NSE
NSEIT

nseit.com

Elevating

# Performance Through DevOps

Accelerate Release Cycles and Elevate Customer Experience with DevOps Excellence

**BROCHURE**

© NSEIT Limited. All rights reserved.

# Overview

In today's highly competitive digital landscape, where customer expectations are soaring, the need for a transformative approach to software development and deployment is paramount. DevOps, a portmanteau of Development and Operations, emerges as a revolutionary methodology that unifies these traditionally siloed functions. It promotes a culture of collaboration, continuous integration, and continuous delivery, ensuring not only faster release cycles but also elevating the overall customer experience.

Founded on the principles of agility and lean practices, DevOps transcends being merely a methodology; it represents a transformative shift. This paradigm realigns business owners, developers, operations, and quality assurance teams, fostering the delivery of improved, expedited, and consistently stable outcomes. In an era where businesses heavily depend on software for customer interaction and operational optimization, DevOps emerges as a critical factor for success. It offers the essential agility and efficiency required to flourish in the digital landscape.

# Solution Overview

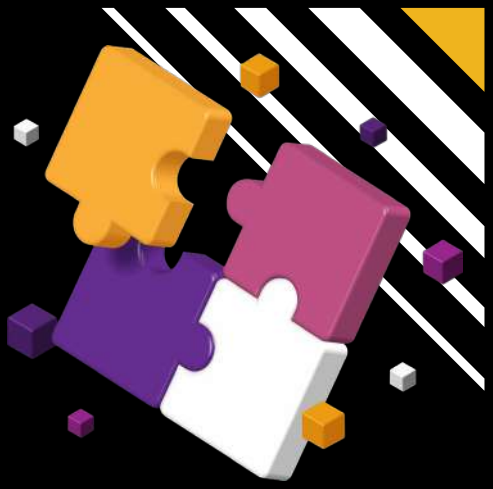
At NSEIT, our comprehension of DevOps delves into its essence as a cultural and professional movement. This movement emphasizes communication, collaboration, and integration between software developers and IT operations. More than just a series of practices or a toolbox, at NSEIT, DevOps embodies a comprehensive approach that revolutionizes the entire software development lifecycle. Through dismantling conventional barriers separating development and operations teams, we leverage DevOps to establish an environment where continuous feedback and iteration are not merely promoted but deeply embedded in the development process. This ensures that the software is not just rapidly developed but also reliably delivered, meeting the highest standards of quality.

NSEIT's DevOps model thrives on automation, constant evolution, and regular improvement through continuous feedback loops, providing real-time insights accessible to all stakeholders on an integrated platform.

# DevOps Implementation Approach

The ideal implementation of DevOps requires a strategic approach that combines cultural transformation, technological integration, and streamlined processes. Here's a holistic approach to DevOps implementation that NSEIT adheres to and its key constituents:

- **Collaborative Culture:** We foster cross-functional collaboration and communication to ensure complete transparency of processes.
- **Automation Framework:** We implement robust automation for testing, deployment, and monitoring.
- **Continuous Feedback:** We establish a culture of continuous feedback for iterative improvements.
- **Security Integration:** We embed security measures throughout the development lifecycle.
- **Toolchain Integration:** We ensure seamless integration of tools for an end-to-end automated workflow.
- **Scalability:** We design a scalable infrastructure to meet evolving business demands.



# Solution
# **Architecture Lifecycle**

The DevOps lifecycle is a well-orchestrated sequence encompassing planning, coding, building, testing, releasing, deploying, operating, and monitoring. This iterative cycle ensures a continuous loop of improvements, fostering agility and efficiency throughout the software development process. Starting with planning and coding, DevOps ensures that each phase is seamlessly integrated into the next, leading to continuous feedback loops and iterative improvements.

## Salient **Features**

1 **Continuous Integration (CI) for streamlining code integration**
- Automated integration of code changes from multiple contributors.
- Automatic build and testing processes triggered upon code commits.

2 **Continuous Delivery (CD) for automated deployment**
- Seamless and automated deployment of validated code to production.
- Configurable deployment pipelines for different environments.

3 **Automated testing for ensuring highest product quality**
- Automated execution of test cases for comprehensive code coverage.
- Continuous testing throughout the development lifecycle.

4 **Real-time monitoring for proactive issue identification**
- Continuous monitoring of application performance and infrastructure.
- Real-time alerts and notifications for potential issues.

