

Akkadian Site Builder Admin Guide

2 — Last update: Feb 23, 2021

Akkadian Labs

Table of Contents

Introduction	2
1. Requirements and Limitations.....	3
1.1. Virtual Machine Requirements.....	3
1.2. Application Support	3
1.3. Browser Support	3
1.4. Network Requirements	4
2. Virtual Appliance Deployment	5
3. Initial Configuration.....	21
3.1 Logging in for the First Time.....	21
3.1.1 Changing the Default Password	22
4. System Configuration	25
4.1 Application Servers	25
4.1.1 Cisco Unified Communication Manager.....	25
4.1.1.1 Preparing CUCM	25
4.1.1.2 CUCM Integration	26
4.1.2 Cisco Unity Connection.....	27
4.1.2.1 Preparing CUC	27
4.1.2.2 CUC Integration.....	28
4.2 Service Groups	29
4.3 Email Configuration	30
4.4 LDAP Agreements.....	31
4.5 FTP Configuration	32
4.6 Roles	33
4.7 Users	34
4.8 Audit Trail.....	35
4.9 Logs.....	36
4.10 Update	37
4.11 Backup & Restore	38
4.12 Branding	40
4.13 Security Certificates	41
5. Global Variables	44
6. Packages.....	47
6.1 Adding Packages	48
6.1.1 Adding CUCM Templates.....	48
6.1.2 Adding CUC Templates.....	50
6.1.2.1 REST API	52

6.1.2.2 Nested Functions	53
6.1.3 Pre & Post Delay.....	56
6.1.4 Template Deployment Order	57
6.1.5 Global Variable (GV) Display Order	59
6.1.6 Set CUC Version.....	60
6.2 Editing Packages	61
6.3 Deleting Packages	63
6.4 Copying Packages	64
6.5 Exporting Packages	64
6.6 Folders.....	65
6.6.1 Adding New Folders.....	65
6.6.2 Renaming Folders.....	66
6.6.3 Assigning Permissions	67
6.6.4 Adding and Removing Packages from Folders	70
6.7 Bundles.....	72
7. Deployments.....	75
7.1 Running Deployments	75
7.2 Running Bulk Deployments	77
7.3 Rolling Back a Deployment	78

Introduction

Akkadian Site Builder™ is a day 1 provisioning solution for Cisco Unified Communications Manager (CUCM). It's a provisioning solution capable of quickly deploying new sites or dial plan configurations in CUCM.

1. Requirements and Limitations

The following sections provide information about the requirements that your system must meet, and limitations that apply when you install or upgrade Akkadian Site Builder.

1.1. Virtual Machine Requirements

Akkadian Site Builder is a Linux based Virtual Appliance supported on VMware ESXi.

Supported Versions of VMware vSphere ESXi = 5.0 U1, 5.1, 5.5, 6.0, and 6.5

The recommended server requirements for are:

vCPU	vRAM	vDISK	vNIC
2	8	80 GB	1

- Applications servers are defined as configured applications servers in Provisioning Manager and are not related to the number of servers with a cluster.
- Minimum of 2000 MHz reserved

1.2. Application Support

Provisioning Manager provides support for the following applications:

Application	Versions
Cisco Unified Communications Manager	10.x – 12.x
Cisco Unity Connection	10.x – 12.x

1.3. Browser Support

Site Builder is supported using the following browsers:

- Microsoft Internet Explorer 11+
- Microsoft Edge 39+
- Mozilla Firefox 53+
- Chrome 50+

