

FlexDeploy Application Release Automation

We have all experienced challenges associated with developing and delivering applications, including the increase in complexity as more components and technologies are included. Combine this with the increasing expectations for new applications, additional features, upgrades and overall responsiveness to business needs. The result is an extremely tough situation for application development and operations teams. Application Release Automation with Flexagon FlexDeploy equips IT teams with the ability to meet those demands.

- ☑ Application Release Automation orchestrates and automates the process of packaging and deploying applications from development, across various environments, and into production.
- ☑ The benefits include speed, quality, compliance, and cost of software delivery.

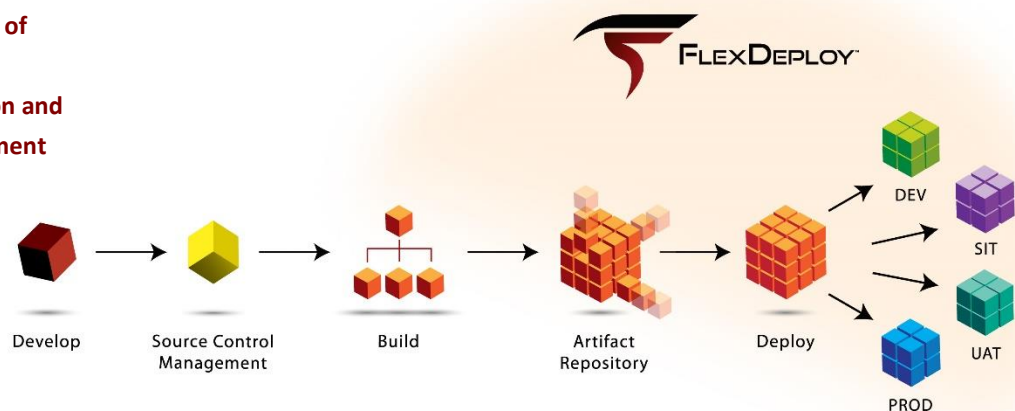
What is Application Release Automation and Why Does It Help?

Application Release Automation (ARA) refers to standardizing and automating the lifecycle for packaging and deploying applications, middleware configuration, database changes, and related artifacts into environments such as Development (Dev), System Integration Test (SIT), User Acceptance Testing (UAT), and Production (Prod).

ARA enables development and operations teams to deliver software faster, reduce cost, and reduce risk by delivering higher quality solutions. ARA can be used in concert with any software development lifecycle (SDLC) methodology such as agile, continuous integration, or traditional waterfall and provides value to organizations of all sizes.

Historical approaches to deployment have used a variety of manual and a script-based solutions. Too often this has led to slow, labor intensive, and error prone delivery of software. Flexagon FlexDeploy is an ARA product which quickly and easily takes development and operations teams to a different level, positioning them to meet the demands to deliver quality solutions faster and more cost effectively.

- ☑ FlexDeploy is at the heart of DevOps and dramatically improves the collaboration and effectiveness of Development and Operations.



FlexDeploy and the Benefits of Application Release Automation

FlexDeploy provides a platform to significantly improve the application deployment and delivery process.

☑ ARA and FlexDeploy Benefits

- ☑ **Faster Deployments**
- ☑ **Staff Productivity**
- ☑ **Higher Quality**
- ☑ **Fewer Outages**
- ☑ **Visibility to Change**
- ☑ **Lower TCO**
- ☑ **Employee Satisfaction**

