Sprint 3: Production Readiness Checklist

Overview

This checklist ensures that all Sprint 3 components are production-ready and meet enterprise operational excellence standards.

Pre-Production Validation

Infrastructure Readiness

- [ ] **High Availability Configuration**
- [ ] Load balancers configured and tested
- [ ] Database clustering operational
- [ ] Network redundancy verified
- [ ] Failover mechanisms tested
- [ ] **Security Controls**
- [ ] Firewall rules implemented and tested
- [ ] SSL/TLS certificates installed and valid
- [ ] Access controls configured (IAM integration)
- [ ] Security scanning completed with no critical issues
- [ ] Vulnerability assessment passed
- [ ] **Monitoring and Alerting**
- [ ] Prometheus metrics collection operational
- [ ] Grafana dashboards configured and accessible
- [ ] Alert rules defined and tested
- [ ] Notification channels configured
- [ ] SLA monitoring active

Application Readiness

- [ ] **Blue-Green Deployment**
- [ ] Blue environment operational
- [ ] Green environment prepared
- [ ] Health check endpoints responding
- [ ] Traffic switching mechanism tested
- [ ] Rollback procedures validated
- [ ] **Performance Validation**
- [ ] Load testing completed successfully
- [ ] Performance benchmarks established
- [ ] Auto-scaling policies configured
- [ ] Resource limits defined and tested

- [ ] Capacity planning completed
- [ ] **Data Protection**
- [ ] Backup procedures automated and tested
- [ ] Disaster recovery plan validated
- [ ] Data encryption implemented
- [ ] Backup integrity verification operational
- [ ] Cross-region replication configured

Operational Readiness

- [ ] **Documentation**
- [ ] Operational runbooks complete
- [ ] Troubleshooting guides available
- [ ] Emergency procedures documented
- [ ] Team training materials current
- [ ] API documentation updated
- [ ] **Team Preparedness**
- [ ] Team training completed
- [ ] On-call procedures established
- [ ] Escalation matrix defined
- [ ] Communication channels configured
- [ ] Emergency contacts updated
- [ ] **Compliance**
- [ ] Audit trails configured
- [ ] Compliance scanning operational
- [ ] Data retention policies implemented
- [ ] Regulatory requirements met
- [ ] Change management processes active

Production Deployment Checklist

Pre-Deployment (T-24 hours)

- [ ] **Final Validation**
- [ ] All tests passing in staging environment
- [ ] Performance benchmarks met
- [ ] Security scans completed
- [ ] Backup verification successful
- [ ] Team notification sent
- [ ] **Environment Preparation**
- [ ] Production environment health verified
- [ ] Maintenance window scheduled
- [ ] Rollback plan confirmed

- [ ] Emergency contacts notified
- [ ] Change approval obtained

Deployment Execution (T-0)

- [ ] **Deployment Process**
- [ ] Pre-deployment health check passed
- [ ] Blue-green deployment initiated
- [ ] Application deployment successful
- [ ] Health checks passing
- [ ] Performance metrics within thresholds
- [ ] **Traffic Management**
- [ ] Traffic switch executed successfully
- [ ] Load balancer configuration updated
- [ ] DNS propagation verified
- [ ] User experience validated
- [ ] Error rates within acceptable limits

Post-Deployment (T+1 hour)

- [ ] **Validation**
- [ ] All services operational
- [ ] Performance metrics stable
- [ ] No critical alerts triggered
- [ ] User feedback positive
- [ ] Monitoring dashboards green
- [ ] **Documentation**
- [ ] Deployment log updated
- [ ] Configuration changes documented
- [ ] Lessons learned captured
- [ ] Team debriefing scheduled
- [ ] Success metrics recorded

Operational Excellence Validation

Metrics and KPIs

- [ ] **Availability Metrics**
- [ ] System uptime > 99.9%
- [ ] Service availability within SLA
- [ ] MTTR < 30 minutes
- [ ] MTBF tracking operational
- [ ] **Performance Metrics**
- [ ] Response time < 200ms (95th percentile)
- [ ] Throughput meeting capacity requirements

- [ ] Error rate < 0.1%
- [ ] Resource utilization optimized
- [ ] **Operational Metrics**
- [ ] Deployment frequency tracking
- [ ] Change success rate > 95%
- [ ] Incident resolution time improved
- [ ] Automation coverage > 80%

Continuous Improvement

- [ ] **Process Optimization**
- [ ] Automation opportunities identified
- [ ] Process efficiency measured
- [ ] Improvement initiatives planned
- [ ] Knowledge sharing sessions scheduled
- [ ] **Technology Enhancement**
- [ ] Performance optimization ongoing
- [ ] Security improvements planned
- [ ] Scalability enhancements identified
- [ ] Innovation roadmap updated

Certification Criteria

Technical Certification

- [ ] **Infrastructure**
- [ ] All components operational
- [ ] Performance benchmarks met
- [ ] Security controls validated
- [ ] Disaster recovery tested
- [ ] **Application**
- [ ] Functionality verified
- [ ] Integration testing passed
- [ ] User acceptance testing completed
- [ ] Performance testing successful

Operational Certification

- [ ] **Team Readiness**
- [ ] Training completed
- [ ] Procedures documented
- [ ] Emergency response tested
- [ ] Knowledge transfer completed
- [ ] **Process Maturity**

- [ ] Change management operational
- [ ] Incident management tested
- [ ] Monitoring and alerting active
- [ ] Continuous improvement initiated

Compliance Certification

- [ ] **Regulatory Compliance**
- [ ] Audit requirements met
- [ ] Data protection implemented
- [ ] Access controls validated
- [ ] Reporting mechanisms operational
- [ ] **Security Compliance**
- [ ] Security policies enforced
- [ ] Vulnerability management active
- [ ] Incident response procedures tested
- [ ] Security monitoring operational

Sign-off Requirements

Technical Sign-off

- [ ] **Infrastructure Team Lead**: __ **Date:** ____
- [ ] **Security Team Lead**: __ **Date:** ____
- [ ] **Application Team Lead**: __ **Date:** ____
- [ ] **QA Team Lead**: __ **Date:** ____

Management Sign-off

- [ ] **Engineering Manager**: __ **Date:** ____
- [ ] **Operations Manager**: __ **Date:** ____
- [ ] **Security Manager**: __ **Date:** ____
- [ ] **Director of Engineering**: __ **Date:** ____

Final Approval

- [ ] **CTO Approval**: __ **Date:** ____
- [ ] **Production Deployment Authorized**: Yes / No
- [ ] **Go-Live Date**: _____
- [ ] **Post-Deployment Review Date**: _____

Post-Production Monitoring

First 24 Hours

- [ ] Continuous monitoring active
- [ ] Performance metrics tracked
- [ ] Error rates monitored
- [ ] User feedback collected
- [ ] Incident response ready

First Week

- [ ] Performance trends analyzed
- [ ] Capacity utilization reviewed
- [ ] Security events monitored
- [ ] User satisfaction measured
- [ ] Optimization opportunities identified

First Month

- [ ] SLA compliance measured
- [ ] Performance optimization implemented
- [ ] Lessons learned documented
- [ ] Process improvements identified
- [ ] Success metrics reported

Checklist Version: 1.0
Last Updated: {{ ansible_date_time.iso8601 }}
Review Cycle: Before each production deployment
Maintained By: Infrastructure Automation Team