1.4. Network Requirements

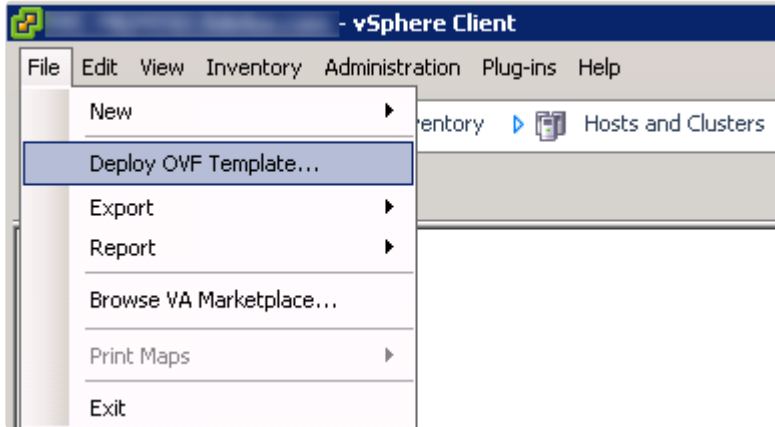
Akkadian Site Builder communicates on the following ports:

Traffic	Port	Direction
Application Web Access	HTTPS:443	Inbound —> Provisioning Manager
Communication to Cisco Communications Manager	HTTPS:8443	Outbound Provisioning Manager —> CUCM
Communication to Cisco Unity Connection	HTTPS:443	Outbound Provisioning Manager —> CUCn
FTP between application and backup server	TCP Port 21	Outbound Provisioning Manager —> SFTP Server
Secure FTP between application and backup server	TCP Port 22	Outbound Provisioning Manager —> SFTP Server
SMTP to mail server	TCP Port 25	Outbound Provisioning Manager —> SMTP Server
LDAP	TCP/UDP Ports 389/3268	Outbound Provisioning Manager —> LDAP Server
Network Time Protocol (NTP)	UDP Port 123	Outbound Provisioning Manager —> NTP Server

