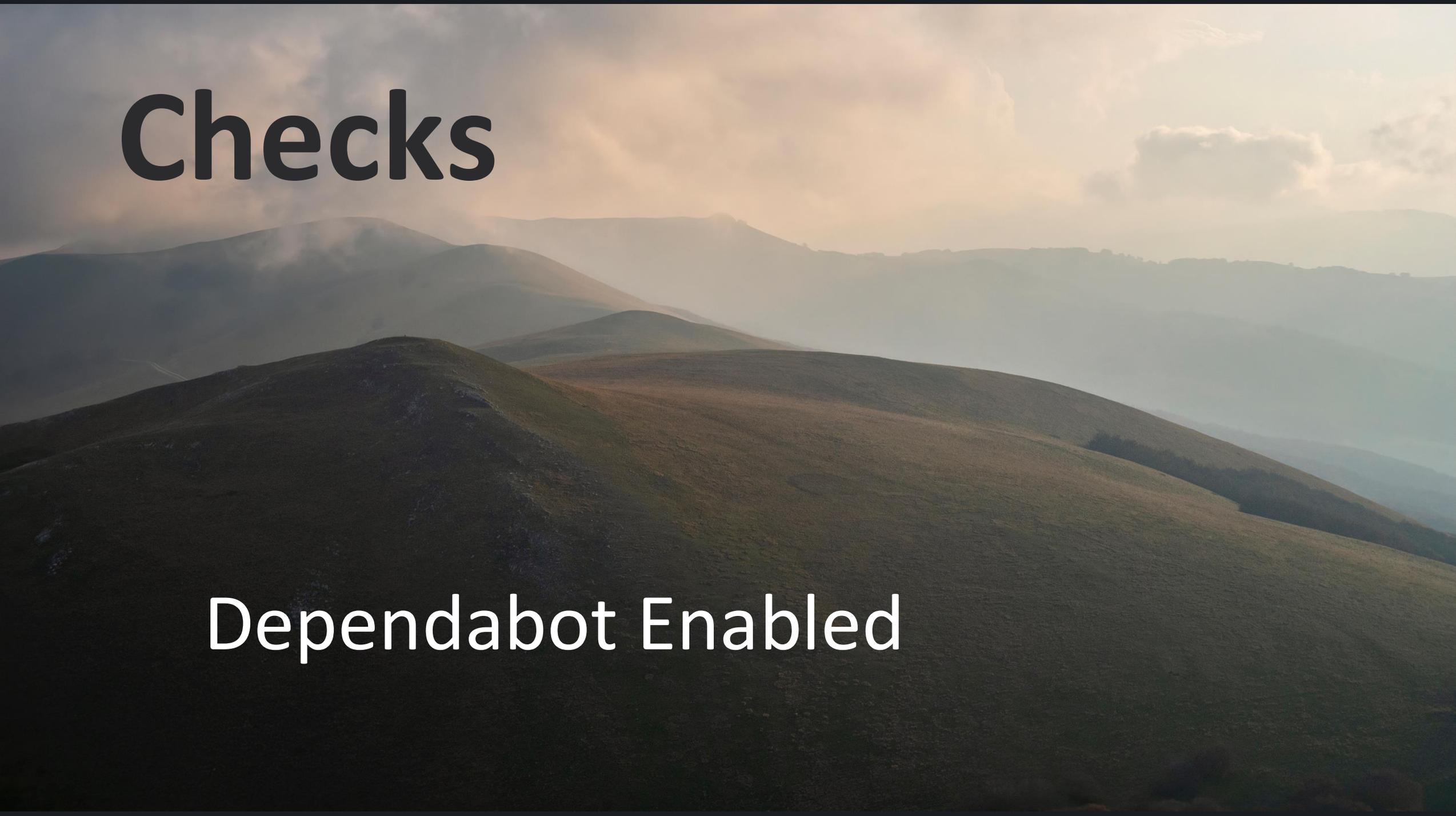
# Capabilities

# Checks

A landscape of rolling hills under a cloudy sky at sunset or sunrise. The hills are in shades of brown and green, and the sky is filled with soft, golden light and scattered clouds.