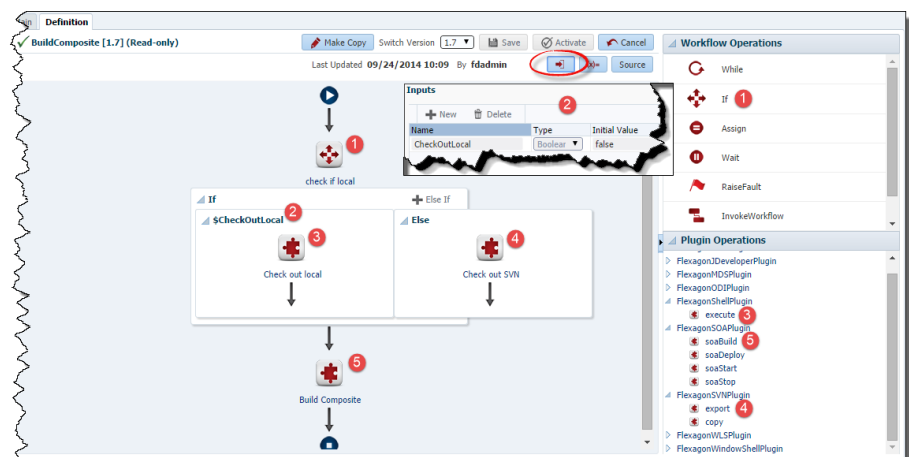
- **Faster application deployment and release cycles.** In many cases going from hours and days to minutes. This also increases the amount of change that can occur in a window as well as the size and complexity of change that can be accomplished in a given period of time.
- **Increase Productivity and Quality by reducing issues caused by deployments.** Manual processes are error prone, and troubleshooting deployment issues can be extremely difficult and time consuming. Improving the quality of your deployment process will have significant impacts to the availability in both production and non-production environments. The results will be increased productivity of your staff and improved service levels in production. In case of issues, going back and deploying a previous working version will be extremely easy.
- **Visibility to data for tracking and auditing change.** In addition to knowing what is in each environment, the additional data helps meet compliance requirements.
- **Decrease costs associated with deployment.** This is accomplished by reducing or eliminating the need to perform manual steps as well as the cost to build and maintain scripts.
- **Improve work/life balance for employees.** In many cases deployments happen on nights and weekends. Improvements in the deployment process can significantly reduce the time people spend in the 'off hours'.

FlexDeploy includes many features which help orchestrate and automate the activities associated with the Release Lifecycle.

Workflow Process Definition

FlexDeploy has a graphical editor to define workflow process that makes it easy to create, debug, and version the processes associated with packaging and deploying applications into multiple environments. The drag and drop editor allows users to define the steps involved and removes the heavily manual and documentation oriented approach that exists in many organizations.

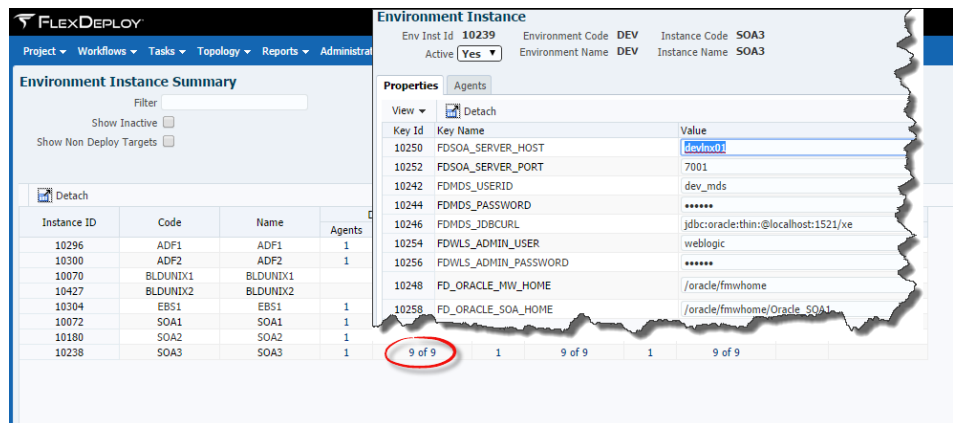
- ☑ **An overview of the FlexDeploy product features and how they enable IT teams to realize the benefits of Application Release Automation.**



Environment Management

Environments such as Dev, SIT, UAT, and Prod need to be defined and managed. This includes describing what technologies or instances are involved, and the deployment related properties and configurations of each environment. FlexDeploy Environment and Instance Management allow administrators to quickly create whatever environments are required and tailor them as appropriate. For example, a Dev environment might not include a High Availability (HA) configuration, whereas a UAT environment could be HA so it replicates what will exist in Prod. The following diagram depicts an Oracle Application Development Framework (ADF) based application running on WebLogic. The properties such as domain and admin server names are environment specific and are managed within the FlexDeploy environment management UIs.

