

PeiDocker Terminal GUI - Advanced Mode Design

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1 Advanced Mode Interface Overview

The Advanced Mode provides a comprehensive form-based interface that allows users to configure all aspects of their PeiDocker project. It features tabbed navigation, real-time YAML preview, template management, and direct editing capabilities.

1.1 Main Interface Layout

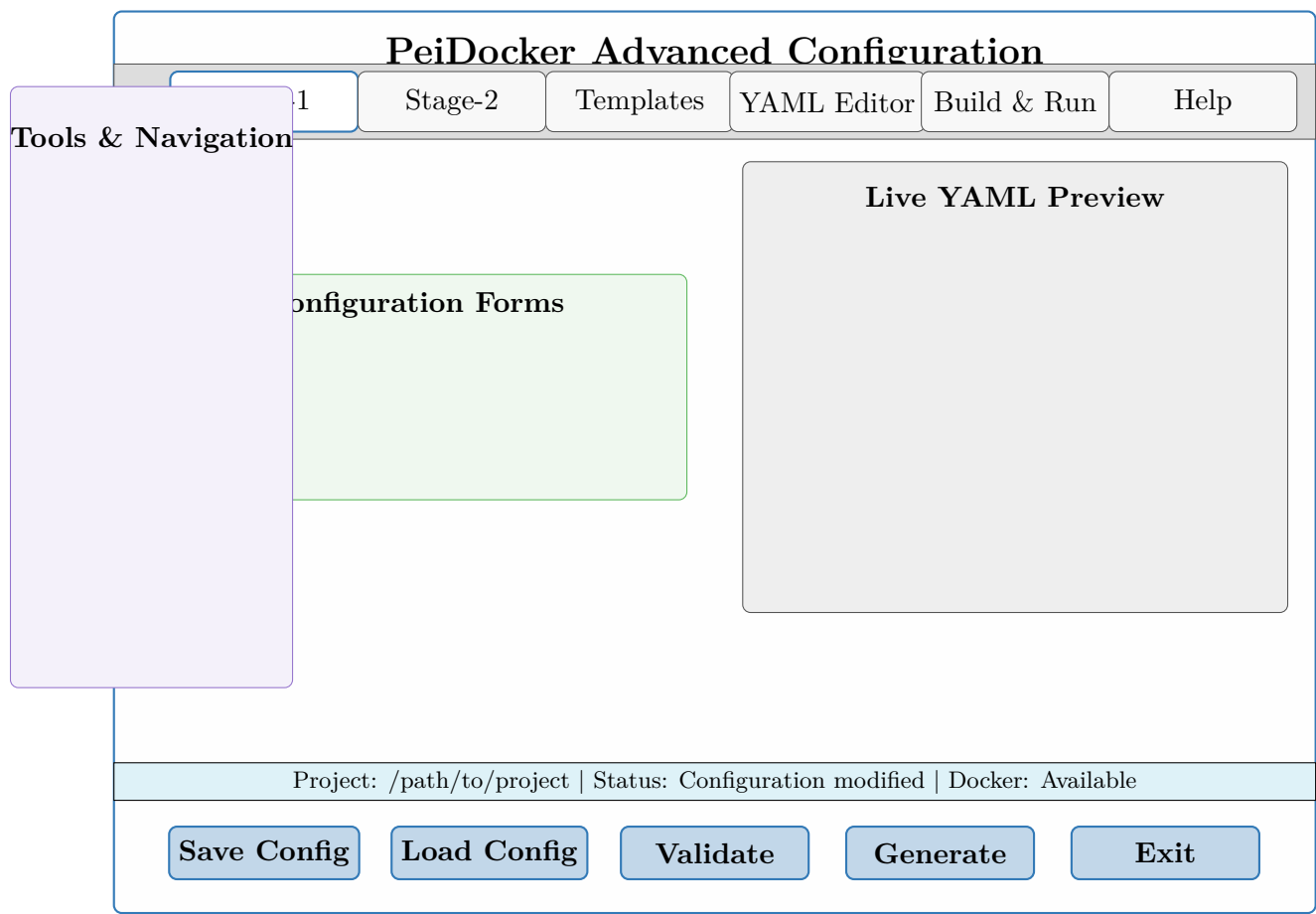


Figure 1: Advanced Mode Main Interface Layout

Stage-1 Configuration

Basic Settings

myproject:stage-1

SSH Configuration

SSH Users

+ Add User

me (UID: 1000) [password] + pubkey]

root (UID: 0) [password only]