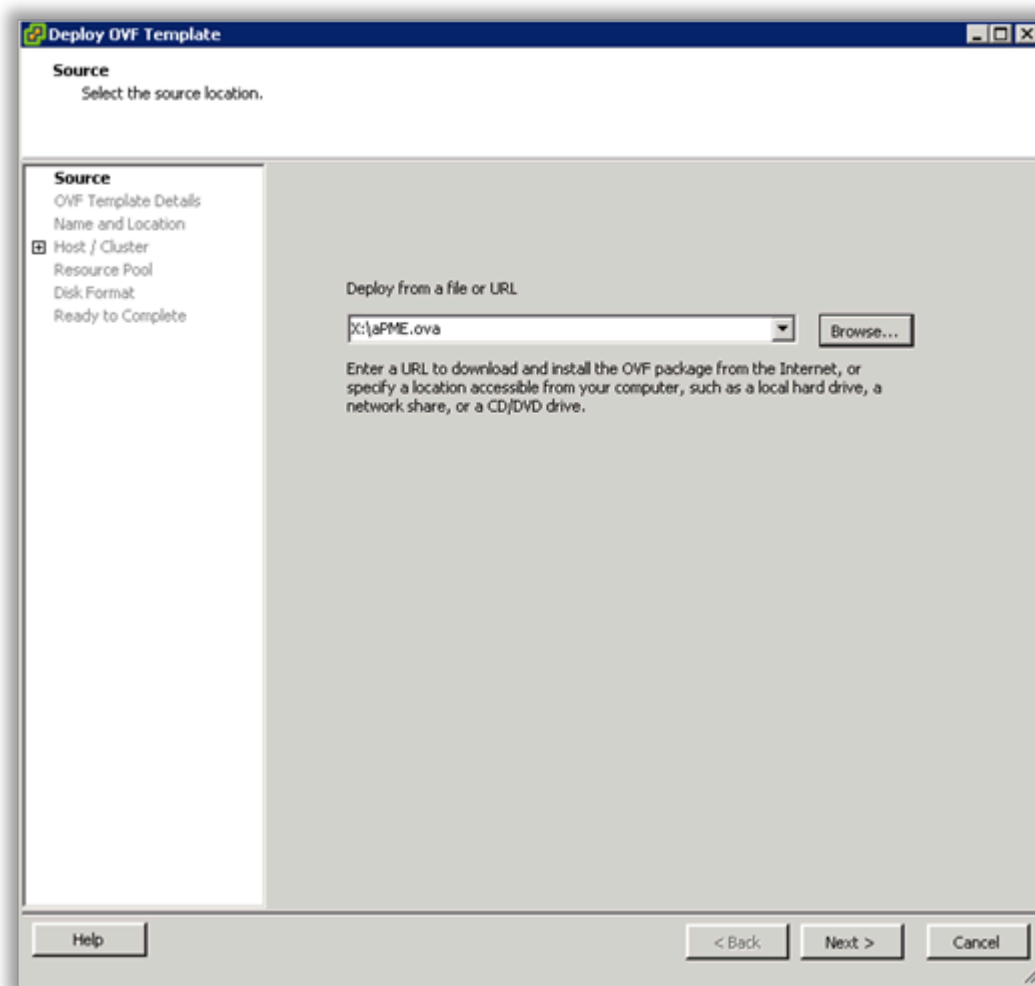
2. Virtual Appliance Deployment

Akkadian Site Builder is deployed as a virtual appliance on VMware ESXi versions 5.x and above. The steps below will help guide you through the process of deploying the virtual appliance; however, you should understand VMware or contact your VMware administrator for assistance.

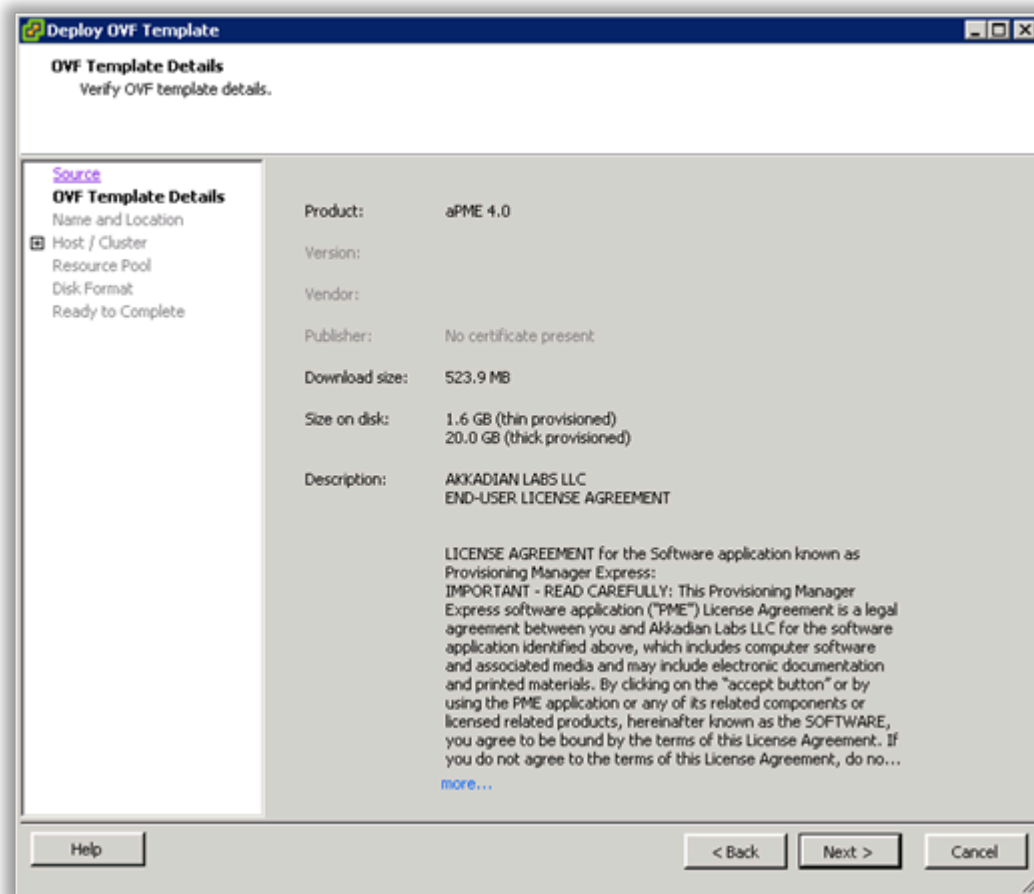
1. Download the latest akkadian Site Builder OVA to a location accessible by the vSphere client.
2. From the vSphere client select **Deploy OVF Template** from the **File** menu.



