

Environment Configuration

Environment Configuration

“ **Project:** {{PROJECT_NAME}} **Version:** {{VERSION}} **Date:** {{DATE}}
Author: {{AUTHOR}} **Status:** Draft | In Review | Approved **Reviewers:** {{REVIEWERS}}

Document History

Version	Date	Author	Changes
0.1	{{DATE}}	{{AUTHOR}}	Initial draft

1. Environment Overview

Environment	Purpose	URL	Access	Managed By
Local	Developer workstation	localhost	Developer	Individual
Dev	Integration, daily builds	dev.{{DOMAIN}}	Team + CI	Platform team
Staging	Pre-production validation	staging.{{DOMAIN}}	Team + QA + PM	Platform team
Production	Live system	{{DOMAIN}}	Ops only	Platform team
Preview	Feature branch review	{{BRANCH}}.preview.{{DOMAIN}}	Team + Stakeholders	CI/CD

2. Per-Environment Configuration

2.1 Development Environment

Parameter	Value	Notes
Log level	DEBUG	Verbose logging for development
Database	dev-db.{{INTERNAL_DOMAIN}}	Shared dev DB, refreshed weekly
Cache	dev-redis.{{INTERNAL_DOMAIN}}	Shared Redis, no persistence
Email	Mailtrap / fake SMTP	Emails not delivered to real recipients
Payments	Sandbox / test mode	No real transactions
Feature flags	All enabled	Developers can test unreleased features
Debug tools	Enabled	Profiler, debug toolbar, etc.
Rate limiting	Disabled	Developer convenience
Auto-migrations	Enabled	Runs on startup

2.2 Staging Environment

Parameter	Value	Notes
Log level	INFO	Same as production
Database	staging-db.{{INTERNAL_DOMAIN}}	Isolated staging DB, production-scale
Cache	staging-redis.{{INTERNAL_DOMAIN}}	Dedicated Redis
Email	staging@{{DOMAIN}}	Sends to internal test inboxes only
Payments	Sandbox / test mode	No real transactions
Feature flags	Mirrors production + staged features	
Debug tools	Disabled	Must match production behavior
Rate limiting	Enabled	Same limits as production
Data refresh	Weekly from production (anonymized)	See data refresh runbook

Intentional staging/production differences:

- Email delivery: internal only (not real users)
- Payment: sandbox (not real transactions)
- Data: anonymized copies (not real PII)

2.3 Production Environment

Parameter	Value	Notes
-----------	-------	-------

Log level	<code>WARN</code>	Errors and warnings only
Database	<code>{{PROD_DB_HOST}}</code>	See secrets manager
Cache	<code>{{PROD_REDIS_HOST}}</code>	Clustered Redis
Email	<code>{{EMAIL_PROVIDER}}</code>	Real delivery via SES/Sendgrid/etc.
Payments	Live mode	Real transactions
Feature flags	Conservative — tested features only	New features behind flags
Debug tools	Disabled	Security requirement
Rate limiting	Enabled	See rate limit table
HSTS	Enabled (1 year, includeSubDomains)	
CSP	Strict	See security headers config

2.4 Preview / Feature Environments

Trigger: Pull request opened against `main` / `develop` **Lifetime:** Active while PR is open; destroyed on PR close **URL Pattern:** `{{BRANCH_SLUG}}.preview.{{DOMAIN}}` **Database:** Ephemeral copy (seeded from fixture data, not production) **Teardown:** Automated — triggered by PR close webhook

Parameter	Value
Log level	<code>DEBUG</code>
Email	Fake SMTP / preview inbox
Payments	Sandbox
Feature flags	Branch-specific flags enabled

3. Environment Variables Reference

Variable	Description	Required	Default	Sensitive	Environments
<code>NODE_ENV</code>	Runtime environment	Yes	<code>development</code>	No	All
<code>PORT</code>	HTTP server port	Yes	<code>3000</code>	No	All
<code>DATABASE_URL</code>	PostgreSQL connection string	Yes	—	Yes	All
<code>REDIS_URL</code>	Redis connection string	Yes	<code>redis://localhost:6379</code>	Yes	All
<code>JWT_SECRET</code>	JWT signing key	Yes	—	Yes	All

Variable	Description	Required	Default	Sensitive	Environments
JWT_EXPIRY	Token expiry duration	Yes	1h	No	All
SMTP_HOST	SMTP server hostname	Yes	—	No	All
SMTP_USER	SMTP username	Yes	—	Yes	All
SMTP_PASS	SMTP password	Yes	—	Yes	All
S3_BUCKET	Object storage bucket name	Yes	—	No	All
AWS_REGION	Cloud region	Yes	eu-west-1	No	All
SENTRY_DSN	Error tracking DSN	No	—	Yes	Staging, Prod
STRIPE_KEY	Payment API key	Yes (if payments)	—	Yes	All
LOG_LEVEL	Logging verbosity	No	info	No	All
RATE_LIMIT_WINDOW	Rate limit window (ms)	No	60000	No	All
RATE_LIMIT_MAX	Max requests per window	No	100	No	All
FEATURE_FLAG_KEY	Feature flag SDK key	No	—	Yes	All