+ Click to edit user configuration

Network & Packages

Proton

AF tuna

Advanced Settings

Environment

+ Add Variable

DEBIAN_FRONTEND=noninteractive

LANG=en_US.UTF-8

Port Mapping

+ Add Port

2222:22 (SSH)

8080:80 (HTTP)

Device & Storage

Device

Mounts

+ Add Mount

Custom Scripts

stage-1/custom/install-dev-tools.sh

Live Preview

stage_1:

image:

base: ubuntu:24.04

output:

myproject:stage-1

ssh:

enable: true

port: 22

host_port: 2222

users:

me:

password: '123456'

pubkey_file:

/.ssh/id_rsa.pub

uid: 1000

root:

password: 'root'

uid: 0

proxy:

enable_globally:

false

apt:

repo_source: 'tuna'

environment:

-

'DEBIAN_FRONTEND=...'

ports:

- '2222:22'

- '8080:80'

Modified: 3 changes pending | Validation: ✓ All fields valid

Reset Form

Load Template

Save Template

Validate

Figure 2: Stage-1 Configuration Tab Interface

Stage-2 builds upon Stage-1 configuration

Settings here will override or extend Stage-1 where applicable

Storage Configuration

Intelligent Storage

App (auto-volume):

Data (auto-volume):

Workspace (host):

Host: /home/user/workspace

Additional Mounts

home_me → /home/me (auto-volume)

apt_cache → /var/cache/apt (auto-volume)

project_data → /data (host: /host/data)

Environment & Overrides

Additional Env + Add it

WORKSPACE_PATH=/soft/workspace

STAGE=production

Device Override

Override Stage-1 device settings:

Stage-2 Custom Scripts

Application-Level Scripts

on_built_first_everytime_user_login

stage-2/custom/setup-workspace.sh -init

stage-2/custom/install-app-deps.sh

+ Click to add new on_first_run script

Entry Point Override

Cus overrides Stage-1):

stage-2/custom/app-start.sh

Storage Architecture Visualization

/soft/app

/soft/data

/soft/workspace

→

/hard/volume/app

→

/hard/volume/data

→

/hard/volume/workspace

→

/hard/image/app (fallback)

→

/hard/image/data (fallback)