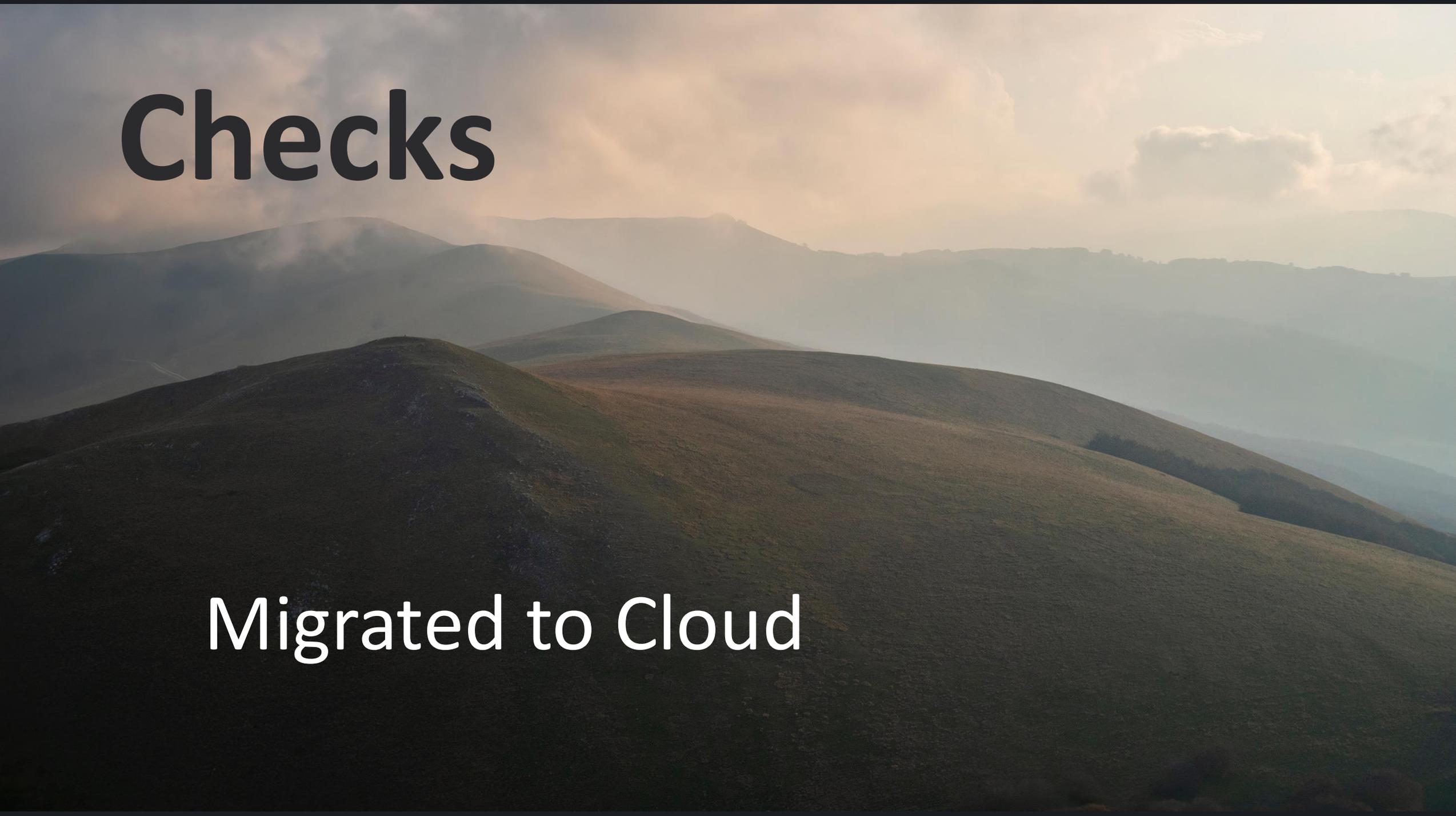
Restricted Packages

# Checks

A landscape of rolling hills under a cloudy sky at sunset or sunrise. The hills are in shades of brown and green, and the sky is filled with soft, golden light and scattered clouds.