5 **Collaborative Development for seamless communication among teams**
- Integrated communication tools for development, operations, and quality assurance teams.
- Shared repositories and documentation for collaborative work.

6 **Scalable Infrastructure for adapting to changing workloads**
- Infrastructure designed to handle varying workloads.
- Automated scaling based on demand and resource requirements.

# DevOps

# Tool Stack Capabilities

**Here is the comprehensive list of tools that can be plugged and played.**

## Project Management

REDMINE flexible project management

servicenow

Jira Software

Jira Service Management

VERSIONONE Agile Made Easier

## Asset / Config Management

ANSIBLE

Jira Software

IBM OpenPages

HashiCorp Consul

## Build Tools

Apache maven

MSBuild

## Monitoring Tools

Nagios

INSTANA

solarwinds

telegraf

ManageIQ

MRTG

SECURONIX

PRTG Network Monitor

Amazon CloudWatch

ManageEngine Radar

APPDYNAMICS

Grafana

dynatrace

splunk>

Zabbix

new relic

## DB Refresh / Monitoring

solarwinds appoptics

solarwinds SentryOne

SQL Monitor

AimBetter Today for a Better Tomorrow

ATERA

ManageEngine Applications Manager

ManageEngine Free Tools

DATADOG

dbWatch DATABASE CONTROL

Delphix

JetStream

Lepide

IDERA

## CICD

Azure DevOps

TeamCity

aws DevOps

IBM DevOps

RED HAT OPENSHIFT

Jenkins

GitHub Actions

GitLab

## Datawarehousing Tools

snowflake

talend

Informatica

Google Big Query

Microsoft SQL Server 2019

IBM DB2

SAP Data Warehouse Cloud

IBM Netezza

## Version Control

git

Visual Studio

GitHub

GitLab

ATLASSIAN Bitbucket

GitBucket

AWS CodeBuild

AWS CodeDeploy

AWS CodeCommit

## Artifact Repository

pulp
docker HUB
HelixCore
nuget
JFrog ARTIFACTORY
nexus repositor by sonatype

## Code Revlew

RhodeCode
code intelligence
Crucible
Bitbucket

## Contalner Technology

portainer.io
Red Hat OpenShift
Google Cloud Run
minikube
kubernetes
MIRANTIS
docker
Azure Contsiner Appa
Elastic Beanstalk
Amazon EKS

## Code Coverage

OpenClover
JACOCO Java Code Coverage
CodeCover

## MQ

VMware Tanzu Kubernetes Grid
TIBCO
RabbitMQ
kafka
Azure Kubernetes Service (AKS)
Amazon EKS

## Infra Orchestration

puppet
Terraform
CHEF
ANSIBLE

## Linux

ubuntu
debian
Red Hat Enterprise Linux

## Code Quality

sonarqube
Semmle™
UP
CODACY

## Dashboard

kibana
tableau
Grafana
php
SAP
Flask
HTML
CSS

## DB

ORACLE DATABASE
MySQL
IBM DB2
influxdb
Microsoft SQL Server
redis
PostgreSQL

## Web Server

NGINX
node
Microsoft IIS
APACHE HTTP SERVER
Apache Tomcat

## Cloud Technologies

Microsoft Azure
IBM Cloud
Google Cloud
aws
NATIONAL CLOUD
ORACLE CLOUD

## Cloud Orchestration

ANSIBLE
AWS CLOUDFORMATION
HashiCorp Terraform
Google Cloud Deployment Manager
Microsoft Azure
IBMSmartCloud

## Server Orchestration

ANSIBLE
HashiCorp Consul
HashiCorp Vagrant

### Scripting Tools

### Container Registry

### BI

### SAST

### Package Manager

### RPA

### Documentation Tools

# DevOps **Benefits**

- **Accelerated Time to Market:** Continuous Integration streamlines code integration, minimizing delays and ensuring faster release cycles. This leads to accelerated time to market, a crucial factor in staying competitive in today's fast-paced business landscape.
- **Enhanced Productivity:** Continuous Delivery automates deployment processes, reducing manual efforts and enhancing overall productivity. Teams can focus on value-adding tasks, leading to improved efficiency and faster delivery of features.
- **Risk Mitigation:** Automated Testing ensures comprehensive code coverage and early defect detection, mitigating risks associated with software bugs. This results in higher product quality and a more robust softw
are ecosystem.
- **Product Stability:** Real-time monitoring proactively identifies and resolves performance issues, contributing to increased product stability. Users experience fewer disruptions, leading to a more reliable and stable software environment.
- **Enhanced Customer Experience:** Collaborative Development fosters seamless communication among teams, leading to quicker issue resolution and improved collaboration. This translates to an enhanced customer experience, as products are developed and improved more efficiently.
- **Increased Operational Efficiency:** Scalable Infrastructure allows for dynamic resource allocation based on demand, increasing operational efficiency. This ensures cost-effective resource utilization and optimal handling of changing business requirements.