3. Select the OVA from computer or network location and click Next to continue.



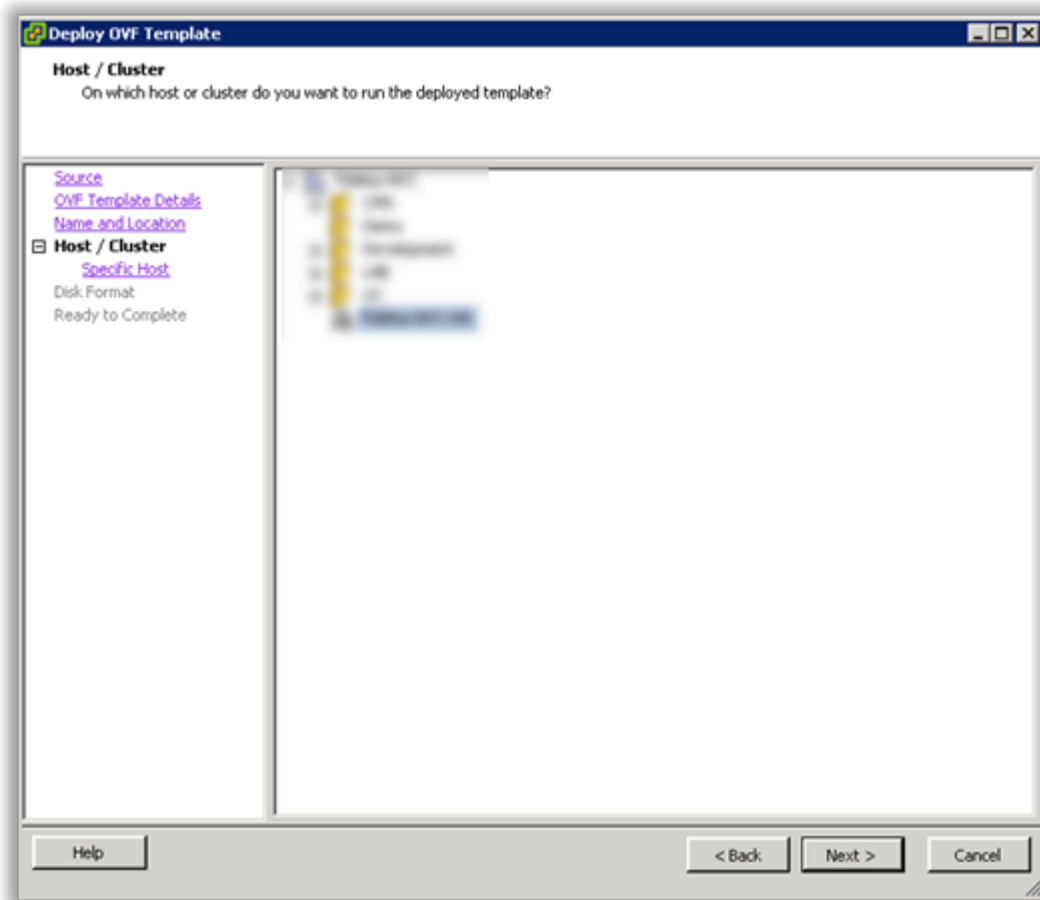
4. Review the License Agreement and click **Next** to continue.



