Readme

SECURAA Security Documentation

SECURAA Secure Software Development Lifecycle (SDLC) Documentation

Overview

This directory contains comprehensive documentation of SECURAA's Secure Software Development Lifecycle (SDLC). These documents demonstrate our commitment to security-first development practices and provide transparency to our customers about how we build and maintain secure software.

Document Suite

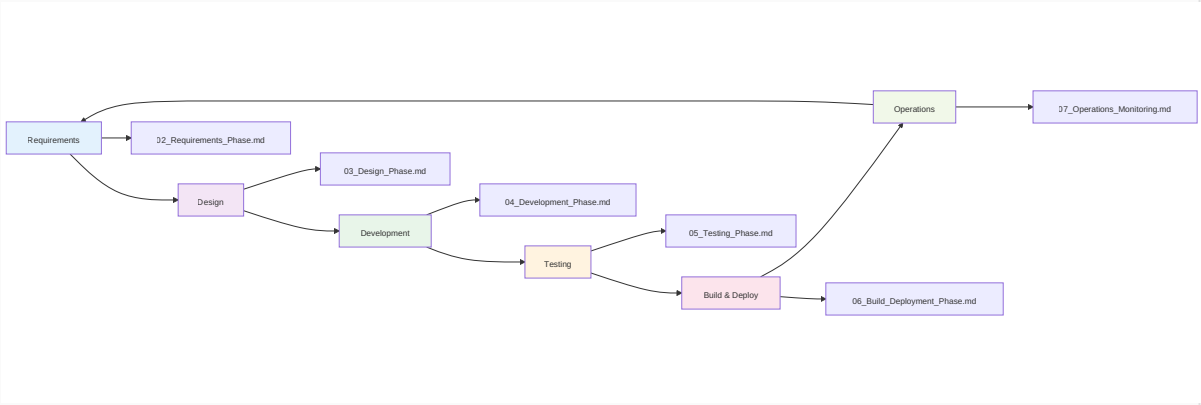
📄 Core SDLC Documents

Document	Description	Status
01_SDLC_Overview.md	Executive summary, principles, technology stack, and process overview	✅ Complete
02_Requirements_Phase.md	Security requirements gathering, threat modeling, risk assessment	✅ Complete
03_Design_Phase.md	Secure architecture design, security controls, infrastructure design	✅ Complete
04_Development_Phase.md		🚧 In Progress

Document	Description	Status
	Secure coding, Git workflow on AWS CodeCommit, code review	
05_Testing_Phase.md	Security testing, SAST, DAST, penetration testing	📝 Planned
06_Build_Deployment_Phase.md	AWS CodeBuild, ECR, container security, IAM, deployment	📝 Planned
07_Operations_Monitoring.md	Production operations, monitoring, incident response	📝 Planned
06_CI_CD_Security_Pipeline.md	Automated security in CI/CD, security gates, scan integration	📝 Planned

Quick Navigation

By Development Phase



By Security Activity

Security Activity	Relevant Documents
Threat Modeling	02_Requirements_Phase.md
Architecture Security	03_Design_Phase.md

Security Activity	Relevant Documents
Secure Coding	04_Development_Phase.md
Code Review	04_Development_Phase.md
SAST/DAST	05_Testing_Phase.md
Container Security	06_Build_Deployment_Phase.md
Security Monitoring	07_Operations_Monitoring.md
CI/CD Security	08_CI_CD_Security_Pipeline.md

By AWS Service

AWS Service	Relevant Documents
AWS CodeCommit	04_Development_Phase.md
AWS CodeBuild	06_Build_Deployment_Phase.md, 08_CI_CD_Security_Pipeline.md
Amazon ECR	06_Build_Deployment_Phase.md
AWS IAM	03_Design_Phase.md, 06_Build_Deployment_Phase.md
AWS Secrets Manager	03_Design_Phase.md, 06_Build_Deployment_Phase.md
Amazon CloudWatch	07_Operations_Monitoring.md

Document Structure

Each phase document follows a consistent structure:

1. **Document Control** - Version, date, classification
2. **Phase Overview** - Objectives, duration, key activities
3. **Process Details** - Step-by-step processes with examples
4. **Security Controls** - Specific security measures
5. **Tools & Templates** - Tools used and available templates

