SSD Deployer
User Guide

Document Revision History

Revision Date	Written/Edited By	Comments
September 2016	Andy Dunfee	Initial Release with SSD v2
February 2017	Paul Wheeler	Updated for SSD v3
June 2017	Paul Wheeler	Updated for SSD v4

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Overview

The Services Standard Deployment (SSD) is a set of tools and artifacts designed to increase the ease of installation and add a level of standardization across IdentityIQ deployments. These artifacts and tools are used by the SailPoint Services team on projects deploying IdentityIQ.

The SSD includes a broad set of resources to help you and your team with the process of deploying IdentityIQ. The SSD package can be thought of as a "kit", containing different important parts of the deployment process.

After starting a project and downloading and unpacking the latest SSD zip file, there are a handful of initial steps required to setup different parts of the SSD, such as creating new target, ignorefiles, and iiq properties files; merging SSF-specific properties into these new files; copying the configurable SSF and SST XML files into their proper folders; and enabling certain features in the build.properties file.

While all documentation related to the SSD should be consulted, especially the SSB and SSF User Guides, and while there will still be manual installation and setup steps, a command-line Deployer tool has been developed to streamline some of the initial deployment steps. This document covers this command-line tool, providing instructions on how to use it and what it does.

The tool can be run on Windows and UNIX-based operating systems. It mostly uses y|n prompts, with a few other entry points, and takes about a minute to run.

Some of the tools that ship with the SSD are not deployed by default with the build, and you can use the Deployer tool to enable them for deployment; others are deployed by default and do not appear as options for deployment in the Deployer. For example, the SSF Features and Frameworks are not deployed by default and can be enabled in the Deployer, but the XML Object Exporter is deployed by default with the SSD and does not have an option for deployment in the Deployer. Generally, the components that are available for deployment in the Deployer often require extra setup steps, or they change some element of IdentityIQ's behavior or appearance which might be unexpected to an implementer who is unfamiliar with the tools, so they are left for the implementer to specifically select. The components that are deployed by default are usually tools that will not cause any unexpected behavior to the general out-of-the-box functionality of IdentityIQ. You are strongly advised to read the documentation of each component that you deploy with the Deployer tool. All documentation can be found under the "doc" folder at the root of the SSD.