Rules:

- Sensitive variables MUST be sourced from `{{SECRET_STORE}}` in staging and production
- Never commit sensitive values to source control
- Use `.env.example` with placeholder values for developer onboarding
- Rotate all secrets on team member offboarding

4. Secrets Management

4.1 Secret Storage Solution

Solution: `{{SECRET_TOOL}}`

Environment	Secret Store	Access Method
Local	<code>.env</code> file (never committed)	Developer managed
Dev	<code>{{DEV_SECRET_STORE}}</code>	CI/CD service account

Environment	Secret Store	Access Method
Staging	{{STG_SECRET_STORE}}	IAM role / service account
Production	{{PROD_SECRET_STORE}}	IAM role / service account

4.2 Secret Rotation Schedule

Secret Type	Rotation Schedule	Automated	Owner
Database passwords	90 days	{{AUTOMATED}}	Platform team
API keys (internal)	365 days	No	Service owner
API keys (third-party)	On compromise	No	Dev lead
JWT signing keys	365 days	No	Platform team
TLS certificates	60 days before expiry	{{AUTOMATED}}	Platform team

4.3 Access Controls

Role	Dev Secrets	Staging Secrets	Production Secrets
Developer	Read/Write	Read	No access
DevOps	Read/Write	Read/Write	Read/Write
CI/CD (build)	Read	Read	No access
CI/CD (deploy)	No access	Read	Read
Application runtime	Read (scoped)	Read (scoped)	Read (scoped)

5. Feature Flags Per Environment

Tool: {{FF_TOOL}}

Flag	Dev	Staging	Production	Notes
feature-new-checkout	On	On	Off	Waiting for QA sign-off
feature-dark-mode	On	On	Off	Rollout planned {{DATE}}
kill-switch-payments	Off	Off	Off	Emergency disable only
maintenance-mode	Off	Off	Off	Emergency only

6. Database Configuration Per Environment

Parameter	Local	Dev	Staging	Production
Host	localhost	{{DEV_DB}}	{{STG_DB}}	{{PROD_DB}}
Port	5432	5432	5432	5432
Database name	{{APP}}_dev	{{APP}}_dev	{{APP}}_staging	{{APP}}_prod
Max connections	10	25	50	{{PROD_CONNS}}
SSL required	No	No	Yes	Yes
Connection pool	No	No	Yes ({{POOL}})	Yes ({{POOL}})
Read replica	No	No	No	Yes
Backup	No	Daily	Daily	{{BACKUP_FREQ}}

7. External Service Configuration Per Environment

Service	Dev	Staging	Production	Notes
Email (SMTP)	Mailtrap	Mailtrap	SendGrid / SES	
Payments	Stripe test	Stripe test	Stripe live	Different API keys
SMS	Twilio test	Twilio test	Twilio live	
Analytics	Disabled	Staging property	Production property	
Error tracking	Disabled	Sentry dev project	Sentry prod project	
Maps	No key / free tier	Paid key	Paid key	

8. Environment Provisioning Process

- Infrastructure provisioning:** `terraform apply -var-file=envs/{{ENV}}.tfvars`
- Secret provisioning:** `bash scripts/provision-secrets.sh {{ENV}}`
- Database provisioning:** `bash scripts/create-db.sh {{ENV}}`

4. **DNS configuration:** Update DNS records per [deployment-architecture.md](#)
5. **TLS certificates:** Auto-provisioned via `{{CERT_TOOL}}`
6. **Initial deployment:** Trigger CI/CD for `{{ENV}}` target
7. **Verification:** Run smoke tests against new environment

Estimated time: `{{PROVISION_TIME}}` minutes **Runbook:** `{{PROVISION_RUNBOOK_LINK}}`

9. Environment Teardown Process

1. Verify no active users or critical processes
 2. Export any required data / logs
 3. Remove DNS records
 4. Revoke TLS certificates
 5. `terraform destroy -var-file=envs/{{ENV}}.tfvars`
 6. Purge secrets from secret store
 7. Archive environment configuration to `{{ARCHIVE_LOCATION}}`
 8. Update this document to remove the environment entry
-

10. Parity Policy (Staging ? Production Drift)

Goal: Staging should be functionally identical to production at all times.

Area	Policy
Application version	Staging is always ahead by ≤ 1 release
Infrastructure spec	Same instance types and topology
Database engine & version	Must match exactly
OS & runtime versions	Must match exactly
Third-party dependencies	Same versions (except external service mode)
Network topology	Same (except size)
Security controls	Same

Drift detection: `{{DRIFT_DETECTION}}` **Drift resolution owner:** Platform team

Related Documents

- [Deployment Architecture](#)
 - [Infrastructure as Code](#)
 - [CI/CD Pipeline](#)
 - [Local Development Setup](#)
-

Approval

Role	Name	Date	Signature
Author			
Reviewer			
Approver			

Revision #7

Created 2026-02-23 12:05:52 UTC by John

Updated 2026-05-25 07:33:48 UTC by John