

Managing the Composite Application Life Cycle

Objectives

After completing this lesson, you should be able to:

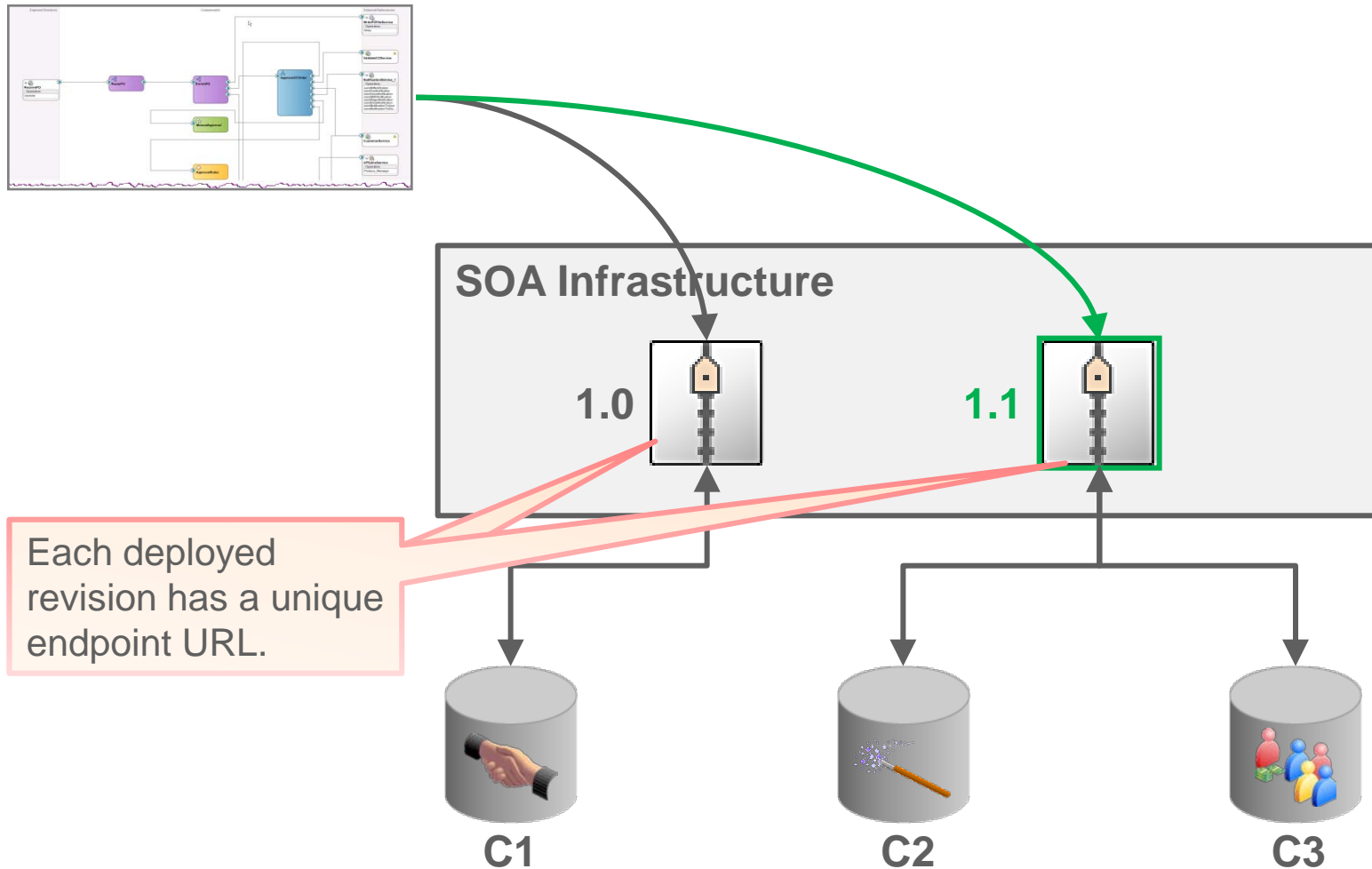
- Deploy new versions of a composite application
- Create partitions and deploy composites to those partitions
- Explain composite application dependencies
- Manage the composite application life cycle by using configuration plans and global token variables



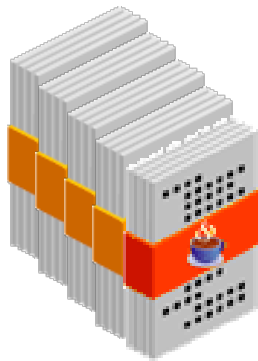
Agenda

- Working with composite applications revisions
- Creating partitions for application deployment
- Deploying applications with configuration plans
- Managing global token variables

Composite Application Revisions



Revisions and SOA Bundles



SOA bundles can contain multiple revisions of the same application and/or various revisions of different applications.