- ☑ Easily define and configure the environments where deployments occur. Centralizing the environment management sets the stage for consistency and repeatability of deployments.



Environment Instance Summary

Instance ID	Code	Name	Agents
10296	ADF1	ADF1	1
10300	ADF2	ADF2	1
10070	BLDUNIX1	BLDUNIX1	1
10427	BLDUNIX2	BLDUNIX2	1
10304	EBS1	EBS1	1
10072	SOA1	SOA1	1
10180	SOA2	SOA2	1
10238	SOA3	SOA3	1

Environment Instance Properties

Key Id	Key Name	Value
10250	FD_SOA_SERVER_HOST	devlms01
10252	FD_SOA_SERVER_PORT	7001
10242	FD_MDS_USERID	dev_mds
10244	FD_MDS_PASSWORD	*****
10246	FD_MDS_JDBCURL	jdbc:oracle:thin:@localhost:1521/xe
10254	FD_WLS_ADMIN_USER	weblogic
10256	FD_WLS_ADMIN_PASSWORD	*****
10248	FD_ORACLE_MW_HOME	/oracle/fmwhome
10258	FD_ORACLE_SOA_HOME	/oracle/fmwhome/Oracle_SOA1

Build and Packaging

Project and Application artifacts must be assembled prior to deployment to any non-production or production environment. These artifacts can include configuration, code binaries, properties, and other elements required for the specific technology or product. FlexDeploy provides the ability to integration to 3rd party Source Control Management (SCM) tools such as Subversion and Git, as well as Build and Continuous Integration (CI) tools such as Hudson, Jenkins, and Maven. In many cases, the entire 'build and packaging' process can be handled by FlexDeploy with no additional tooling or complexity.

- ☑ Use FlexDeploy for build and artifact management or integrate with other 3rd party tools as needed.

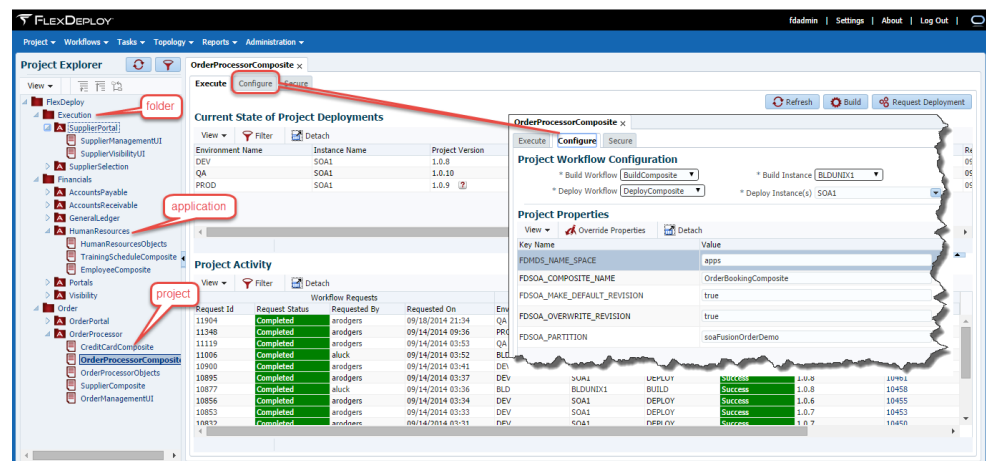
Artifact Repository

FlexDeploy contains an Artifact Repository for version management of deployment artifacts which provides a secure means for storing and tracking deployments. Similar to packaging, some customers will have existing artifact repositories and will want to leverage those assets. FlexDeploy integrate to 3rd party artifact repositories such as Artifactory and Nexus when needed.