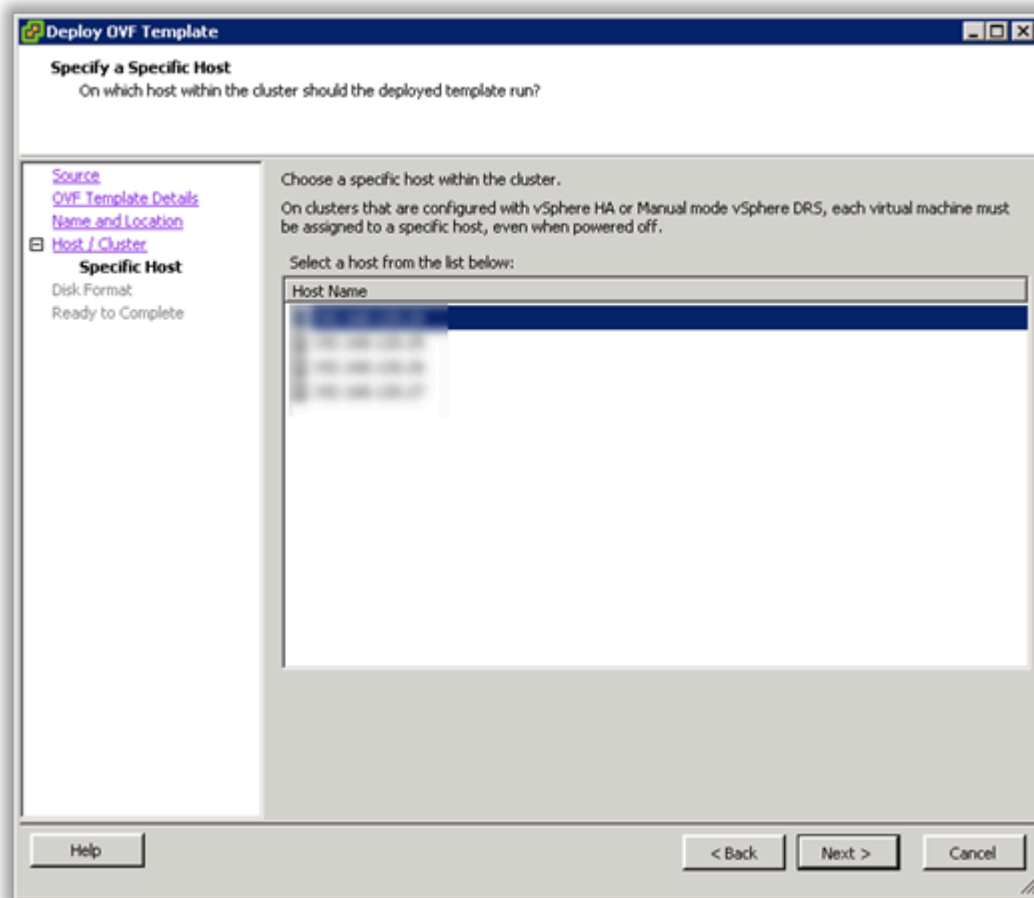
5. Specify the name and location for the VMware machine and click Next to continue.

The screenshot shows a Windows-style dialog box titled "Deploy OVF Template". The main heading is "Name and Location" with the instruction "Specify a name and location for the deployed template". On the left is a navigation pane with links: "Source", "OVF Template Details", "Name and Location" (which is selected and highlighted with a square icon), "Host / Cluster", "Resource Pool", "Disk Format", and "Ready to Complete". The main area contains a "Name:" label followed by a text input field containing "aPME 4.0". Below this is a note: "The name can contain up to 80 characters and it must be unique within the inventory folder." Below that is an "Inventory Location:" label followed by a large, empty text area. At the bottom of the dialog are four buttons: "Help", "< Back", "Next >", and "Cancel".