SOA Infrastructure



1.0



2.0



3.0



4.0



1.0

Redeploying an Application

Redeploy a composite application if:

- Configuration and updates to the application do not modify the interface definition
- You wish to make an older revision of the application the default revision



In a production environment, overriding an active revision of an application may have negative consequences. Long-running instances of the active revision will become stale. Care should be exercised when deciding whether to deploy a new revision of an application or overriding an already deployed revision.

Quiz



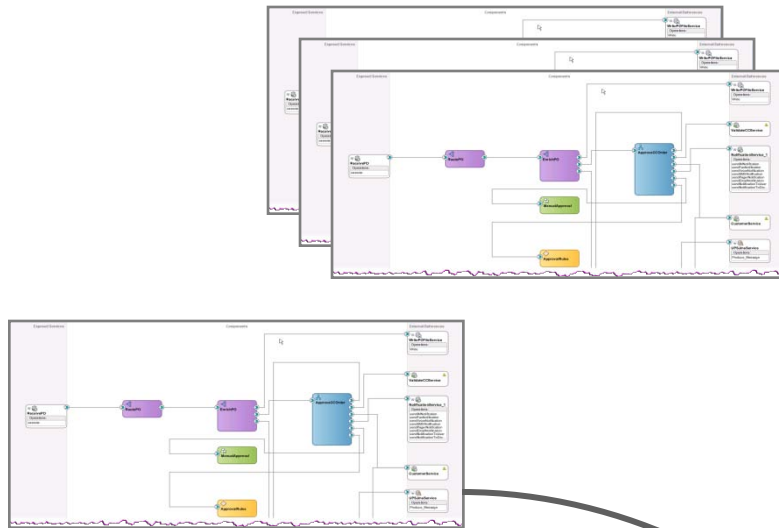
Only one revision of a composite application may be deployed at a time.

- a. True
- b. False

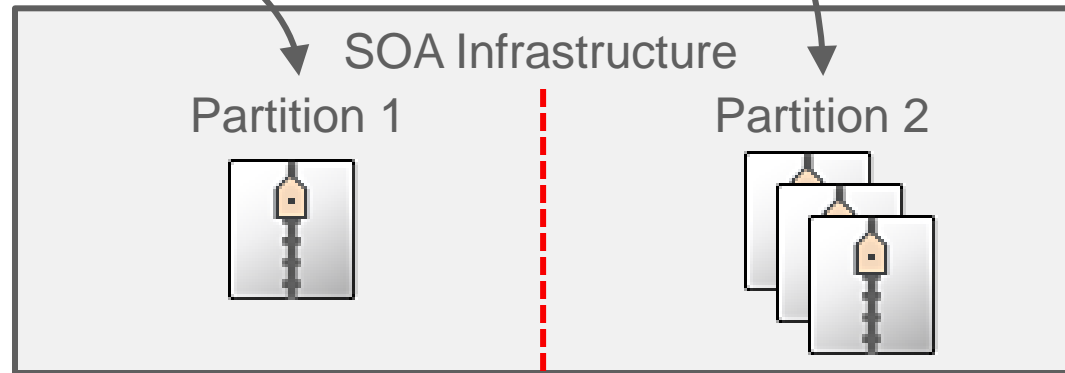
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- **Creating partitions for application deployment**
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Composite Partitions



Partitions are separate sections of your SOA Infrastructure that enable you to logically group SOA composites and perform bulk lifecycle management tasks on large numbers of composites.



Creating Partitions

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Manage Partitions

View ▾ **+ Create ...** ✕ Delete ... ✎ Edit ...