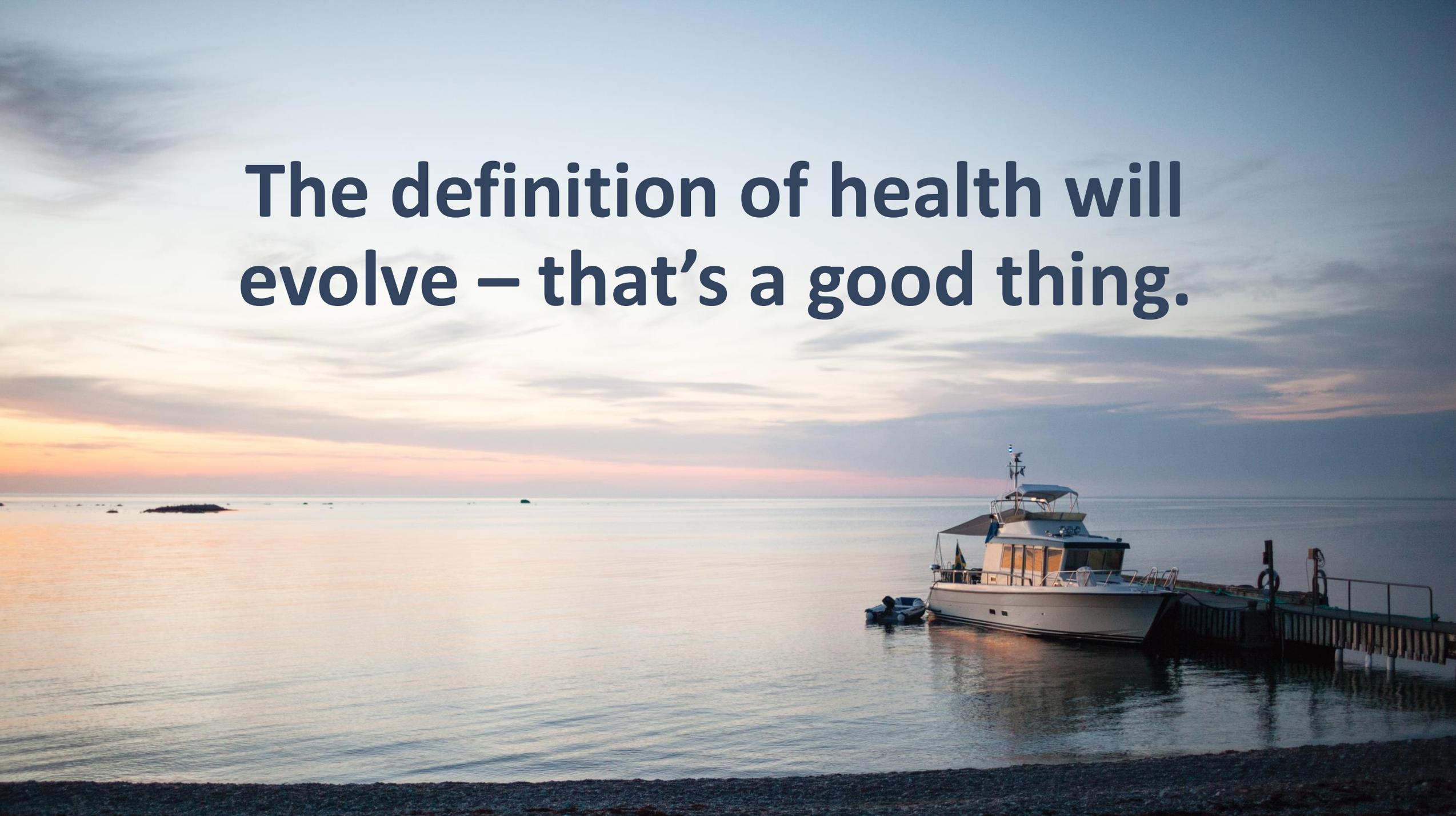
Dependabot Enabled

# Checks

A landscape of rolling hills under a cloudy sky at sunset or sunrise. The hills are covered in green and brown vegetation, and the sky is filled with soft, golden light and scattered clouds. The overall mood is serene and atmospheric.

Migrated to Cloud

**The definition of health will  
evolve – that's a good thing.**



A photograph of three hikers standing on a rocky mountain peak, looking out over a vast mountain range under a clear blue sky with the sun shining brightly. The hikers are silhouetted against the landscape. The foreground is a rocky, rocky ridge with some sparse vegetation. The background shows a series of mountain ranges receding into the distance, with a valley filled with green forest in the middle ground.

**Communicating  
the state of our code**

# Calculate the repository score

$\text{Passes} + \text{warning} / \text{total checks} * 100$

# Thresholds will evolve with time – that's a good thing.

< 40%

Archived



> 60%

Locked



23%



Risky



54%



Healthy



92%



- JSON object listing all the repos
- Fetch meta data for each repo
- Run appropriate checks for each repo
- Calculate results and store in JSON.
- Generate static html file from the JSON.
- Push to GitHub pages.
- Report any changes to Slack / Plandek