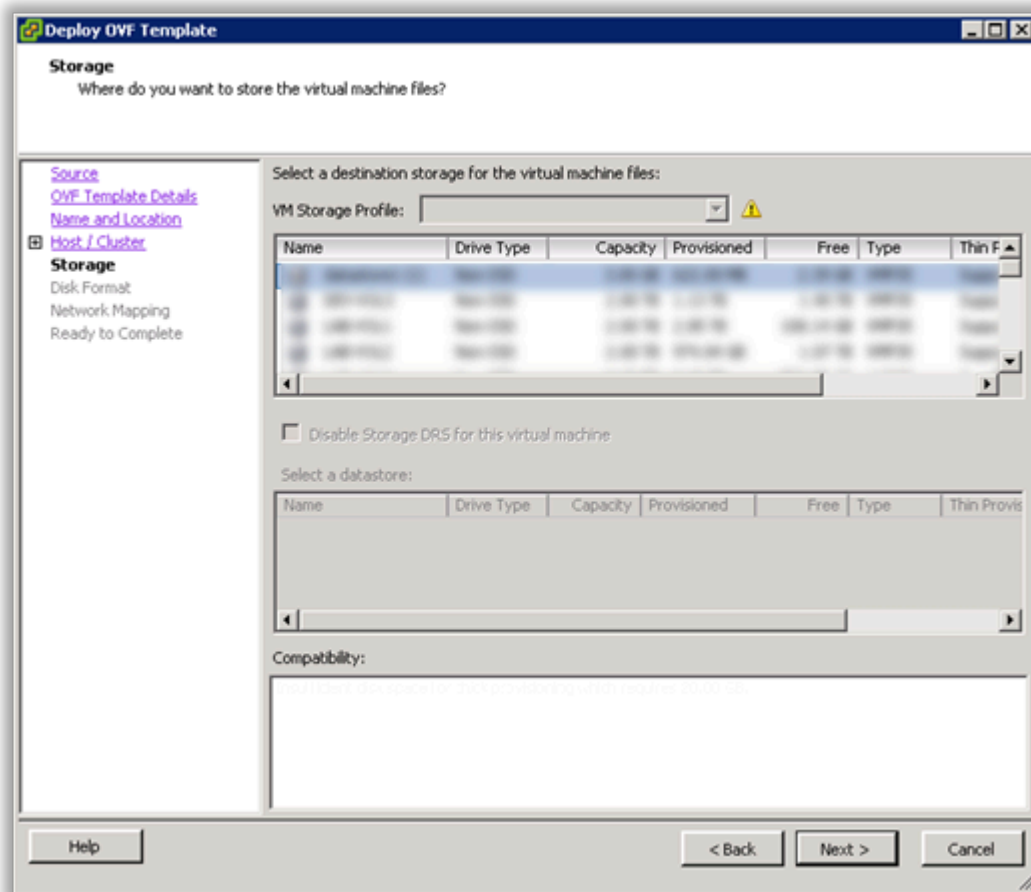
6. Specify the VMware Host / Cluster and click **Next** to continue.



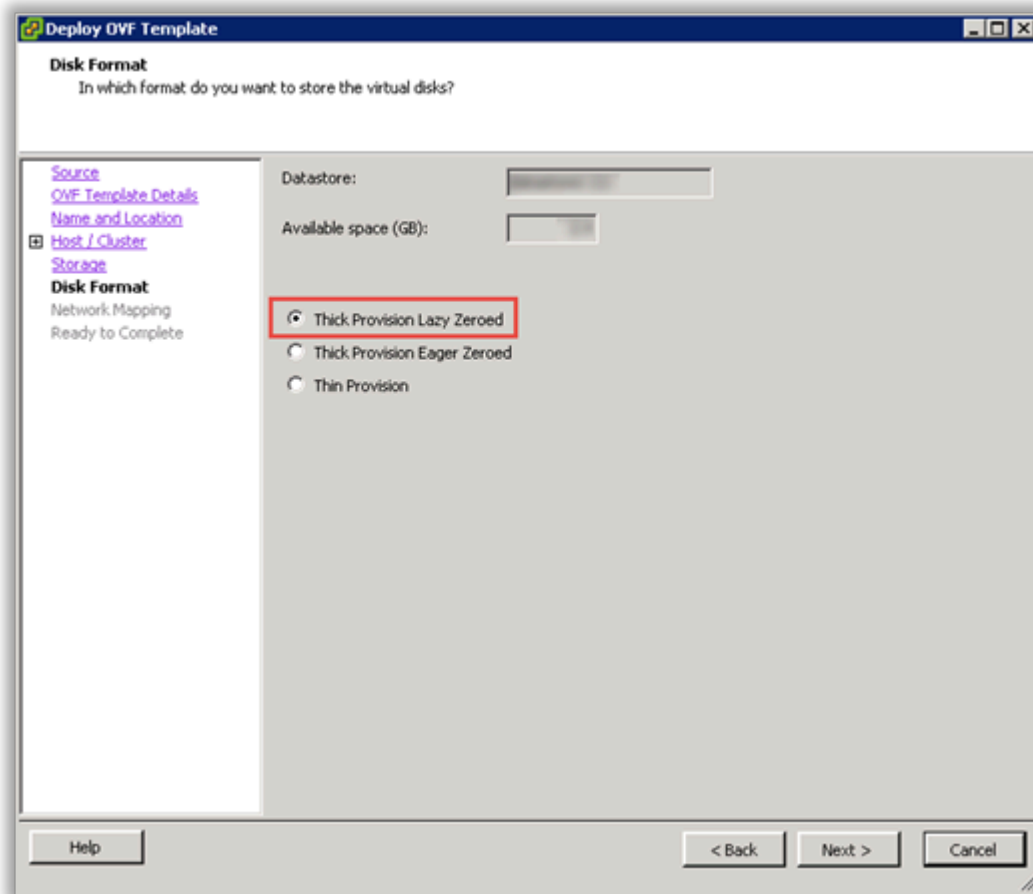
7. Specify a host within the cluster and click Next to continue.