Composites Control ▾ Deployment ▾

Search Search Partition (full or partial name)

SOA Partition	Work Manager Group	Active	Retired	Composites	View
consoleTests	default	17	0		
consoleTests_with...	testWMG	0	0		
default	default	1	0		

Managing Composites Within a Partition

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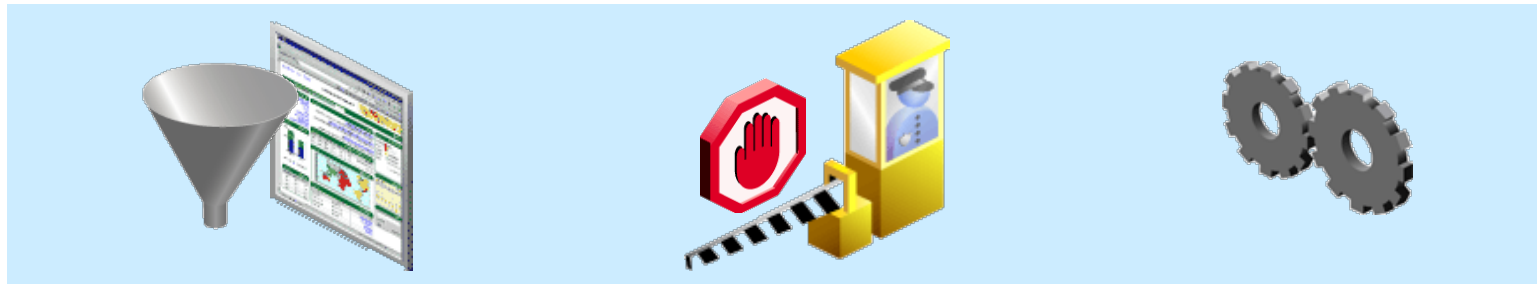
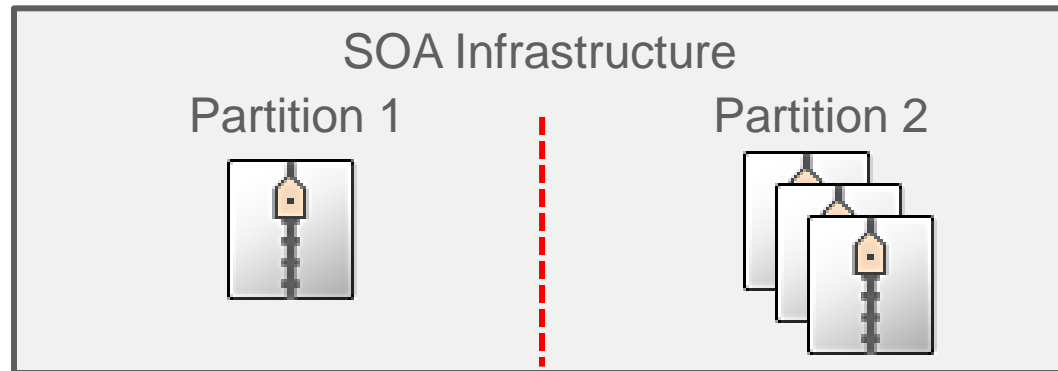
Manage Partitions

View ▾ [+ Create ...](#) [✕ Delete ...](#) [✎ Edit ...](#) [Composites Control ▾](#) [Deployment ▾](#)

Search

SOA Partition	Work Manager Group	Composites			View
		Active	Retired		
consoleTests	default	17	0		🔍
consoleTests_with...	testWMG	0	0		🔍
default	default	1	0		🔍

Securing Access to Partitions



Partitions are secured with application roles and partition roles, which provide:

- *Administrative access control*
- *Striping of instance data by partitions*
- *Partition-level resource management*

Securing with Partition Roles

Partition roles are prefixed with the partition name and an underscore, for example, default_Deployer.

Partition Role	Description
Composer	Makes changes to SOA composite application artifacts, such as business rules, security policies, and fault policies
Deployer	Deploys and upgrades SOA composite applications, and manages continuous integration and build processes
Tester	Performs testing on pre-production systems by using a combination of command line, web-based UI, and custom tools
Monitor	Monitors operation of deployed SOA composite applications in the partition
ApplicationOperator	<p>Handles user complaints and makes decisions on faults in the automated process. Administrators receive notifications of decisions and take steps to recover or terminate the fault.</p> <p>Note: This role does not include the Deployer and Tester roles.</p>