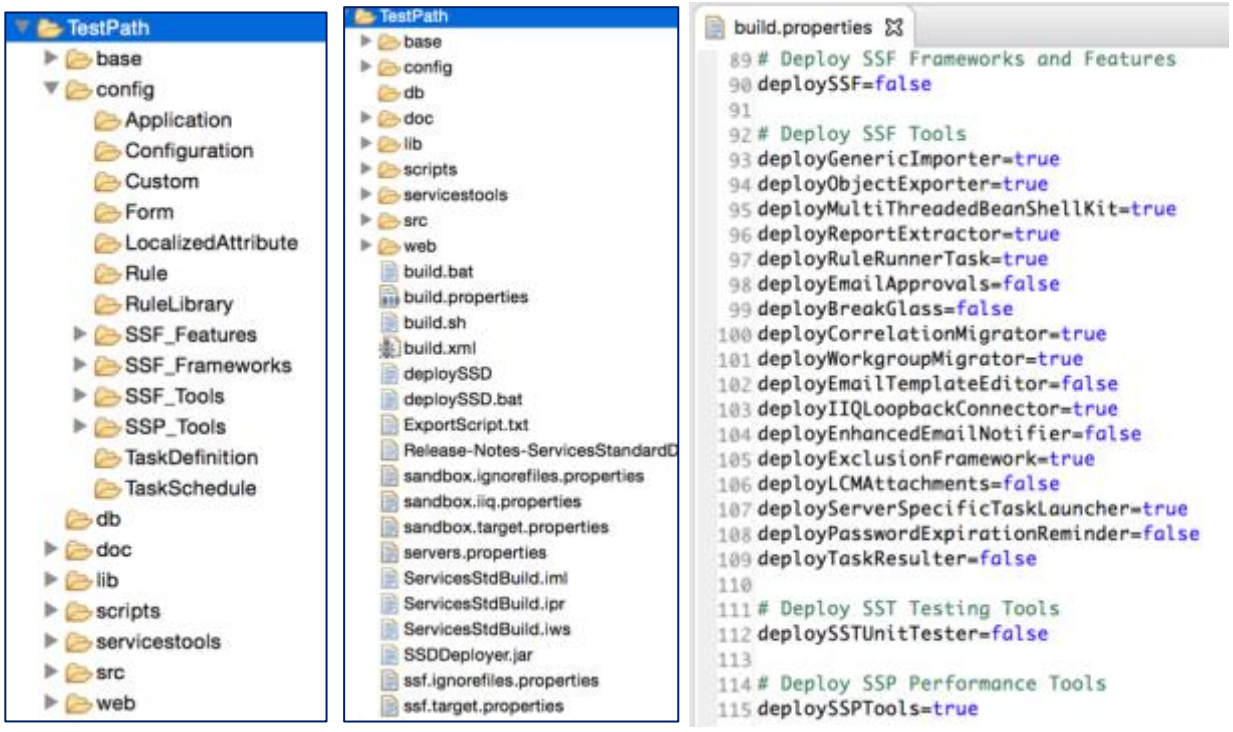
Beginning State

After downloading and unpacking the SSD and before running the SSD Deployment Tool, the Configuration, Custom, Form, and RuleLibrary folders under /config will all be empty. The following properties in the build.properties file will be set to false:

- deploySSF
- deploySSTUnitTester
- deployEmailApprovals
- deployBreakGlass
- deployEmailTemplateEditor
- deployEnhancedEmailNotifier
- deployLCMAttachments
- deployPasswordExpirationReminder
- deployTaskResulter

Each of these settings affect whether or not a corresponding component will be deployed.

The root folder will contain none of your environment-specific target, ignorefiles or iiq properties files and the sample sandbox.ignorefiles.properties and sandbox.target.properties will not contain the ssf.ignorefiles.properties or ssf.target.properties values, respectively. Running the tool will change that.



Run the Deployment Tool

Go to SSD Project

Open a terminal or command prompt and cd to the root folder of your unzipped SSD project. Validate the contents:

- /config/SSF_Features
- /config/SSF_Frameworks
- /config/SSF_Tools
- build.properties
- ssf.ignorefiles.properties
- ssf.target.properties
- SSDDeployer.jar
- deploySSD
- deploySSD.bat

```
Last login: Tue Aug 30 10:35:51 on ttys001
adunfee-mbpr:~ andy.dunfee$ pwd
/Users/andy.dunfee
adunfee-mbpr:~ andy.dunfee$ cd /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath
adunfee-mbpr:TestPath andy.dunfee$ ls
ExportScript.txt                            config                                  sandbox.target.properties
Release-Notes-ServicesStandardDeployment.txt db                                     scripts
SSDDeployer.jar                             deploySSD                               servers.properties
base                                        deploySSD.bat                           servicestools
build.bat                                   doc                                     src
build.properties                            lib                                     ssf.ignorefiles.properties
build.sh                                    sandbox.ignorefiles.properties          ssf.target.properties
build.xml                                   sandbox.iiq.properties                  web
```

Figure 1 - cd to SSD project and view contents

Run Tool and Answer Prompts

The following details the prompts and inputs required, most prompts simply requiring a “y” or an “n” response. The input process includes the following steps:

1. Start the tool (using the deploySSD or deploySSD.bat script at the root of the SSD)
2. Validate or enter the SSD path
3. Enter environments
4. Enable individual components
5. Review summary and start the deployment

```
adunfee-mbpr:TestPath andy.dunfee$ ./deploySSD
********************************************************************************
* Welcome to the SSD Deployer Tool.  The tool should take only a minute or two to run.
* It will ask some simple questions to help setup your SSD project.  It will help to
* initialize some build properties, setup your target and ignore files properties, and
* copy SSF and SST components into the correct config folders.
* If at any point you want to exit, enter x.
********************************************************************************

Enter any value and hit enter to begin or x and enter to exit.
```

Figure 2 - Start the tool (deploySSD on UNIX or deploySSD.bat on Windows)

```
The tool must first determine the path to your SSD project.

The detected path is: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath

Is the detected path correct? [y|n]
y

Validating path: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath
Check for file/folder: build.properties
Check for file/folder: ssf.target.properties
Check for file/folder: ssf.ignorefiles.properties
Check for file/folder: config/SSF_Features
Check for file/folder: config/SSF_Frameworks
Check for file/folder: config/SSF_Tools
The path has been validated.
```