# How does it work?

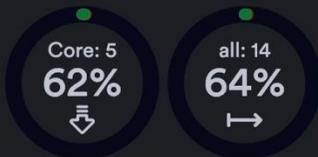
# The dashboard



**Not showing real data**



# Web Repository Health



Check History Overview History Repository History filters

Updated:21/03/2025 12:03



carriage-return



19%

core



loca-motivation



47%

core



whistle-stop



69%

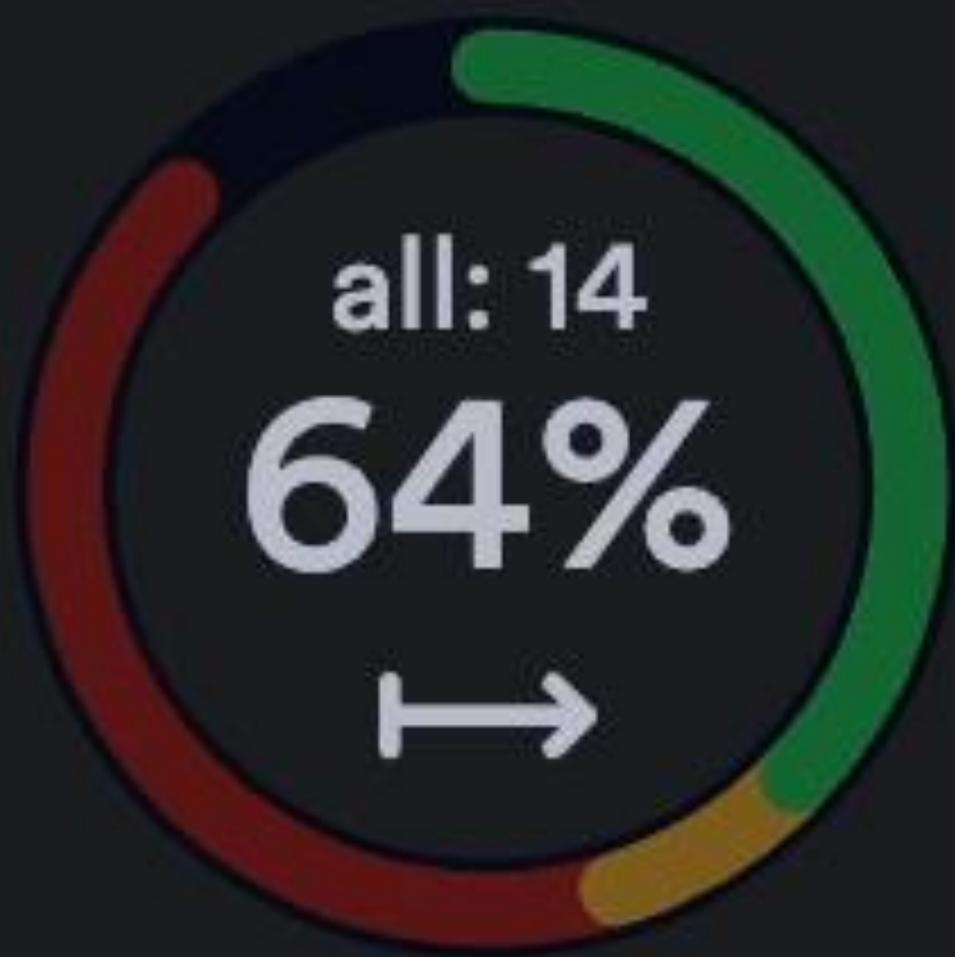
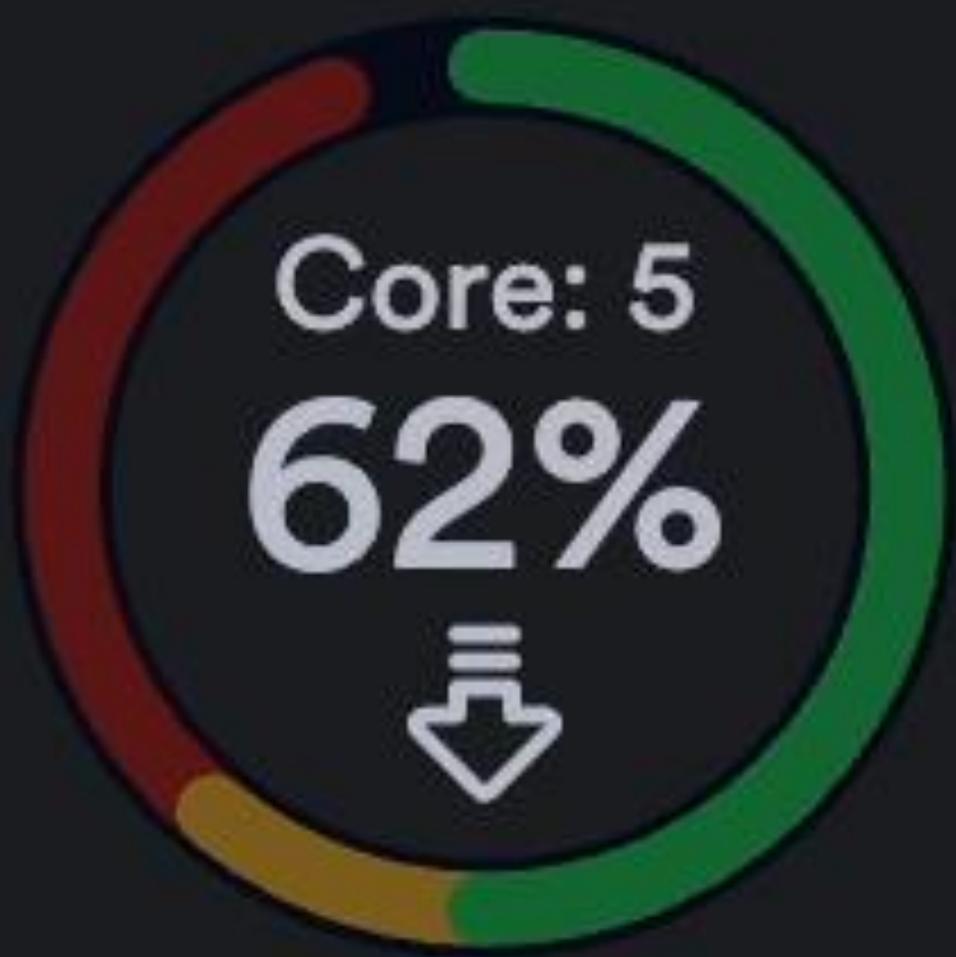