Quiz



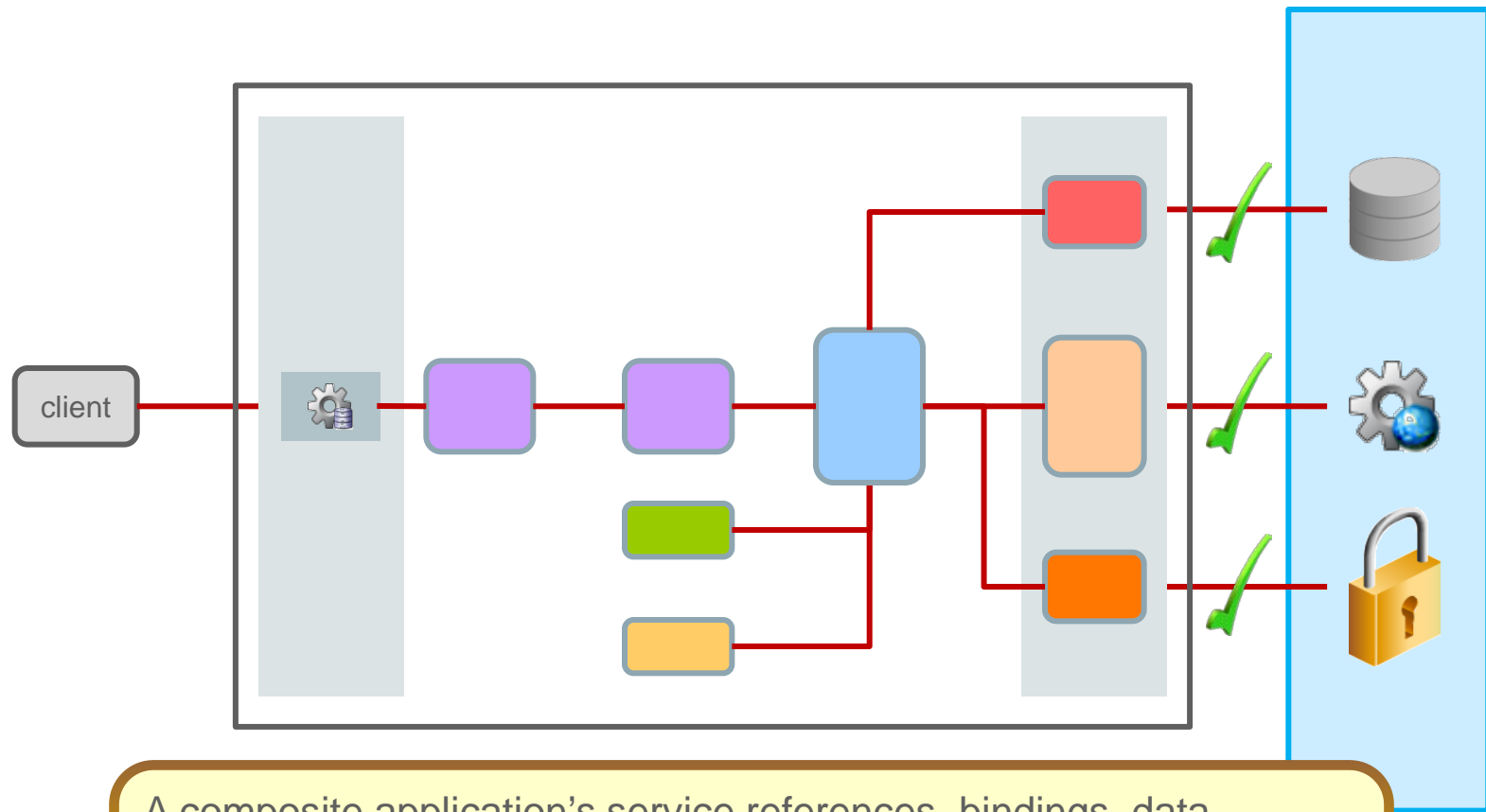
A user or group that is assigned the Operator role can manage the composite applications within a partition.

