

# Automated And Reliable Deployments



Gajraj Parihar  
DevOps Consultant, TECHNIA



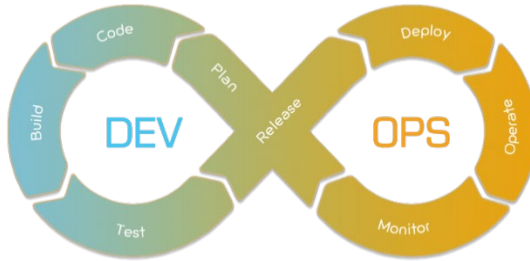
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DIGITALIZATION FOR SUSTAINABLE PRODUCT DEVELOPMENT AND MANUFACTURE

# Why DevOps?

## DevOps (Software)

- Faster delivery of features
- Less complexity to manage
- More productive teams
- More stable operating environments
- More time to innovate (rather than fix/maintain)
- Improved communication and collaboration



## PLM (Product)

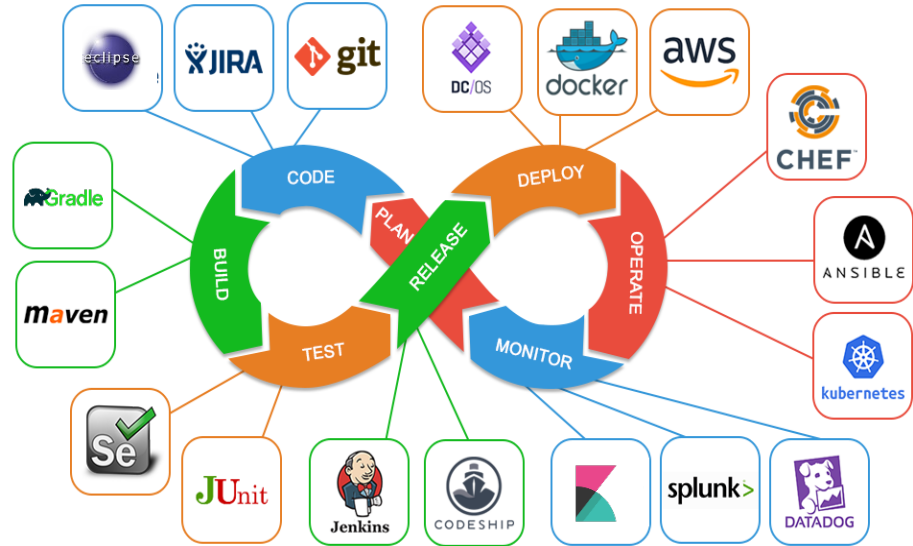
- Shorter time to market
- Reduced compliance risks
- Decrease costs
- Increase productivity
- Accelerate revenue growth
- Drive innovation
- Enhance product quality
- Improved Collaboration