puff-power



62%

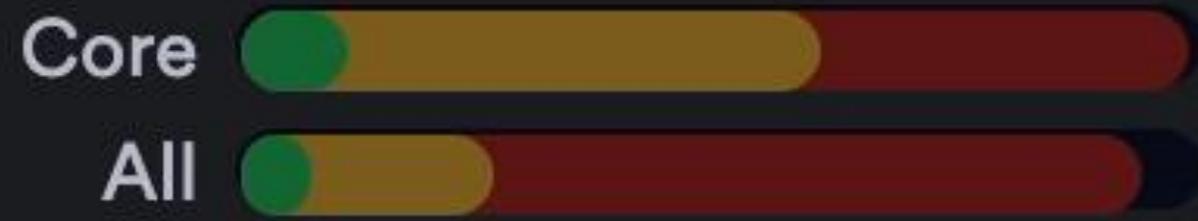




### check 3



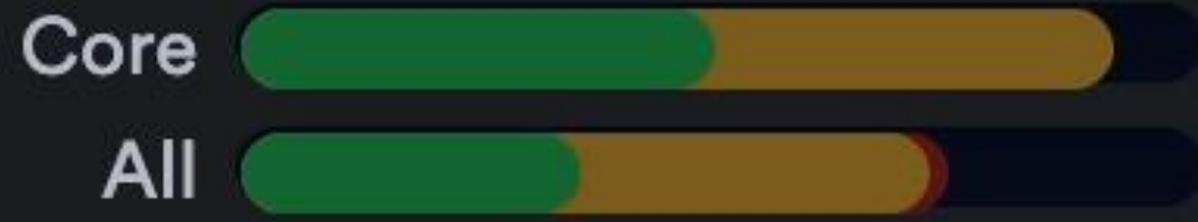
### check 4



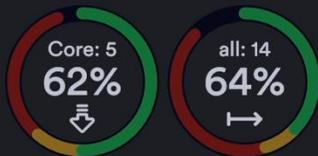
### check 9



### check 10



# Web Repository Health



Check History Overview History Repository History filters

Updated:21/03/2025 12:03





checks history notes  

### ✓ ArtifactoryMigration

### ✓ Backstage

### ✓ Contributions

### ✗ Dependabot

- Vulnerability alerts are not enabled for this repository.
- `.github/dependabot.yml` must be supplied to authenticate with Artifactory Cloud, and configure automated security and version updates
- Automated security fixes have been disabled for this repo. Please re-enable them.

### ✗ GitHub Actions

- Remove or update the following TeamCity-related webhooks if GitHub Actions is intended to replace TeamCity: <https://vulcan.tools.trainline.com/app/hooks/github/dfd3ff8c-d0b9-4a5b-a65f-d53992c09563> Ensure that the corresponding workflows are set up in GitHub Actions and that the TeamCity webhooks are no longer needed.
- Enable GitHub Actions in the repository settings. Please reach out to the Atlas team on Slack ([#help-atlas](#)) to ask for GHA to be enabled for the repository.