- a. True
- b. False

Agenda

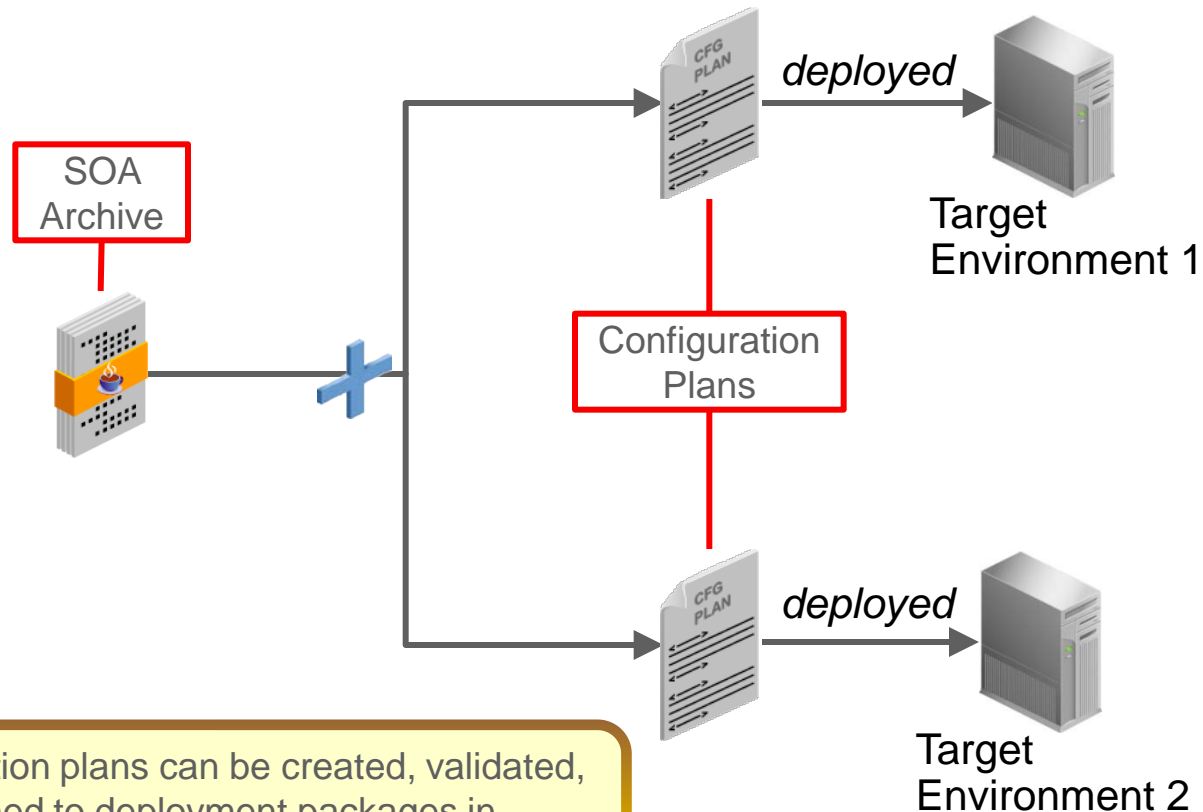
- Working with composite applications revisions
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- **Deploying applications with configuration plans**
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Composite Application Dependencies



A composite application's service references, bindings, data sources, and adapters typically have external dependencies that include host, directory, and file names, URLs, port numbers, and the security policies of each external connection.

Configuration Plans: Overview



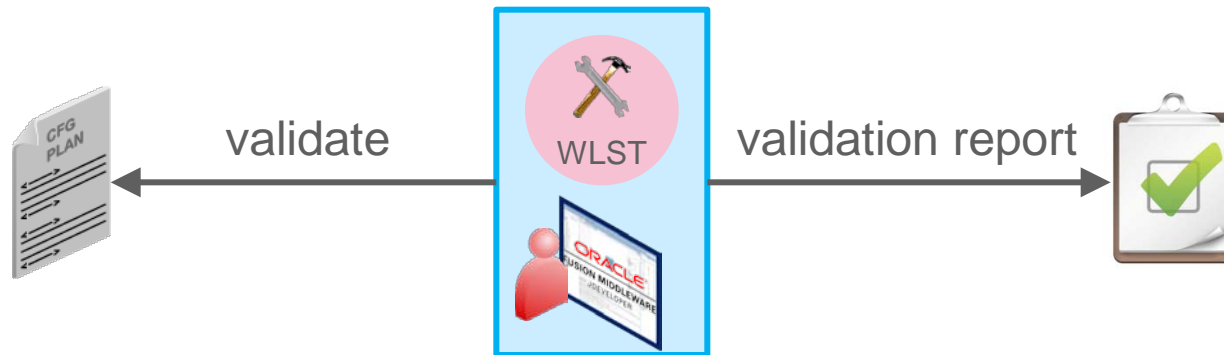
Configuration plans can be created, validated, and attached to deployment packages in JDeveloper, or with ant or WLST scripts.