- ☑ **IT Development and Operations require flexibility in the way deployments are managed. FlexDeploy provides multiple ways to define and manage deployments, from small projects to entire applications.**

Project and Application Management

Software solutions can span the spectrum of size and complexity. In many cases a solution can be a collection of components, services, applications, and other related artifacts. FlexDeploy allows developers to work on discrete pieces of the overall solution, creating projects which support this smaller scope of the overall technology footprint. On the other hand, an application or entire release can contain many dependent projects and applications that collectively make up the solution.



To effectively allow development and operations teams to manage this breadth of artifacts across the development lifecycle, FlexDeploy supports the concept of Projects, Applications, and Folders. The screen above is a Project view of deployment activity.

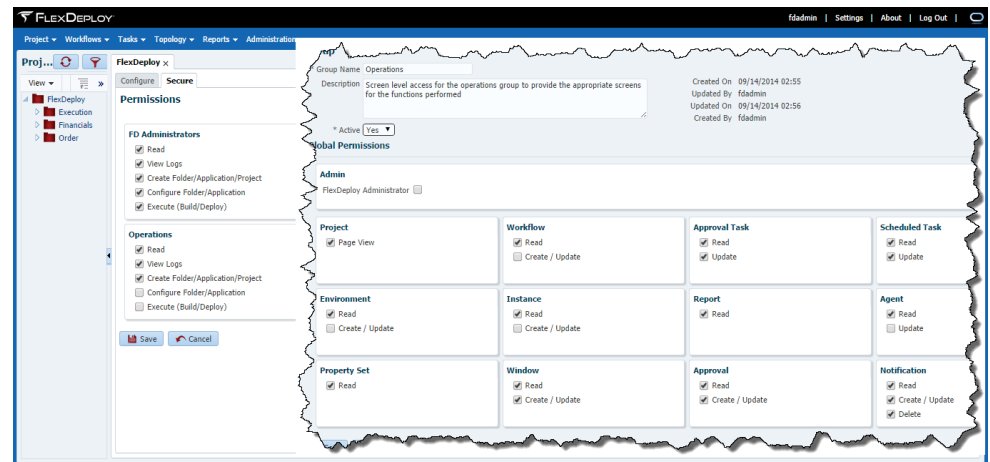
Scheduling

Developers and operators can benefit by the ability to schedule deployments into an environment rather than requiring human intervention to kick off a deployment. Not only can this increase the productivity and effectiveness of the development and operations teams, it can improve the work satisfaction of the people involved since they don't need to be physically present to initiate a deployment. FlexDeploy provides the ability to schedule deployments in a variety of ways, such as using specific dates/times as well as automatically kicking off a deployment based on a pre-defined and approved window.

Security and Auditing

A role-based security model within FlexDeploy ensures users adequate access to perform their jobs across the development and Release lifecycle. This feature provides the appropriate controls required within many organizations, including visibility to changes throughout all environments. A common security platform helps promote collaboration across development and operations, a key priority in the DevOps world.

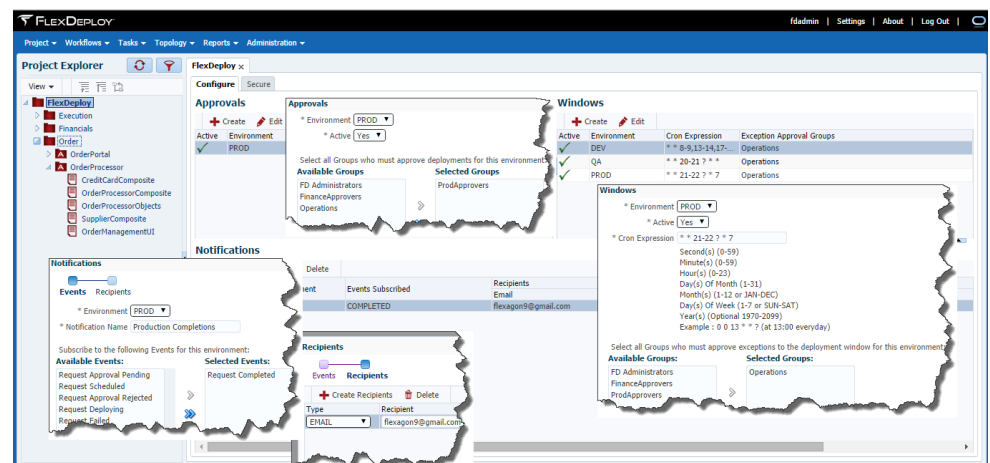
- ✔ **Effectively managing the end to end lifecycle of deployments requires strong security and auditing capability. FlexDeploy provides a role-based security model and reporting capability to meet the needs of IT Development, Operations, and Business Controls.**