→

/host/user/workspace

Stage-2 Configuration | Storage: 3 volumes, 1 host mount | Scripts: 2 custom

Reset to Stage-1

Preview Stage-2

Test Mount Functionality

Validate Configuration

Generate YAML

Figure 3: Stage-2 Configuration Tab Interface

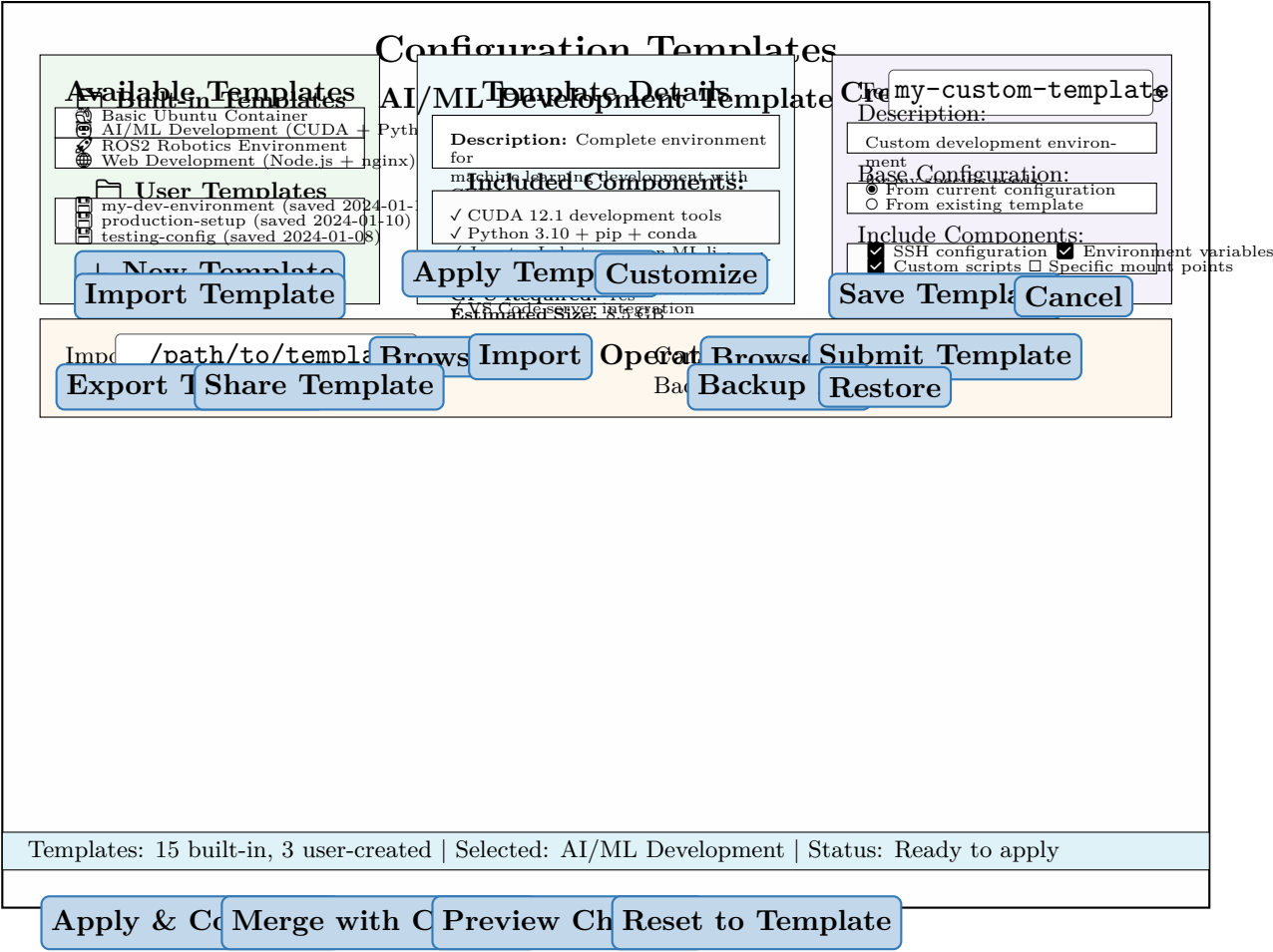