Figure 3 - Validate or enter the path

```
********************************************************************************
* Each environment will have a unique set of target, ignorefiles, and iiq properties.
* The next steps will help to build these for your various environments/targets.
* The SPTARGET environment variable is often used for local sandboxes.  The tool will
* first attempt to detect this variable.  If it is found, you will have the option to
* let the tool create the properties file for your local environment based on the
* SPTARGET value.  Afterward, you will have the ability to enter additional targets
* and let the tool create the properties files for each one entered.
********************************************************************************

The SPTARGET environment variable is set to andybox.

Would you like to create the properties files for this SPTARGET value? [y|n]
y

Would you like to create property files for additional targets? [y|n]
y

Enter the addiitonal targets.  Separate with commas.  Whitespace will be removed.
dev,qa,prod
```

Figure 4 - Setup environment property files

```
*******************************************************************************
* The SSF Features and Frameworks is a package of reusable IdentityIQ configurations
* and code used to speed up and simplify the deployment process on IdentityIQ
* implementations.  It does this by abstracting and reusing common architectures and
* best practices, eliminating 'nuts and bolts' development and allowing implementers
* to focus on the customer requirements.
* The next steps will allow you to enable the package and pick individual features and
* frameworks to turn on.  Turning on a framework/feature simply means copying the
* configurable XML components to their correct file locations in the SSB.
*******************************************************************************

Would you like use the SSF Features and Frameworks? [y|n]
y

The SSF includes a number of features--Attribute Synch, Joiner, Mover, Leaver, Rehire,
Terminate Identity--and frameworks--Field Value, Approvals, Role Assignment,
Provision Processor and Send Emails.  By default, if you turn on the SSF, the Approvals,
Role Assignment, Provision Processor and Send Emails frameworks are made available.
The configurable configuration objects for the Field Value framework and all features
can be deployed selectively or all can be deployed at once.

Would you like to deploy all frameworks and features? [y|n]
n
You have chosen to select features and frameworks individually.
Would you like to use the Attribute Synch Feature? [y|n]
y
Would you like to use the Joiner Feature? [y|n]
y
Would you like to use the Leaver Feature? [y|n]
y
Would you like to use the Rehire Feature? [y|n]
y
Would you like to use the Mover Feature? [y|n]
n
Would you like to use the Terminate Identity Feature? [y|n]
n
Would you like to use the Field Value Framework? [y|n]
y
```

Figure 5 – Enable the SSF (Features and Frameworks)

```
*******************************************************************************
* The Services Standard Test (SST) Unit Tester is a framework for writing and
* registering unit test rules with unit test argument files.  It facilitates better    *
* testing of atomic units of code, such as methods in a rule library.  For each unit   *
* test, you write a unit test rule and any number of arguments files, each argument    *
* file representing a different use case or set of input parameters.  Then you can     *
* register these in a mapping object and run all unit tests from either the command    *
* line, a quick link, or a task.
*******************************************************************************

Would you like use the SST Unit Tester? [y|n]
y
```

Figure 6 - Enable SST Unit Tester

```
*********************************************************************************
* Break Glass Access Request is a simple use case solution intended to provide a
* way for selected users to bypass the usual approval process for access requests
* in emergency situations where the need for access cannot wait for the approval
* process to complete.  After following the usual access request procedure, the
* user is presented with a form in which they must mark a checkbox to acknowledge
* use of the Break Glass procedure with no approvals; if this is not done, the
* request will be treated as a normal access request with approvals.  The
* configured Security Officer will receive notification of all Break Glass requests.
* The ability to use this option is granted by membership of a 'Break Glass Users'
* workgroup.
*********************************************************************************

Would you like use the BreakGlass Request Tool? [y|n]
```

Figure 7 - Enable Break Glass Access Request

```
*********************************************************************************
* Email Approvals is a tool that allows approvers to approve or reject work items
* using email rather than accessing the UI. Requires an email server that accepts
* POP3 connections.
*********************************************************************************

Would you like use the Email Approvals Tool? [y|n]
```

Figure 8 - Enable Email Approvals

```
*********************************************************************************
* The Email Template Editor is a tool for creating and modifying both plain
* text and HTML email templates.  It includes a simple HTML editing control
* that allows you to design your template in a WYSIWYG interface with no need
* to edit HTML code.  Users must be members of the 'Email Template Admins'
* workgroup to use this tool.
*********************************************************************************

Would you like use the Email Template Editor? [y|n]
```

