Nix Flakes Test Report

Date: January 14, 2026
Project: ripple-env
Tester: DeepAgent

Summary

Flake	Location	Status
Main Flake	`/home/ubuntu/ripple-env/flake.nix`	⚠️ Partial Pass
WSL Config Flake	`ripple-wsl-binary/nixos-wsl-config/flake.nix`	❌ Fail

Flake 1: Main Flake (`/home/ubuntu/ripple-env/flake.nix`)

Evaluation Tests

Test	Status	Notes
`nix flake show`	✅ Pass	Flake structure evaluates correctly
`nix flake check`	⚠️ Partial	Fails on `iso-ros2-stable` configuration
DevShells evaluation	✅ Pass	All 6 shells evaluate: cuda, default, full, identity, minimal, stable
Checks evaluation	✅ Pass	All 18 checks evaluate correctly

Build Tests

Check	Status
`flake-syntax`	✅ Pass
`module-syntax`	✅ Pass
`lib-tests`	✅ Pass
`shell-tests`	✅ Pass

Available DevShells (x86_64-linux)

- `cuda` - CUDA-enabled development shell
- `default` - Standard development shell
- `full` - Full-featured development shell
- `identity` - Identity management shell
- `minimal` - Minimal development shell
- `stable` - Production-ready shell (nixos-24.11)

Available Checks (x86_64-linux)

- `all-image-tests`
- `basic-services`
- `dev-tools`
- `docker-services`
- `flake-syntax`
- `lib-tests`
- `module-syntax`
- `module-tests-direnv`
- `module-tests-git`
- `module-tests-packages`
- `network`
- `security-hardening`
- `shell-tests`
- `test-direnv-module`
- `test-git-module`
- `test-lib-functions`
- `test-packages-module`
- `test-shell-packages`

NixOS Configurations

Configuration	Status	Purpose
`wsl-ripple`	✅ Pass	WSL2 development image (unstable)
`iso-ripple`	⚠️ Warning	ISO installer (deprecation warning on `isoImage.isoName`)
`vm-ripple`	✅ Pass	VM development image (unstable)
`wsl-ripple-stable`	✅ Pass	WSL2 production image (stable)
`iso-ros2-stable`	❌ Fail	ISO production image - **ERROR below**
`vm-ros2-stable`	✅ Pass	VM production image (stable)

Error: `iso-ros2-stable` Configuration

```
error: The option `image' does not exist. Definition values:
- In `/nix/store/.../flake.nix':
    {
      fileName = "nixos-ros2-24.11.20250630.50ab793-x86_64-linux.iso";
    }
```

Root Cause: The `image` option was added in nixos-unstable but doesn't exist in nixos-24.11 (stable). The `nix/images/iso.nix` file sets both `isoImage` (legacy) and `image` (new) options unconditionally.

Fix Required: In `nix/images/iso.nix`, conditionally set the `image` option only when using unstable:

```
# Only set new image option on unstable (not available in 24.11)
} // (if isStable then {} else {
  image = {
    fileName = "nixos-ros2-${config.system.nixos.label}-x86_64-linux.iso";
  };
})
```

Flake 2: WSL Config Flake (`ripple-wsl-binary/nixos-wsl-config/flake.nix`)

Status: ❌ **Failed**

Error

```
error: attribute 'overlays' missing
at /home/ubuntu/ripple-env/ripple-wsl-binary/nixos-wsl-config/flake.nix:23:13:
    22|           overlays = [
    23|             nixos-wsl.overlays.default
      |                   ^
    24|           ];
```

Root Cause: The `nixos-wsl` flake does not export an `overlays` output. The flake incorrectly assumes `nixos-wsl.overlays.default` exists.

Fix Required: Remove the overlay reference since nixos-wsl doesn't provide overlays:

```
let
  pkgs = import nixpkgs {
    inherit system;
    config.allowUnfree = true;
    # Remove: overlays = [ nixos-wsl.overlays.default ];
  };
```

Additional Issues

- The flake references modules that may not exist:
- `./configuration.nix`
- `./modules/flexnetos-core.nix`
- `./modules/flexnetos-services.nix`
- `./modules/flexnetos-security.nix`
- `./modules/flexnetos-monitoring.nix`

Custom Commands Available

The main flake provides modular commands organized by category:

Category	File	Purpose
Core	`nix/commands/core.nix`	cb, ct, ctr, ros2-env, update-deps
AI	`nix/commands/ai.nix`	localai, agixt, aios, sandbox-runtime
ROS2	`nix/commands/ros2.nix`	ros2-clean, ros2-ws, ros2-topics, ros2-nodes
Infra	`nix/commands/infra.nix`	ipfs-ctl, nats-ctl, prom-ctl
Security	`nix/commands/security.nix`	sbom, vuln-scan, sign-arti-fact, pki-cert
Dev	`nix/commands/dev.nix`	fmt-nix, dev-check, pre-commit, swc
Workflow	`nix/commands/workflow.nix`	gh-issues, db-query, tempor-al-ctl, n8n-ctl

Warnings Observed

1. **Git tree dirty warning** - Expected during development
2. **Untrusted flake config** - Binary cache settings require `--accept-flake-config` flag
3. **Deprecation warning** - `isoImage.isoName` has been renamed to `image.fileName` (in unstable only)

Recommendations

Critical Fixes Required

1. **Fix** `nix/images/iso.nix` - Conditionally set `image` option based on `isStable` flag
2. **Fix** `ripple-wsl-binary/nixos-wsl-config/flake.nix` - Remove non-existent `nixos-wsl.overlays.default` reference

Suggested Improvements

1. Add missing module files for the WSL config flake or remove references
2. Consider adding a CI workflow to run `nix flake check` on PRs
3. Add `--accept-flake-config` to documentation for using binary caches

Test Commands Used

```
# Show flake structure
nix flake show

# Run all checks
nix flake check

# Evaluate specific outputs
nix eval .#devShells.x86_64-linux --apply 'attrs: builtins.attrNames attrs'
nix eval .#checks.x86_64-linux --apply 'attrs: builtins.attrNames attrs'

# Build specific checks
nix build .#checks.x86_64-linux.flake-syntax --no-link
nix build .#checks.x86_64-linux.module-syntax --no-link
nix build .#checks.x86_64-linux.lib-tests --no-link
nix build .#checks.x86_64-linux.shell-tests --no-link
```