Editing a Configuration Plan

```
<SOAConfigPlan ...>
  <composite name="EchoMediatorComposite">
    <import>
      <searchReplace>
        <search>soa12c_dev.example.com</search>
        <replace>soa12c.example.com</replace>
      </searchReplace>
    </import> ...
  </composite>
</SOAConfigPlan>
```

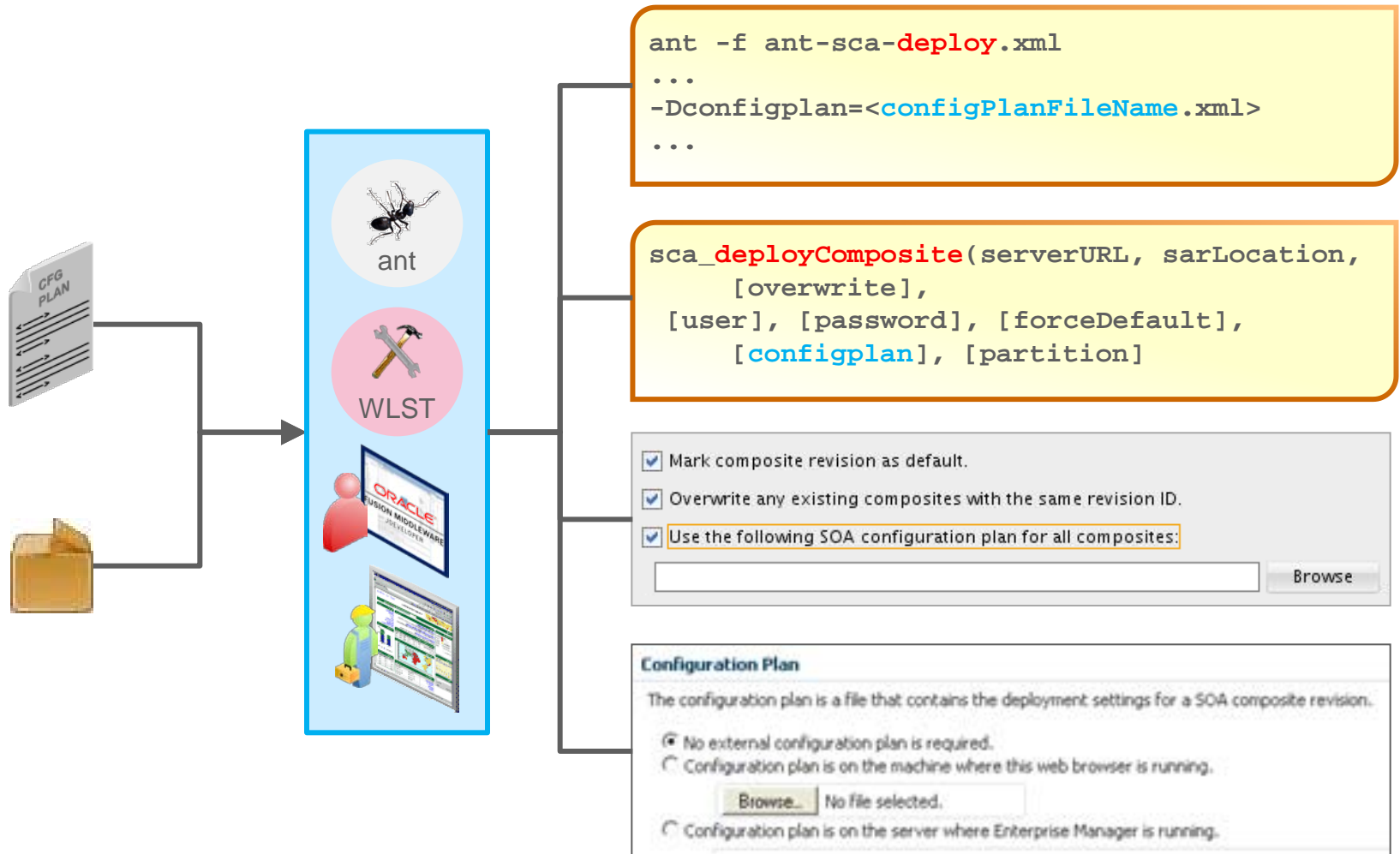
You can modify several different composite application attributes and properties by providing appropriate values for the `<searchReplace>` elements and their `<search>` and `<replace>` child elements.

Validating a Configuration Plan



The validation report indicates if validation succeeded, and lists all the search and replace commands to perform during SOA composite application deployment.