# The NSEIT **Advantage**

Partnering with NSEIT for DevOps transformation brings the advantage of 20+ years of rich domain knowledge and complex delivery experience. Our DevOps services ensure reduced time to market, increased productivity, low risk, and product stability. With a focus on full-stack capabilities,

NSEIT establishes cohesive processes and integrates the right tools to deliver the desired business impact.

Few of the key advantages that NSEIT offers to its customers are;

1

### DevOps Maturity Assessment

NSEIT offers DevOps Maturity Assessment service which helps enterprises assess their tech landscape and cultural feasibility for DevOps adoption.

2

### No Code Low Code Platforms for faster turnaround

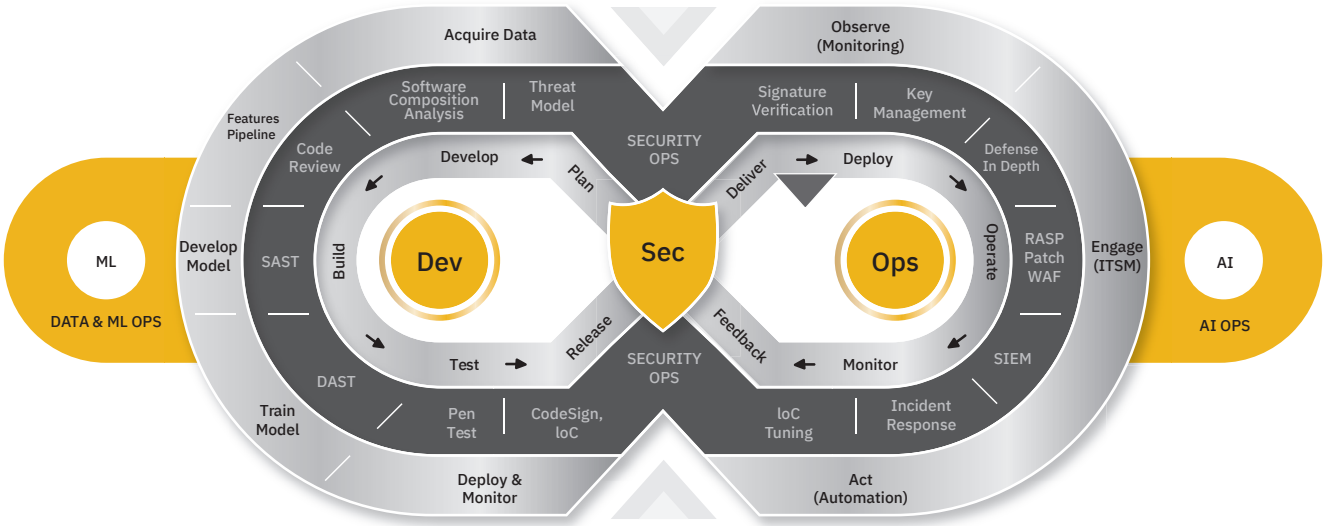
NSEIT's proprietary low code-no code platforms ensure faster and secure development cycles DevOps adoption.

3

### DevXOps

NSEIT helps enterprises to use the DevOps methodology across functions such as security, Testing, Data & ML and AI.

DevXOps – a continuous everything



# Here is a glimpse into a few of **NSEIT's DevOps implementations**

**DevOps solution and support for a leading stock exchange: enhanced security and efficiency in IT operations**

Facing challenges with servers and data over the internet, local user access without AD connectivity, absence of CI/CD, and deployment-related checks, the client partnered with NSEIT for a transformative solution. NSEIT addressed these issues by migrating JIRA and Confluence, integrating with LDAP, and automating build and deployment using Git, Jenkins, Nexus, Sonar, and Checkmarx. The result was a significant reduction in lead time for environment provisioning, enhanced security, and improved operational efficiency, laying the foundation for a resilient IT infrastructure.