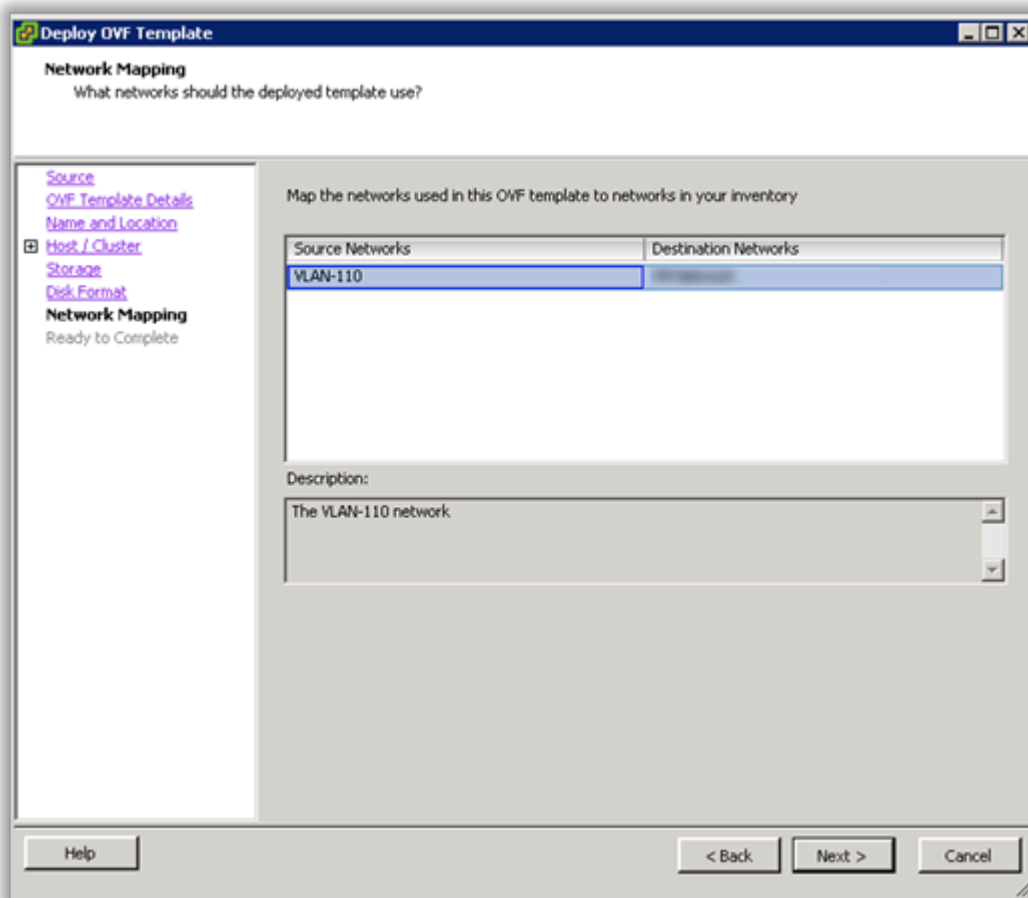
8. Specify the storage location for the virtual machine and click Next to continue.