Deploying with a Configuration Plan



Using WLST to Create and Manage Configuration Plans



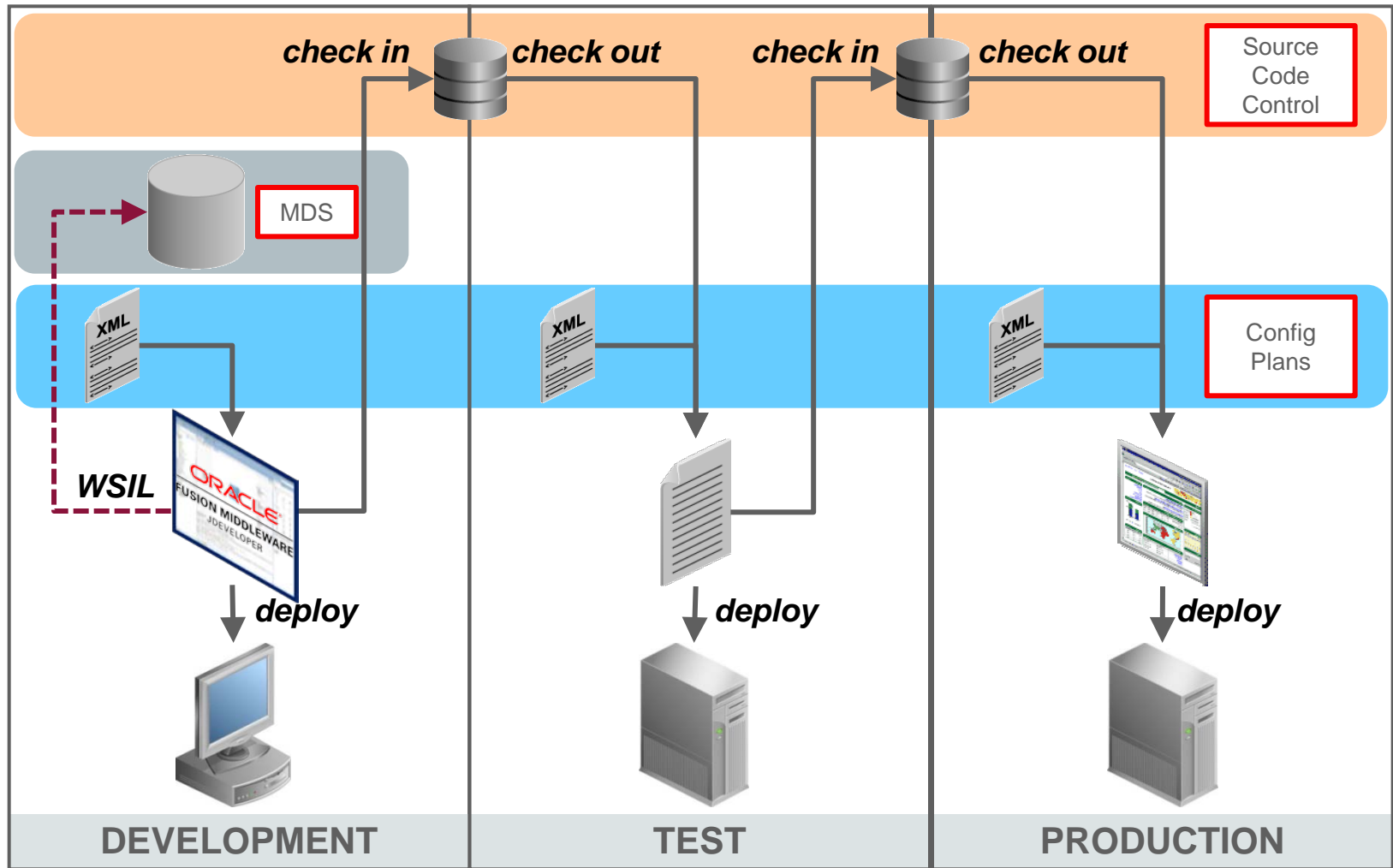
```
sca_generatePlan(configPlan, sar,  
    composite, [overwrite], [verbose])
```

```
sca_attachPlan(sar, configPlan,  
    [overwrite], [verbose])
```

```
sca_validatePlan(reportFile, configPlan,  
    sar, composite, [overwrite],  
    [verbose])
```

```
sca_extractPlan(sar, configPlan,  
    [overwrite], [verbose])
```