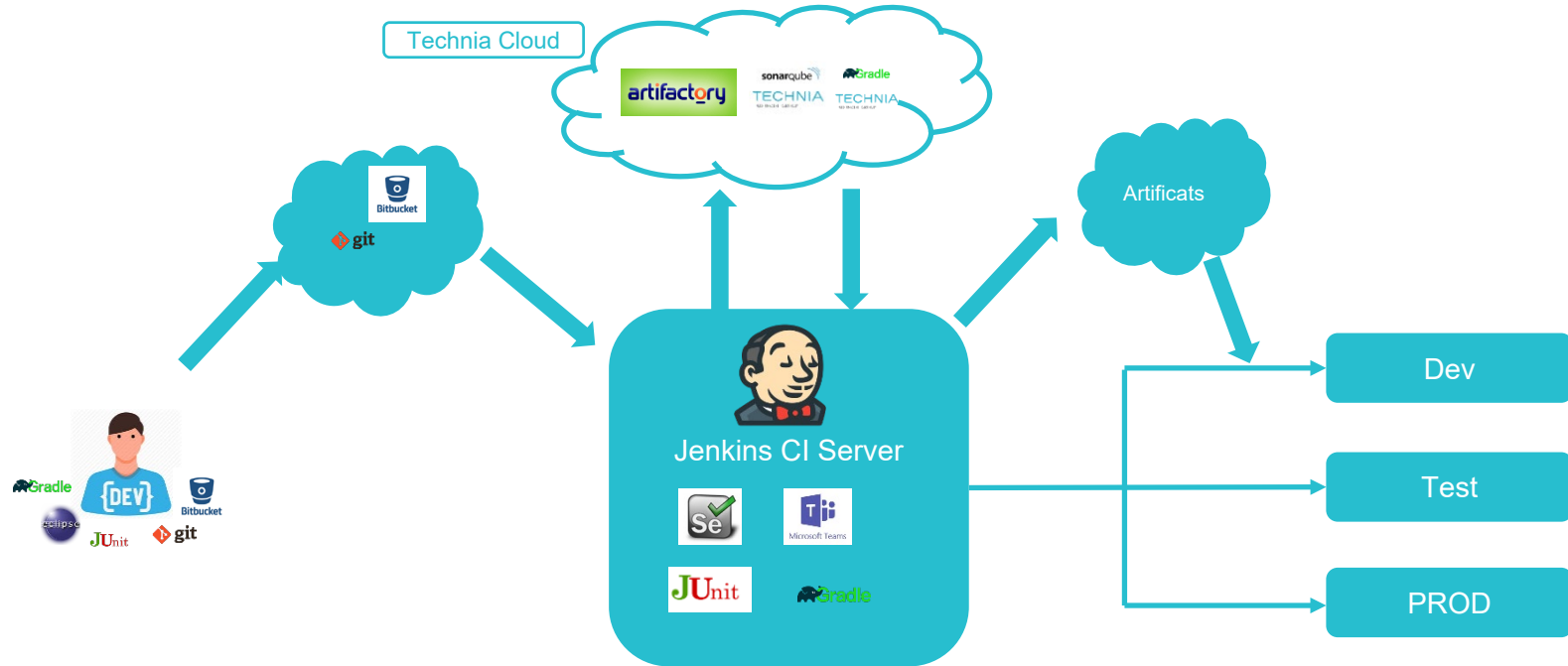
# DevOps Tools & Principles

## DevOps Principles

- Automation
- Continuous Integration and Continuous delivery
- Continuous improvement
- Iteration
- Collaboration



# Continuous Integration and Continuous Delivery with Jenkins



# Challenges in Deployment of 3DXPlatform

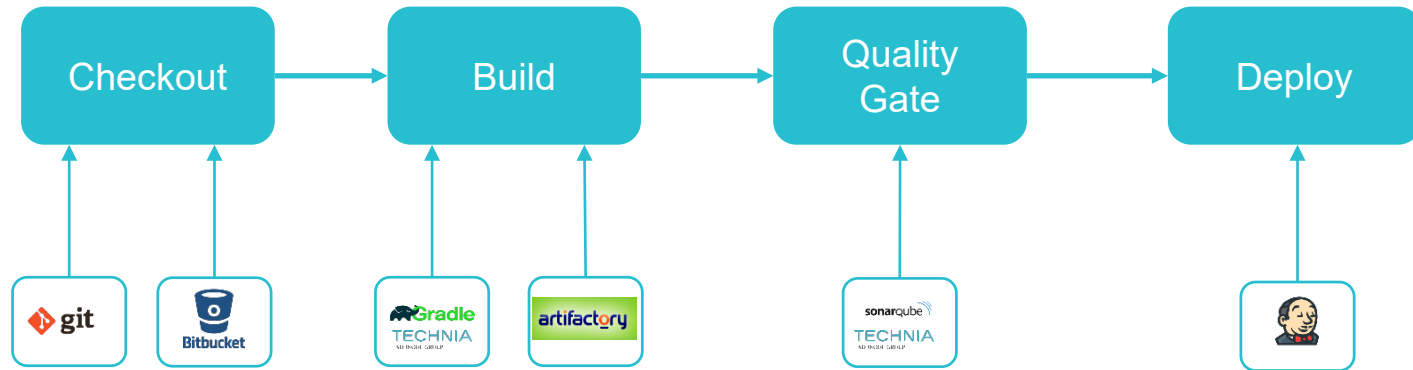
- DS build and deploy tool doesn't have capability of integration with external tools.
- Difficulties in **database installation** as part of regular deployment process.
- Most of business logic written in database not in Java files.
- Difficult to have symmetric setup in different environments.
- Difficulties in fix-pack upgrade.
- Multiple servers to maintain manually for each environment.
- No configuration available in repository, so not able to track changes.
- Production deployment mostly results some human error, due to manual steps.