Figure 9 - Enable Email Template Editor

```
*********************************************************************************
* The Enhanced Email Notifier provides configurable options for managing the
* sending and content of email notifications through IdentityIQ.  It allows the
* use of different email templates depending on the value of an identity
* attribute, such as language or country.  It also provides a way to merge
* multiple emails for the same person into a single summary email to help
* reduce the number of emails users receive from IdentityIQ.
*********************************************************************************

Would you like use the Enhanced Email Notifier? [y|n]
```

Figure 10 - Enable Enhanced Email Notifier

```
*******************************************************************************
* Access Request Attachments provides the ability for a requester to add
* attachments to an access request to help to justify the reason for the
* request or provide additional information.  These attachments are then
* available for the approver to view in order to assist with the approval
* decision.  This is available for IdentityIQ versions 7.0 and higher but can
* be made to work with earlier versions with some manual configuration: please
* refer to the documentation.
*******************************************************************************

Would you like use Access Request Attachments? [y|n]
```

Figure 11 - Enable Access Request Attachments

```
*******************************************************************************
* Password Expiration Reminder provides a mechanism to send notifications to
* users through IdentityIQ when the passwords on their accounts in integrated
* target systems are about to expire.  It is also possible to configure steps
* to be taken when an account password has expired.
*******************************************************************************

Would you like use Password Expiration Reminder? [y|n]
```

Figure 12 - Enable Password Expiration Reminder

```
*******************************************************************************
* The Task Resulter provides a simple screen to view the results of account
* aggregation tasks, including information unavailable in the main Task
* Results page, such as aggregation duration and speed (in records per
* second).  It is useful for measuring performance of your account
* aggregations.  The Task Resulter can only be used with the Plugin Framework
* in IdentityIQ version 7.1 and above.
*******************************************************************************

Would you like use the Task Resulter? [y|n]
```

Figure 13 – Task Resulter

```
*********************************************************************************************
* SUMMARY
*********************************************************************************************

You have chosen to deploy the SSF.  This means all target and ignorefiles properties will
be updated with ssf-specific properties, basic frameworks will be made available, and the
configurable configuration objects for any specific framework or feature you've chosen to
deploy will be copied into their respective config folders, usually /config/Custom and
/config/RuleLibrary, build.properties file will be updated with deploySSF=true.
You have chosen to deploy the following frameworks and features:

     Attribute Synch
     Leaver
     Field Value
     Joiner
     Rehire

You have chosen to deploy the SST Unit Tester.  This means all target and ignorefiles
properties will be updated with ssf-specific properties, the unit test custom mapping
file will be copied into the /config/Custom folder, and the ZUnitTests folder will be
copied into the /config folder. It'll create an empty UTReports folder under /web,
build.properties file will be updated with deploySSTUnitTester=true.

You have chosen to initialize iiq, target, and ignorefiles properties for one or more
target environments.  The files will be created for the following:
    Target: dev

*********************************************************************************************

Are you ready to deploy? [y|n]
```

Figure 14 - Review summary, start deployment

Deployment Output

The deployment process will write out to the terminal everything it is doing to setup the SSD. The following shows the detailed output of the deployment process:

```
Begin deployment.


*********************************************************************************************

Updating the build.properties
Get file at path: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/build.properties
Turn on the deploySSF line
Turn on the deploySSTUnitTester line
Finished updating the build.properties

*********************************************************************************************
```

Figure 15 - Update the build.properties file

```
*****************************************************

Create any environment property files
Creating props for: andybox
Creating any missing files for : andybox
Created file: andybox.target.properties
Created file: andybox.ignorefiles.properties
Created file: andybox.iiq.properties
Creating props for: dev
Creating any missing files for : dev
Created file: dev.target.properties
Created file: dev.ignorefiles.properties
Created file: dev.iiq.properties
Creating props for: qa
Creating any missing files for : qa
Created file: qa.target.properties
Created file: qa.ignorefiles.properties
Created file: qa.iiq.properties
Creating props for: prod
Creating any missing files for : prod
Created file: prod.target.properties
Created file: prod.ignorefiles.properties
Created file: prod.iiq.properties

*****************************************************
```