Figure 4: Templates Management Tab Interface

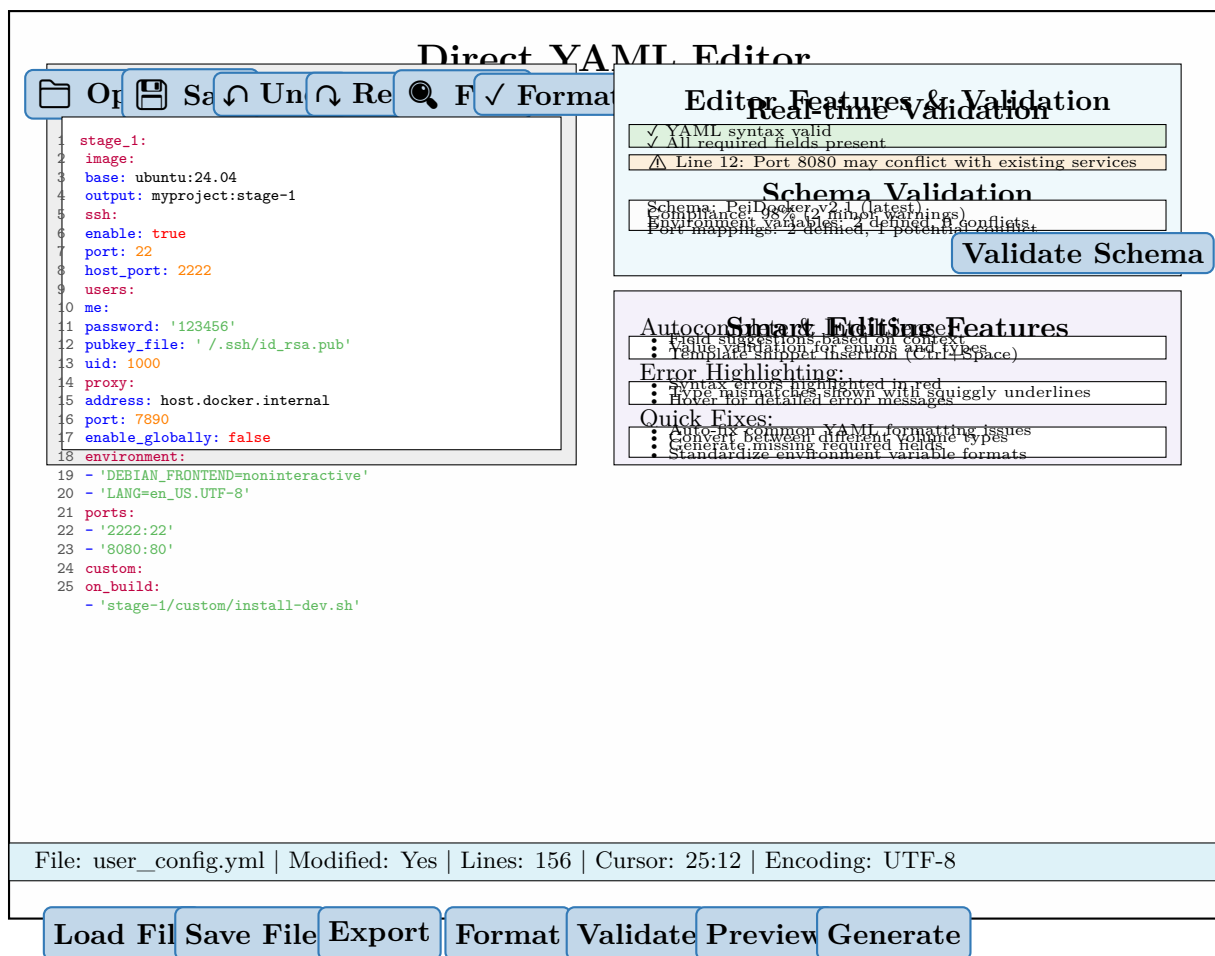


Figure 5: YAML Editor Tab Interface

- 1.2 Stage-1 Configuration Tab
- 1.3 Stage-2 Configuration Tab
- 1.4 Templates Management Tab
- 1.5 YAML Editor Tab
- 1.6 Build & Run Tab