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# Solutions for 3dxPlatform Deployment

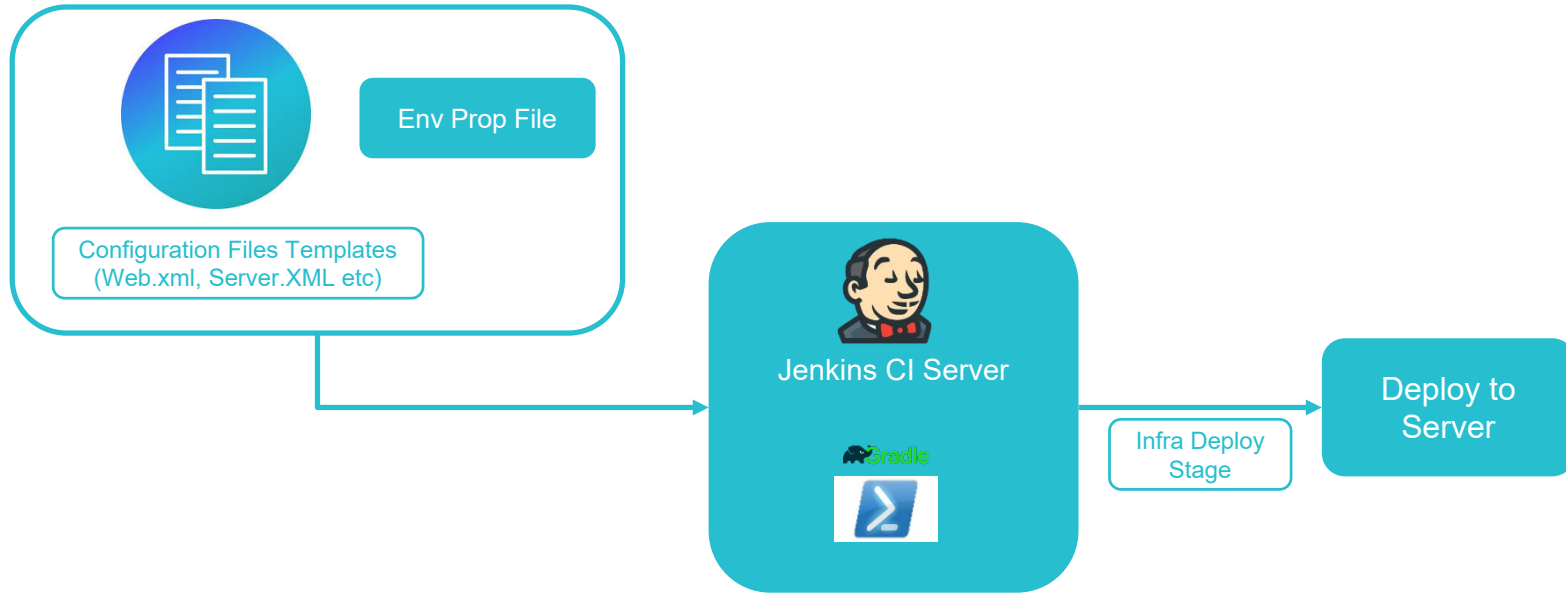
- Schema Tool (Gradle PLM)
- 3DX Installation Tool
- Technia Maven Repository
- SonarQube Server
- Jenkins Deploy Pipeline