Figure 16 - Create various host/environment property files

```
*****************************************************************************************

Updating the target.properties
Get file at path: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/ssf.target.properties
andybox.target.properties is a target props file.  Append the ssf props
dev.target.properties is a target props file.  Append the ssf props
prod.target.properties is a target props file.  Append the ssf props
qa.target.properties is a target props file.  Append the ssf props
sandbox.target.properties is a target props file.  Append the ssf props
Finished updating the target.properties

*****************************************************************************************


*****************************************************************************************

Updating the ignorefiles.properties
Get file at path: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/ssf.ignorefiles.properties
andybox.ignorefiles.properties is an ignorefiles props file.  Append the ssf props
dev.ignorefiles.properties is an ignorefiles props file.  Append the ssf props
prod.ignorefiles.properties is an ignorefiles props file.  Append the ssf props
qa.ignorefiles.properties is an ignorefiles props file.  Append the ssf props
sandbox.ignorefiles.properties is an ignorefiles props file.  Append the ssf props
Finished updating the ignorefiles.properties

*****************************************************************************************
```

Figure 17 - Copy the ssf properties

```
*******************************************************************************

Copying over all the various SSF components

*******************************************************************************

Copy the common lce library
Copy from: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/SSF_Features/Common/Configure/SPCONF_LCE_Common_RulesLibrary.xml
 to: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/RuleLibrary/SPCONF_LCE_Common_RulesLibrary.xml

*******************************************************************************

Copy provision processor email text object
Copy from: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/SSF_Frameworks/ProvisionProcessor/Configure/SPCONF_EmailText_Custom.xml
 to: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/Custom/SPCONF_EmailText_Custom.xml

*******************************************************************************

Copy the approval framework files
Copy from: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/SSF_Frameworks/Approvals/Configure/SPCONF_ApprovalFramework_Custom_RuleLibrary.xml
 to: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/RuleLibrary/SPCONF_ApprovalFramework_Custom_RuleLibrary.xml
Copy from: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/SSF_Frameworks/Approvals/Configure/SPCONF_ApprovalObjectMappings_Custom.xml
 to: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/Custom/SPCONF_ApprovalObjectMappings_Custom.xml
Copy from: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/SSF_Frameworks/Approvals/Configure/SPCONF_ElectronicSignature_Configuration.xml
 to: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/Configuration/SPCONF_ElectronicSignature_Configuration.xml

*******************************************************************************
```

Figure 18 - Copy common SSF components

```
*******************************************************************************

Loop the remaining features

*******************************************************************************

Migrate the attr synch components
Copy from: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/SSF_Features/AttributeSynch/Configure/SPCONF_AttrSynch_RulesLibrary.xml
 to: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/RuleLibrary/SPCONF_AttrSynch_RulesLibrary.xml
Copy from: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/SSF_Features/AttributeSynch/Configure/SPCONF_AttrSynch_Mappings_Custom.xml
 to: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/Custom/SPCONF_AttrSynch_Mappings_Custom.xml

*******************************************************************************

Migrate the field value components
Copy from: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/SSF_Frameworks/FieldValue/Configure/SPCONF_FieldValue_RulesLibrary.xml
 to: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/RuleLibrary/SPCONF_FieldValue_RulesLibrary.xml

*******************************************************************************

Migrate the joiner components
Copy from: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/SSF_Features/Joiner/Configure/SPCONF_Joiner_RulesLibrary.xml
 to: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/RuleLibrary/SPCONF_Joiner_RulesLibrary.xml
Copy from: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/SSF_Features/Joiner/Configure/SPCONF_Joiner_Mappings_Custom.xml
 to: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/Custom/SPCONF_Joiner_Mappings_Custom.xml

*******************************************************************************

Migrate the leaver components
Copy from: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/SSF_Features/Leaver/Configure/SPCONF_Leaver_RulesLibrary.xml
 to: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/RuleLibrary/SPCONF_Leaver_RulesLibrary.xml
Copy from: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/SSF_Features/Leaver/Configure/SPCONF_Leaver_Mappings_Custom.xml
 to: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/Custom/SPCONF_Leaver_Mappings_Custom.xml

*******************************************************************************

Finished copying over the SSF components

*******************************************************************************
```