**DevOps solution & support for a leading commodity trading organization revolutionizing software development lifecycle**

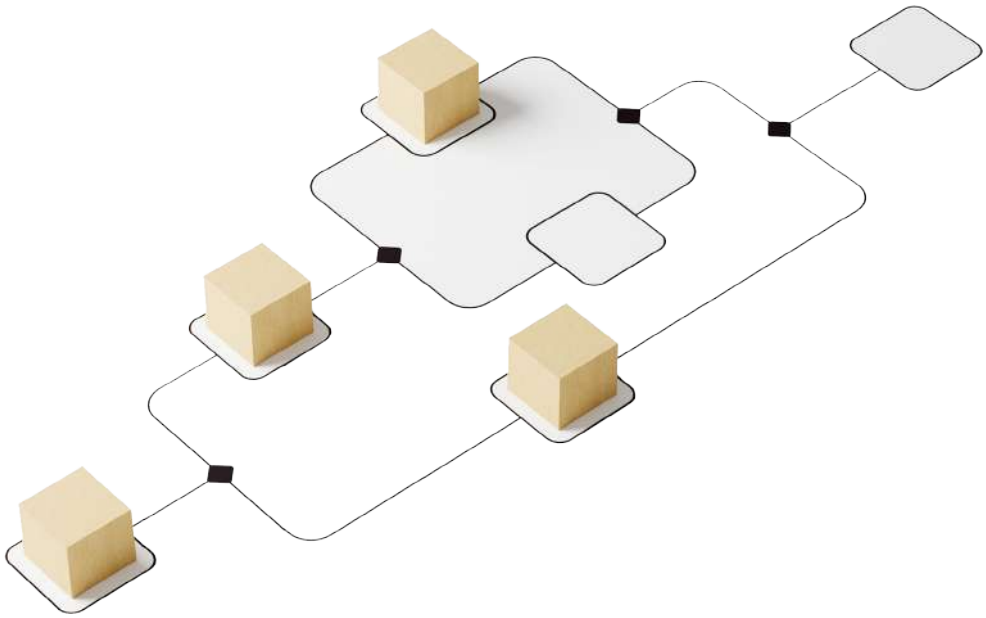
Challenged by manual SDLC processes, unstructured source code maintenance, and manual production code deployment, the client sought NSEIT's expertise. NSEIT orchestrated a migration to GitLab, introduced Ansible for server provisioning, and implemented CI/CD using JIRA, GitHub, TeamCity, SonarQube, Maven, Nexus, and Ansible. The outcome was a remarkable 50% reduction in code deployment time, substantial savings in development efforts, and a transformative shift towards agility and efficiency in the software development lifecycle.

**DevOps solution for a leading power exchange streamlining source code management**

Struggling with manual SDLC processes and SVN-based source code management, the client collaborated with NSEIT for a comprehensive solution. NSEIT facilitated a smooth transition by migrating to Git and implementing automated build and deployment processes using Git, Jenkins, Nexus, and Sonar. The result was a structured source code repository, reducing build and deployment time, and enhancing version control, bringing efficiency to software asset management.

**Secure software distribution and update for a leading stock exchange securing software distribution with CodeSign**

Faced with challenges in secure software distribution and maintaining software integrity, the client adopted CodeSign by Aujas Cybersecurity through NSEIT. The platform provided automated code signing with leak-free malware scanning, ensuring the integrity of software releases. This implementation significantly improved security, reduced the effort in the code signing process, and provided a reliable mechanism to assure end-users of software authenticity, fostering trust and compliance.



# About **NSEIT**

**NSEIT Limited** is a digital native technology company that engineers world-class solutions to help our global customers accelerate their digital transformation journeys. Our key service pillars are Application Modernization, Business Transformation, Data Analytics, Infrastructure & Cloud Services, and Cybersecurity, through which we create intuitive digital experiences and tangible business impact. For over two decades, our innate drive for excellence has made us the partner of choice for global organizations. At NSEIT, we fuel digital progress.

**For more information, visit us at nseit.com**

**Follow us at:**

© NSEIT Limited. All rights reserved.
All trademarks, logos, and brand names are the property of their respective owners. All company, product, and service names used are for identification purposes only. Use of these names, trademarks and brands does not imply endorsement.