# Schema Tool (Gradle PLM Tool)

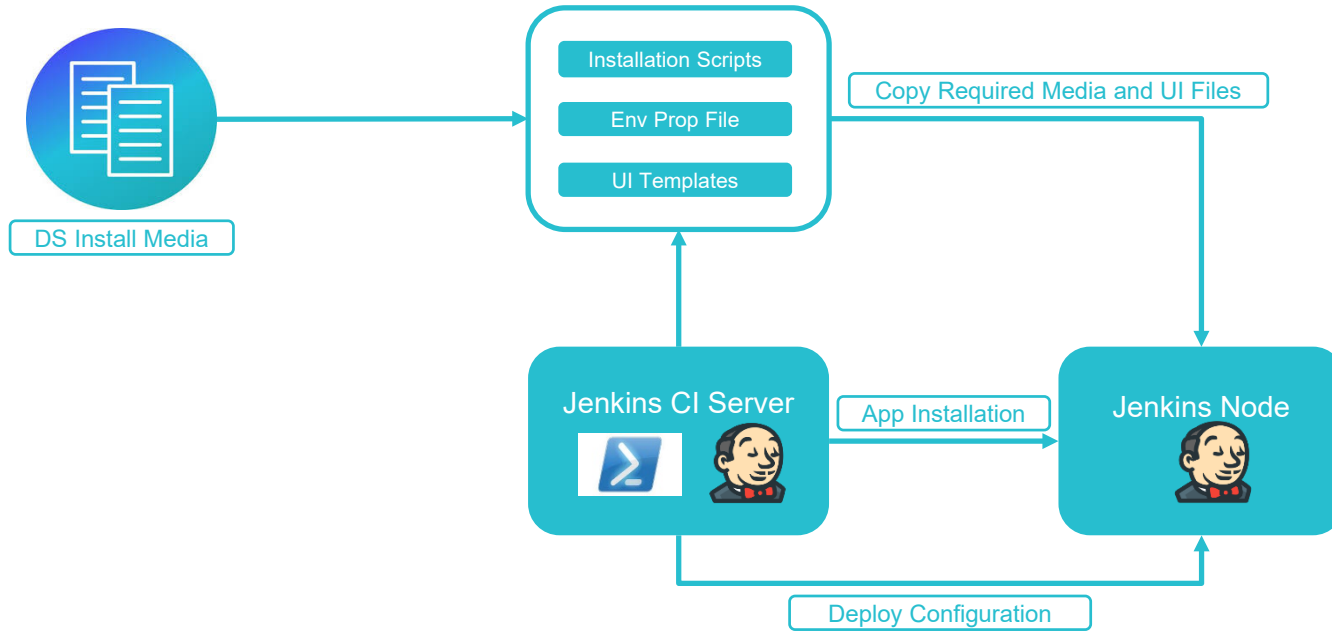
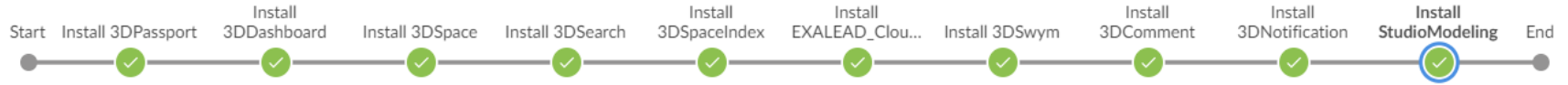
- Runs with Gradle
- Used for building code and installing schema
- Helps maintaining the same setup from local machines to other environments
- Contains pre-made tasks that help installing databases, schemas, and supporting in deployments
- Helps to automate deployment