Figure 19 - Copy specific SSF components

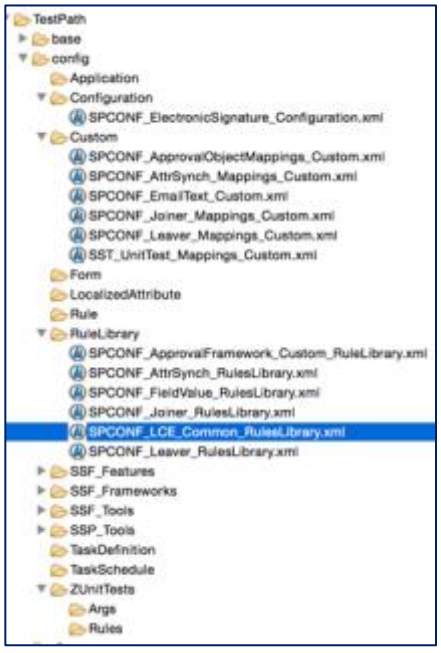
```
********************************************************************************

Copying over all the various Unit Test components
Copy the unit test custom object
Copy from: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/SSF_Tools/SST_UnitTester/Configure/SST_UnitTest_Mappings_Custom.xml
 to: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/Custom/SST_UnitTest_Mappings_Custom.xml
Copy the ZUnitTests folder
Source: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/SSF_Tools/SST_UnitTester/Configure/ZUnitTests
Destination: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/ZUnitTests
Make directory: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/ZUnitTests
Make directory: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/ZUnitTests/Args
Make directory: /Users/andy.dunfee/Documents/workspace/SSDDeployer/TestPath/config/ZUnitTests/Rules
Finished copying over the unit test objects

********************************************************************************

You have successfully completed the deployment process!  You can begin to configure your project.
```

Figure 20 - Copy SST Unit Tester components

End State

The following shows the updated package after running the SSD Deployment Tool. The following changes have been made:

- The Configuration, Custom, RuleLibrary folders under /config have been populated (if the SSF Features and Frameworks were selected for deployment)
- For each host environment entered, a new iiq.properties, target.properties, and ignorefiles.properties file has been created
- The target.properties and ignorefiles.properties have been copied into each new respective file for each component selected
- The build.properties has been updated, setting the deploy options for each component to true or false depending on which components were selected for deployment.


TestPath
base
config
Application
Configuration
SPCONF_ElectronicSignature_Configuration.xml
Custom
SPCONF_ApprovalObjectMappings_Custom.xml
SPCONF_AttrSynch_Mappings_Custom.xml
SPCONF_EmailText_Custom.xml
SPCONF_Joiner_Mappings_Custom.xml
SPCONF_Leaver_Mappings_Custom.xml
SST_UnitTest_Mappings_Custom.xml
Form
LocalizedAttribute
Rule
RuleLibrary
SPCONF_ApprovalFramework_Custom_RuleLibrary.xml
SPCONF_AttrSynch_RulesLibrary.xml
SPCONF_FieldValue_RulesLibrary.xml
SPCONF_Joiner_RulesLibrary.xml
SPCONF_LCE_Common_RulesLibrary.xml
SPCONF_Leaver_RulesLibrary.xml
SSF_Features
SSF_Frameworks
SSF_Tools
SSP_Tools
TaskDefinition
TaskSchedule
ZUnitTests
Args
Rules


TestPath
base
config
db
doc
lib
scripts
servicestools
src
web
antybox.ignorefiles.properties
antybox.iiq.properties
antybox.target.properties
build.bat
build.properties
build.sh
build.xml
deploySSD
deploySSD.bat
dev.ignorefiles.properties
dev.iiq.properties
dev.target.properties
ExportScript.txt
prod.ignorefiles.properties
prod.iiq.properties
prod.target.properties
qa.ignorefiles.properties
qa.iiq.properties
qa.target.properties
Release-Notes-ServicesStandardDeployment.txt
sandbox.ignorefiles.properties
sandbox.iiq.properties
sandbox.target.properties
servers.properties
ServicesStdBuild.iml
ServicesStdBuild.ipr
ServicesStdBuild.iws
SSDDeployer.jar
ssf.ignorefiles.properties


build.properties
# Deploy SSF Frameworks and Features
deploySSF=true
# Deploy SSF Tools
deployGenericImporter=true
deployObjectExporter=true
deployMultiThreadedBeanShellKit=true
deployReportExtractor=true
deployRuleRunnerTask=true
deployEmailApprovals=true
deployBreakGlass=false
deployCorrelationMigrator=true
deployWorkgroupMigrator=true
deployEmailTemplateEditor=true
deployIIQLoopbackConnector=true
deployEnhancedEmailNotifier=true
# Deploy SST Testing Tools
deploySSTUnitTester=false
# Deploy SSP Performance Tools
deploySSPTools=true