Migrating a Composite Application Across Environments



Quiz



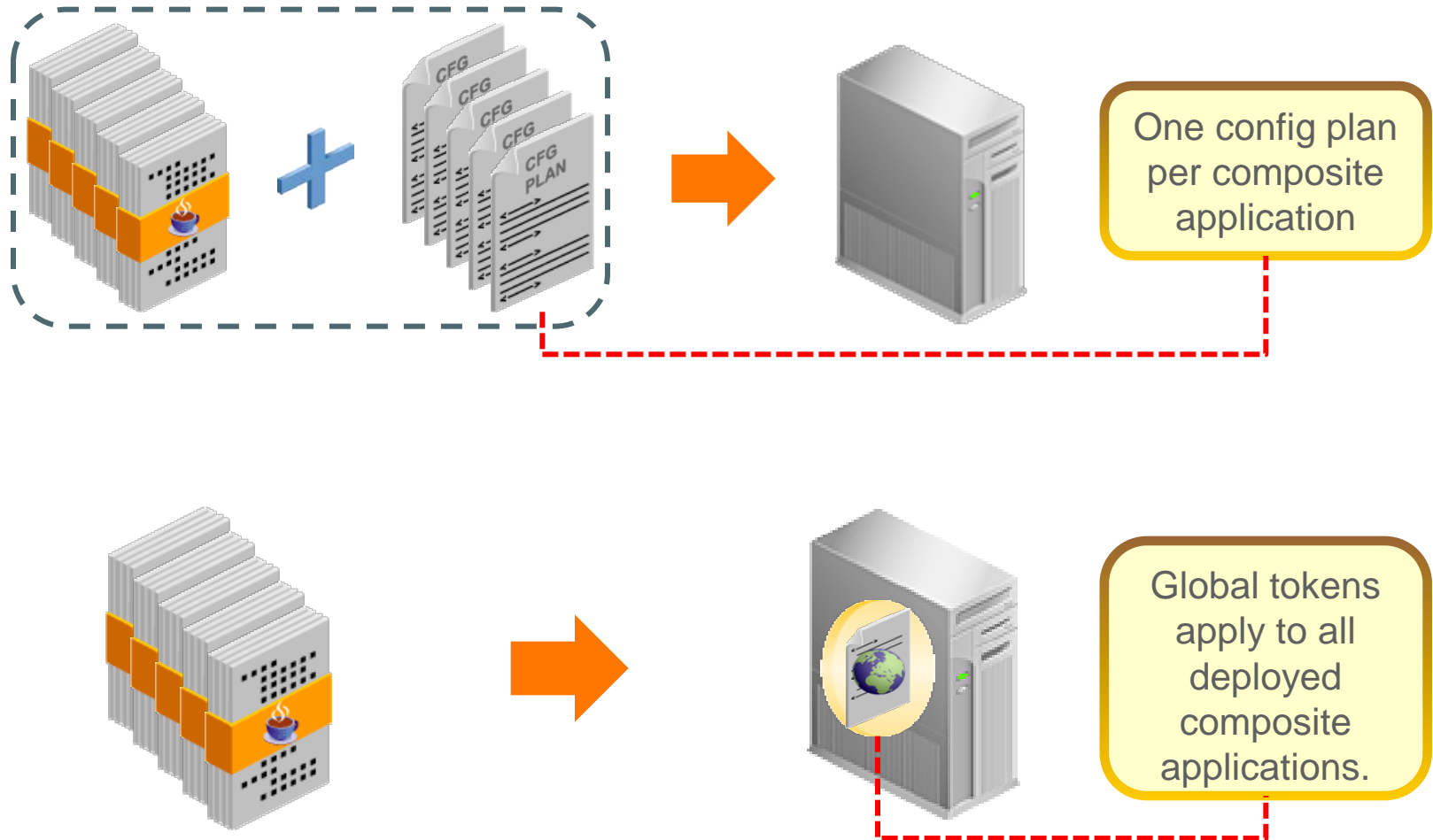
Which of the following would you use to associate a configuration plan with a composite application deployment? Select all that apply.

- a. Ant
- b. WLST
- c. Oracle Enterprise Manager Fusion Middleware Control
- d. Oracle WebLogic Administration Console

Agenda

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Managing Global Token Variables for Multiple SOA Composite Applications



Global Tokens: Example

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE properties SYSTEM "http://java.sun.com/dtd/properties.dtd">
<properties>
    <comment> URL Resolver file used by the Metadata manager to resolve
        $<variable> in URLs </comment>
    <entry key="host">mymachine.us.example.com</entry>
    <entry key="port">8001</entry>
    <entry key="protocol">http</entry>
</properties>
```

Quiz



Global tokens can be applied to all deployed composite applications.

- a. True
- b. False

Summary

In this lesson, you should have learned how to:

- Deploy new versions of a composite application
- Create partitions and deploy composites to those partitions
- Explain composite application dependencies
- Manage the composite application life cycle by using configuration plans and global token variables

Practice 9: Overview

This practice covers the following topics:

- Practice 9-1: Creating a Partition
- Practice 9-2: Examining the Contents of the SAR Files