### ✗ PackageManager

- Please migrate to pnpm - <https://oneweb.trainline.tools/docs/docs/Development%20practices/Toolchain/using-pnpm#migrating-from-yarn-v1>

### ✓ ProtectedBranches

### ? UbuntuVersion

- Status could not be determined - please check healthcheck repo

### ✗ PackageAudit

- high: debug should be `>=2.6.9`
- high: node-fetch should be `>=2.6.7`
- high: async should be `>=2.6.4`
- high: semver should be `>=5.7.2`
- high: body-parser should be `>=1.20.3`
- high: path-to-regexp should be `>=0.1.12,>=0.1.10`
- high: sshpk should be `>=1.13.2`
- high: ua-parser-js should be `>=0.7.22,>=0.7.23,>=0.7.33`
- high: moment should be `>=2.19.3,>=2.29.4,>=2.29.2`
- high: lodash should be `>=4.17.19,>=4.17.21`
- critical: underscore should be `>=1.12.1`
- critical: minimist should be `>=0.2.4`

### ✗ Capabilities

- Missing: design-system
- Missing: shared-components
- Missing: type-system
- Missing: browser testing
- Missing: accessibility testing

### ✓ Contributors

### ✗ ECS Check

- The registry file (`.spacelift/registry.yaml` or `.spacelift/registry.yml`) is missing.
- The deployment directory for dev is missing.
- The deployment directory for exttest is missing.
- The deployment directory for stg is missing.
- The deployment directory for prod is missing.

### ✗ NodeVersion

- node running 8.16.2 expected 20.10.0. Source: lockfile
- node running 8 expected 20.10.0. Source: .nvmrc

### ✗ Permissions

- Team: Vulcan, expected: push but found: admin

### ✗ RestrictedPackages

- `tfl-page` - restricted - unsupported by webplatform and readonly
- `tfl-icons` - restricted - use icons from depot-web
- `trainline-deep-link` - restricted - use <https://github.com/trainline-private/dpi>
- `mocha` - deprecated - unsupported by web platform. Move to `jest`
- `moment` - deprecated - Community decision to move to `Day.js`, see <https://oneweb.trainline.tools/docs/docs/Development%20practices/working-with-dates/>

### ✗ Versions

- Upgrade `newrelic` from 5.13.1 to 12.11.3 in undefined
- Upgrade `react` from 15.5.4 to 19.0.0 in undefined
- Upgrade `react-dom` from 15.5.4 to 19.0.0 in undefined
- Upgrade `webpack` from 2.7.0 to 5.97.1 in undefined

### Locked

Due to the low health score this repo is locked. Its health score needs to be improved before any changes can be made.

## **X** Capabilities

- Missing: design-system
- Missing: shared-components
- Missing: type-system
- Missing: browser testing
- Missing: accessibility testing

**Health checks run once per day on each  
repo.**



A scenic landscape featuring a calm lake in the foreground, a range of green mountains in the middle ground, and a sky filled with heavy, grey clouds. The text "How do we use it?" is overlaid in white, bold, sans-serif font across the middle of the image.

**How do we use it?**

Tracking trends



How do we use it?

Communicating Risk



How do we use it?

Handovers

A scenic landscape featuring a calm lake in the foreground, a range of mountains in the middle ground, and a sky filled with large, grey clouds. The text "How do we use it?" is overlaid in white, bold, sans-serif font across the middle of the image.

**How do we use it?**

Before/After Screenshots

# Future Plans

A scenic view of a lake with a church and mountains in the background. The image is dark and moody, with a blue and black color palette. The church has a prominent spire. The mountains are in the distance, and the water is calm with some ripples. A wooden post is visible in the foreground on the left.

Tech Radar

# Future Plans

A scenic view of a lake with a church and mountains in the background. The church has a tall, dark spire. The mountains are covered in trees and some have patches of snow. The sky is overcast. The water is calm and reflects the surrounding landscape. In the foreground, there is a wooden post and a metal railing.

Ownership  
Leaderboard

# Future Plans

A scenic view of a lake with a church and mountains in the background. The church has a tall, dark spire. The mountains are covered in trees and some have patches of snow. The sky is overcast.

PR integrations

- Thanks
- Blocking

# Conclusions



# Thankyou

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