Approvals and Notifications

FlexDeploy includes features for inserting approvals and notifications into the deployment process. Via role based security, approval can be mandated prior to executing the deployment. This not only helps establish a controlled means for managing the deployments across environments, but also makes it more effective to notify users when a deployment has failed. Approvals and notifications are configurable based on requirements for each environment.

- ✔ **Agility is critical to business success. FlexDeploy provides capabilities to support a fast paced business and IT environment while making sure there is rigor in the deployment process.**



Reporting and Audit

Building and managing an effective and mature deployment process requires a clear picture of the current state of how things are working. Visibility into the deployment processes is critical. FlexDeploy provides reporting and analytics capabilities for developers, operators, and management to have visibility to deployments, project health, and release status. A dashboard is also available for a macro view of all environments.

- ☑ **Visibility to information helps improve operational effectiveness and drive continuous improvement across development and operations. It also helps meet auditing and compliance requirements.**

FlexDeploy

Project

Workflows

Tasks

Topology

Reports

Administration

Reports

Environment State

Environment History

Scheduled Tasks

Match

All

Any

Project Name

OrderManagementUI

Environment

Instance

View

Export

Detach

Environment Instance Name Name Path Project Name Project Version

QA ADP1 FlexDeploy / Order / OrderProcessor OrderManagementUI 1.0.3

PROD ADP1 FlexDeploy / Order / OrderProcessor OrderManagementUI 1.0.3

DEV ADP1 FlexDeploy / Order / OrderProcessor OrderManagementUI 1.0.2

Reports

Environment State

Environment History

Scheduled Tasks

Match

All

Any

Task Status

Environment

Scheduled Time

Override On

Task Created On

View

Export

Detach

Path Name Environment Name Task Status Requested By

FlexDeploy / Order / OrderProcessor OrderManagementUI QA Pending fadman

Reports

Environment State

Environment History

Scheduled Tasks

Match

All

Any

Project Name

OrderManagementUI

Workflow Type

Environment

Instance

Status

Requested On

View

Export

Detach

Environment Instance Name Name Path Project Name Project Version Workflow Type Status

PROD ADP1 FlexDeploy / Order / OrderProcessor OrderManagementUI 1.0.3 DEPLOY Success

QA ADP1 FlexDeploy / Order / OrderProcessor OrderManagementUI 1.0.3 DEPLOY Success

BLD BLDUNDK2 FlexDeploy / Order / OrderProcessor OrderManagementUI 1.0.3 BUILD Success

PROD ADP1 FlexDeploy / Order / OrderProcessor OrderManagementUI 1.0.0 DEPLOY Success

DEV ADP1 FlexDeploy / Order / OrderProcessor OrderManagementUI 1.0.2 DEPLOY Success