# Configuration Deployment





# Automated 3DX Installation

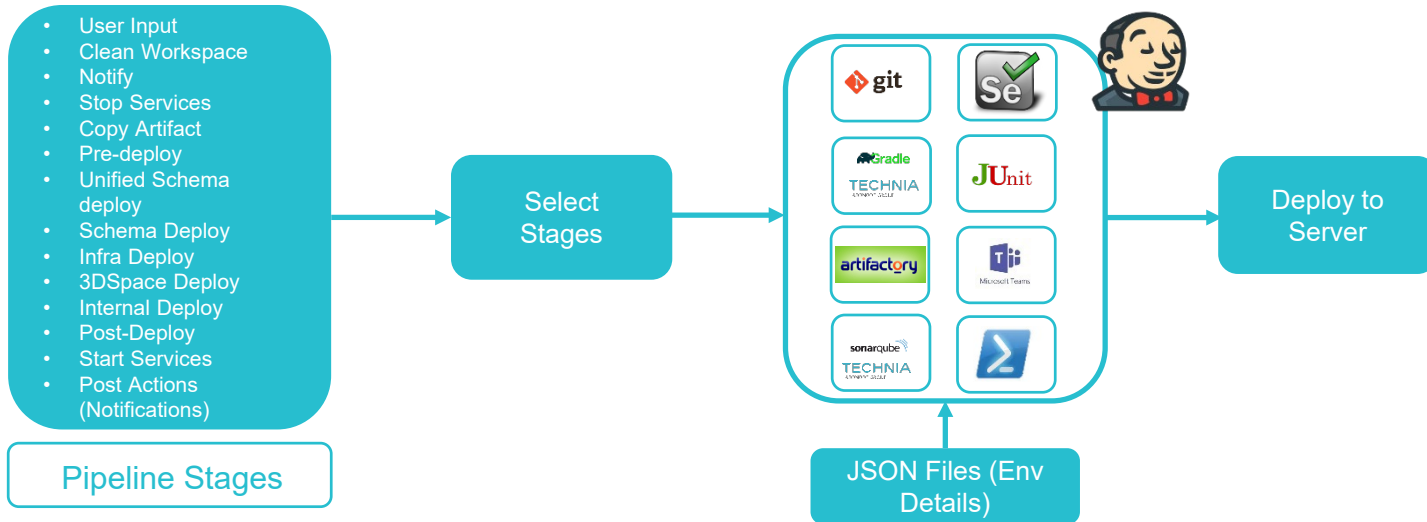


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# Jenkins Deploy Pipeline



Using Technia Schema Tool



# Sample Screenshots From Jenkins

## Build All Branches with Single Build Script

Multiple Branch Build

Folder name: MultiBuild

Branches (6)

S	W	Name ↓	Last Success	Last Failure	Last Duration
		develop	17 hr - #214	23 hr - #209	3 min 42 sec
		huffic3.2.1	28 days - #0	N/A	2 min 18 sec
		master	18 hr - #8	2 mo 10 days - #1	3 min 28 sec

## Stages for Build

	Notify	build	SonarQube analysis	Run JUnit Tests	Publish Test Results	archive	Declarative: Post Actions
Average stage times: (Average full run time: ~3min 30s)	12s	56s	1min 3s	3s	2s	30s	446ms
#214 Sep 23 18:03 2 commits	12s	1min 15s	1min 9s (saved for 12s)	4s	2s	38s	728ms

## Status of all at one page

S	W	Name ↓	Last Success
		DEV01	18 hr - #155
		DEV03	17 hr - #19
		DevBuild	11 days - #26
		DEVMIG	2 hr 44 min - #51
		Multiple_Branch_Build	19 hr - log
		PREPROD	4 days 2 hr - #8
		PROD	3 days 14 hr - #6
		QA	18 hr - #87
		QA03	17 hr - #125
		QAMIG	6 days 17 hr - #19
		TRAINING	18 hr - #8

## Team Notification from Jenkins

Jenkins 12:45

Message from DEV01, Build #154  
Deployment of develop is successfully deployed on DEV01

Status Success

[View Build](#)

Reply

# Benefits of Technia Deployment Solution

- Gradle PLM Tool have capability to perform many schema tasks along with code build & deploy
- All dependent artifacts can be downloaded from **Technia maven**.
- Code quality can be controlled using **Technia SONAR**.
- Schema changes can be deployed easily with **Schema Tool**.
- Any configuration change can be deployed across all environment easily.
- Since configuration are stored in repo so changes can be track easily.
- New environment can be easily set up.
- Fix Pack upgrade can be deployed easily.
- **Jenkins** is open source automation tools so its free of cost.
- Notification will be sent on success or failure.

# Q & A



## Automated and reliable deployments DevOps tools and practices



Gajraj Parihar  
DevOps Consultant  
gajraj.parihar@technia.com



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