6. **Checklist** - Phase completion checklist
7. **Exit Criteria** - Requirements to proceed to next phase

SDLC Process Summary

Phase 1: Requirements & Planning

Duration: 1-2 weeks | **Document**: 02_Requirements_Phase.md

- Gather security requirements
- Conduct threat modeling (STRIDE)
- Perform risk assessment
- Define security acceptance criteria

Key Deliverables: - Security requirements document - Threat model - Risk assessment - Security acceptance criteria

---

Phase 2: Secure Design

Duration: 1-3 weeks | **Document**: 03_Design_Phase.md

- Design secure architecture
- Define security controls
- Design data protection
- Design API security
- Design infrastructure security

Key Deliverables: - Architecture diagrams - Security design document - Database security design - API security specifications - Infrastructure security design

---

Phase 3: Secure Development

Duration: Ongoing | **Document**: 04_Development_Phase.md

- Follow secure coding standards
- Use Git workflow on AWS CodeCommit
- Implement security controls

- Conduct code reviews
- Run pre-commit security checks

Key Deliverables: - Secure source code - Code review approvals - Unit tests with security focus - Development documentation

---

Phase 4: Security Testing

Duration: 1-2 weeks | **Document**: 05_Testing_Phase.md

- Static Application Security Testing (SAST)
- Dynamic Application Security Testing (DAST)
- Dependency vulnerability scanning
- Security acceptance testing
- Penetration testing

Key Deliverables: - SAST reports - DAST reports - Vulnerability scan results - Security test results - Penetration test report

---

Phase 5: Build & Deployment

Duration: Continuous | **Document**: 06_Build_Deployment_Phase.md

- AWS CodeBuild pipeline execution
- Docker image building and scanning
- Push to Amazon ECR
- Security gate validation
- Deployment automation

Key Deliverables: - Secure Docker images - Build artifacts (RPM packages) - Deployment packages - Deployment documentation

---

Phase 6: Operations & Monitoring

Duration: Continuous | **Document**: 07_Operations_Monitoring.md

- Security monitoring
- Log analysis

- Incident detection and response
- Performance monitoring
- Security patching

Key Deliverables: - Monitoring dashboards - Security alerts - Incident reports - Performance metrics - Patch management records

---

Technology Stack

Development

- **Backend**: Go 1.17+ (530+ microservices)
- **Frontend**: React 18.2, Redux
- **Scripting**: Python 3.8+, Bash
- **Database**: MongoDB 7.0, PostgreSQL

AWS Infrastructure

- **Version Control**: AWS CodeCommit
- **CI/CD**: AWS CodeBuild
- **Container Registry**: Amazon ECR
- **Compute**: Amazon EC2
- **Security**: AWS IAM, AWS Secrets Manager, AWS KMS
- **Monitoring**: Amazon CloudWatch
- **Networking**: AWS VPC, ALB, Security Groups

Security Tools

- **SAST**: GoSec, ESLint Security Plugin, Bandit
- **Dependency Scanning**: Nancy, npm audit, govulncheck
- **DAST**: OWASP ZAP
- **Container Scanning**: Docker Scan, Trivy, AWS ECR Scanning
- **Secrets Detection**: git-secrets, TruffleHog

Repository Structure

```
SECURAA Platform Repositories:
├── build_securaa/          # Build automation, CI/CD configs
├── zona_services/          # Core microservices (530+ services)
├── securaa/               # Main application backend
├── securaa_lib/           # Shared security library
├── zona_batch/            # Background batch processing
├── integrations/          # Third-party integrations (722+)
├── zonareact/             # Frontend React application
├── securaa_db/            # Database schemas and migrations
└── securaa_pylib/         # Python utility libraries
```

Security Principles

1. Security by Design

Security is built into every phase, not added as an afterthought.

2. Defense in Depth

Multiple layers of security controls protect against various threats.

3. Least Privilege

Minimum necessary permissions for users and services.

4. Continuous Security

Ongoing security assessment and improvement.

5. Shift Left Security

Security testing as early as possible in development.

6. Automation First

Automated security checks ensure consistency.