iv / Order / OrderProcessor OrderManagementUI 1.0.2 BUILD Success

iv / Order / OrderProcessor OrderManagementUI 1.0.0 DEPLOY Success

iv / Order / OrderProcessor OrderManagementUI 1.0.1 BUILD Success

iv / Order / OrderProcessor OrderManagementUI 1.0.0 DEPLOY Success

iv / Order / OrderProcessor OrderManagementUI 1.0.0 BUILD Success

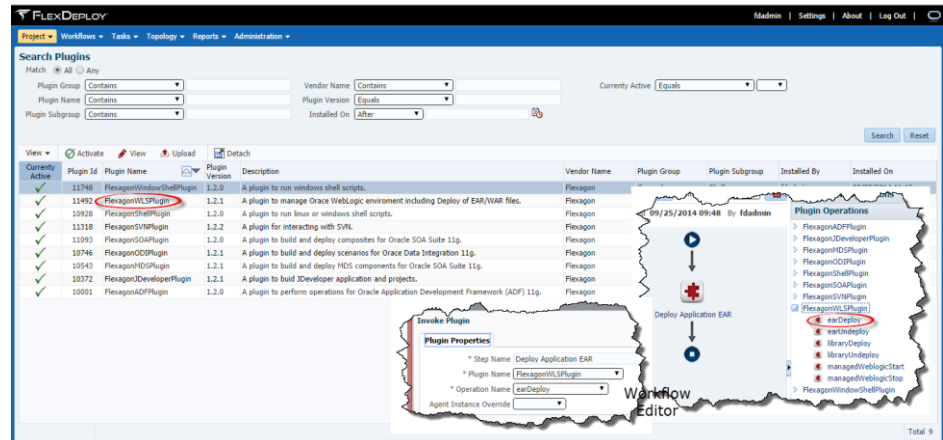
Rollback

Whether in a non-production test environment or in production, FlexDeploy provides the ability to quickly and accurately revert to a prior working version. In a non-production environment, the rollback can mitigate the productivity impact when testing staff is unable to do their job because of a failed deployment. In a production environment, the ability to quickly get back to a working state can be critical. This minimizes the duration of service outages (commonly referred to as meantime to repair) that can significantly impact business operations, customer satisfaction, or availability of the impacted systems to any other users.

- ☑ **The Plugins for Oracle SOA, Oracle Service Bus (OSB), WebLogic, Application Development Framework (ADF), and Oracle Data Integrator (ODI) are examples of feature rich capabilities that make deployments for those products a snap. No scripting or manual effort required!**

Plugins for Middleware, Databases, and Applications

One of the most important aspects of FlexDeploy is the plugin architecture and pre-built capability provided out of the box. The plugins replace many of the manual and error prone processes, and hides the native interfaces and complexity that is normally required to execute a deployment. A Plugin Search screen is shown below.



- ☑ **The FlexDeploy architecture enables easy administration and flexibility via a light weight agent based communication mechanism.**

The “building blocks” for FlexDeploy’s plugin library supports low-level technology such as Ant, Shell, or your favorite scripting language. These plugins are important for building customized solutions and bridging gaps. There is also a need for higher-level product plugins which provide the blocking and tackling to integrate with complex middleware platforms, 3rd party tools, and packaged applications. Without pre-built plugins, customers are required to build and maintain their own solutions or live with a very time consuming and error prone manual process. Building a custom solution requires deep knowledge of the underlying structures/components/files, many hours of development and support, and working closely with the middleware/tool vendors to address gaps.

- ☑ **FlexDeploy provides end to end capability to orchestrate and automate the release and deployment lifecycle.**

FlexDeploy addresses this need by providing rich plugins for products such as Oracle SOA Suite, WebLogic/ADF, and Oracle Data Integrator (ODI) which have the smarts to make deployments a snap. No scripts or manual steps are required, only a few configurations and the deployments occur automatically.

Open Platform for all Deployments

Most IT environments contain a mix of vendors, platforms, and products that all require deployment capabilities. FlexDeploy provides an open platform for integrating with vendor specific environments, including physical, virtual, and cloud. A lightweight agent-based architecture allows the FlexDeploy Server to communicate with the build and deployment hosts/targets across the network, and easily manage the plugin lifecycle activities such as install, artifact delivery/retrieval, execution, and upgrades.

Summary

Flexagon’s FlexDeploy is an enterprise Application Release Automation (ARA) product which provides capabilities across the entire deployment lifecycle. FlexDeploy enables significant benefits including increased speed of software delivery, decreased cost, improved quality, and a reduction in risk of the deployment process. While FlexDeploy’s core features are vendor independent, feature rich plugins are available for products such as Oracle SOA Suite, WebLogic/ADF, and Oracle Data Integrator.

For more information, please contact us at info@flexagon.com or visit www.flexagon.com/flexdeploy