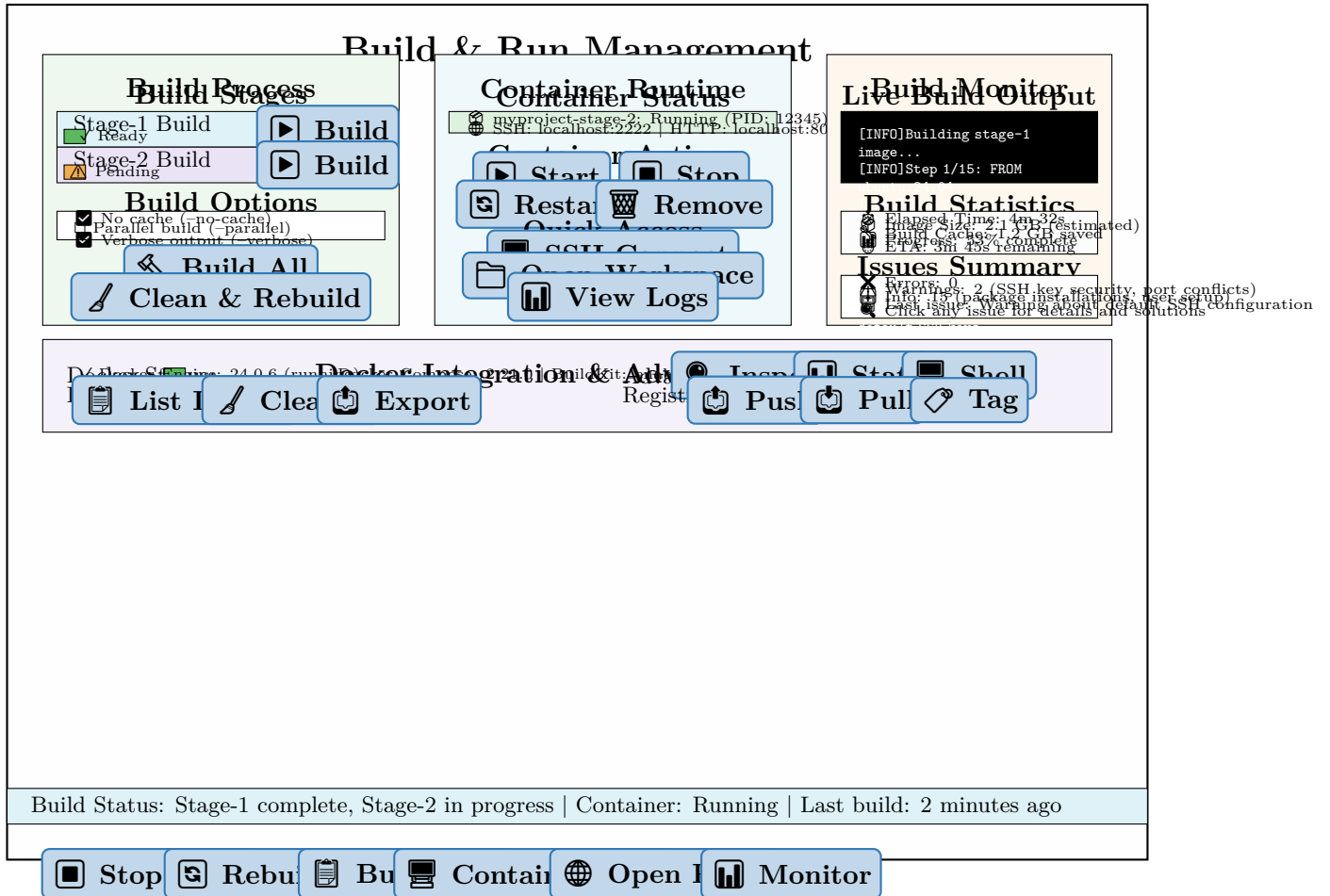


Figure 6: Build & Run Management Tab Interface

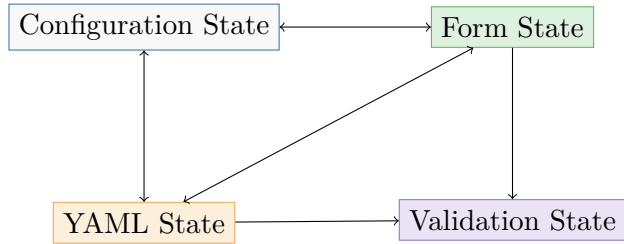
2 Advanced Mode Interaction Patterns

2.1 Form-Based Configuration Principles

The Advanced Mode follows several key design principles:

- **Non-linear Navigation:** Users can jump between any configuration section
- **Real-time Validation:** Immediate feedback on field values and relationships
- **Live Preview:** YAML configuration updates as users modify forms
- **Template Integration:** Built-in and user-defined templates for quick setup
- **Direct YAML Editing:** Power users can edit configuration directly
- **Build Integration:** Seamless transition from configuration to deployment

2.2 State Management



2.3 Error Handling and Recovery

The Advanced Mode provides comprehensive error handling:

- **Field-level Validation:** Real-time validation with inline error messages
- **Cross-field Dependencies:** Validation of relationships between configuration sections
- **Schema Compliance:** Ensure generated YAML matches PeiDock schema
- **Recovery Suggestions:** Actionable suggestions for fixing configuration issues
- **Auto-save:** Prevent data loss with automatic configuration saving