Compliance Alignment

Our SDLC supports compliance with:

Framework	Key Controls	Documentation
SOC 2 Type II	CC6.1, CC6.6, CC6.7, CC7.2, CC8.1	All SDLC phases
ISO 27001:2022	A.8.1, A.8.3, A.14.2, A.14.2.5, A.18.1.3	All SDLC phases
GDPR	Data protection by design, security of processing	Requirements, Design phases
OWASP Top 10	A01-A10 coverage	Testing, Development phases

Key Metrics & KPIs

Security Metrics

Metric	Target	Tracking
Critical Vulnerabilities	0	Continuous
High Vulnerabilities	< 5	Weekly
Mean Time to Remediation (Critical)	< 24 hours	Per incident
Security Test Coverage	> 80%	Monthly
Failed Security Scans	< 5%	Per build

Development Metrics

Metric	Target	Tracking
Build Success Rate	> 95%	Daily
Code Review Completion Time	< 48 hours	Per PR

Metric	Target	Tracking
Deployment Frequency	Multiple per week	Weekly
Change Failure Rate	< 10%	Monthly

Related Documentation

Additional Security Documents

- **SECURAA_SECURE_CODING_POLICY.md** - Comprehensive secure coding standards
- **SECURAA_CODE_ANALYSIS_REPORT.md** - Security code analysis findings
- **SECURAA_INFORMATION_SECURITY_POLICIES_AND_PROCEDURES.md** - Information security policies
- **SECURAA_INFORMATION_SECURITY_RISK_ASSESSMENT_PROCESS.md** - Risk assessment framework
- **SECURAA_CUSTOMER_SECURITY_DOCUMENTATION.md** - Customer-facing security overview

---

How to Use This Documentation

For Developers

1. Review **04_Development_Phase.md** for secure coding practices
2. Follow Git workflow on AWS CodeCommit
3. Use provided code review checklists
4. Run security scans before committing

For Security Team

1. Use **02_Requirements_Phase.md** for threat modeling
2. Conduct design reviews using **03_Design_Phase.md**
3. Define security test cases from **05_Testing_Phase.md**
4. Monitor using **07_Operations_Monitoring.md**

For DevOps Team

1. Configure CI/CD using **08_CI_CD_Security_Pipeline.md**
2. Manage deployments with **06_Build_Deployment_Phase.md**
3. Set up monitoring from **07_Operations_Monitoring.md**

For Product Managers

1. Start with **01_SDLC_Overview.md** for process overview
2. Define security requirements using **02_Requirements_Phase.md**
3. Review security acceptance criteria before release

For Customers

1. Read **01_SDLC_Overview.md** for our security commitment
2. Review compliance alignment for your requirements
3. Understand our security testing approach

Document Maintenance

Version Control

- All documents are version controlled in Git
- Major updates require security team review
- Quarterly review cycle

Update Process

1. Propose changes via pull request
2. Security team review
3. Engineering leadership approval
4. Merge and publish

Feedback

We welcome feedback on these documents: - **Email**: sdlc-feedback@securaa.com - **Slack**: #security-sdlc - **JIRA**: Create ticket in SECURITY project

---

Document History

Version	Date	Author	Changes
1.0	October 2024	Security Team	Initial SDLC documentation
2.0	November 13, 2025	Security & Engineering	Comprehensive update with AWS infrastructure, multi-document structure

---

Contact Information

Document Owners: - **Security Team**: security@securaa.com - **Engineering Team**: engineering@securaa.com - **DevOps Team**: devops@securaa.com

For Security Concerns: - **Email**: security@securaa.com - **Emergency**: security-oncall@securaa.com - **Bug Bounty**: bugbounty@securaa.com

---

License & Confidentiality

These documents are: - **Confidential**: Intended for customers under NDA - **Customer-Facing**: Can be shared with customers - **Not Public**: Not for public distribution - **Proprietary**:

Next Steps

1. **Start Here**: 01_SDLC_Overview.md
2. **Learn Process**: Follow documents 02-08 in sequence
3. **Apply Knowledge**: Use checklists and templates in your projects
4. **Continuous Improvement**: Provide feedback and suggestions

---

Last Updated: November 13, 2025
Document Suite Version: 2.0
Maintained by: SECURAA Security & Engineering Teams