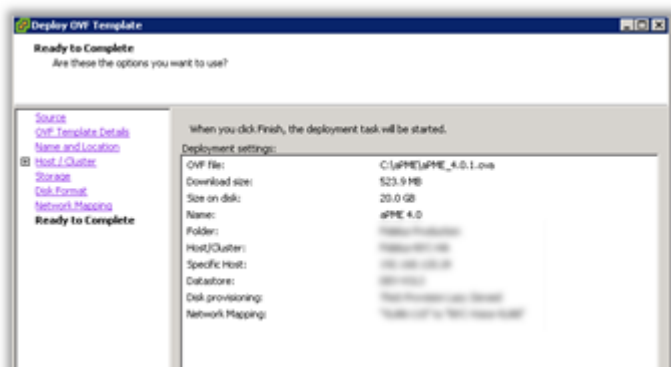
9. Select Thick Provision Lazy Zeroed and click Next to continue.



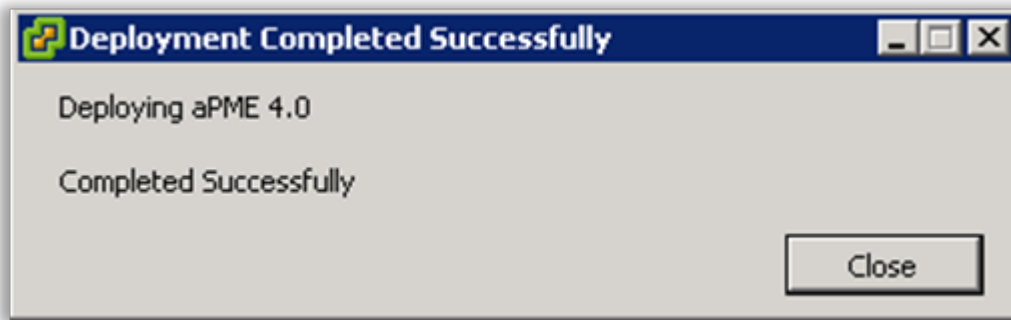
10. Select the Destination Network for the virtual machine and click Next to continue.



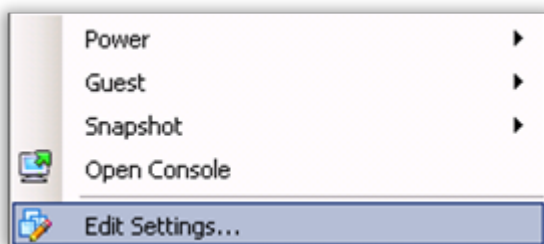
11. Verify the virtual machine settings. The initial OVA deploys with 2 vCPU and 8GB Memory. Depending on your system requirements, you may need to adjust the virtual CPU and Memory settings. Please refer to the [virtual machine requirements](#) to determine the appropriate settings for your environment.



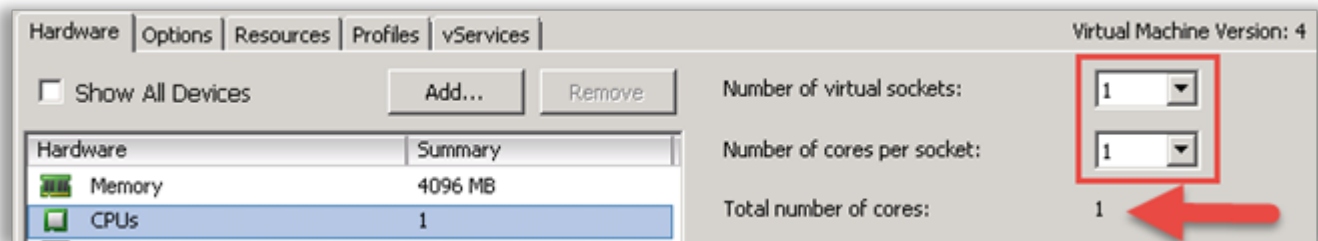
12. Click OK to complete the deployment.



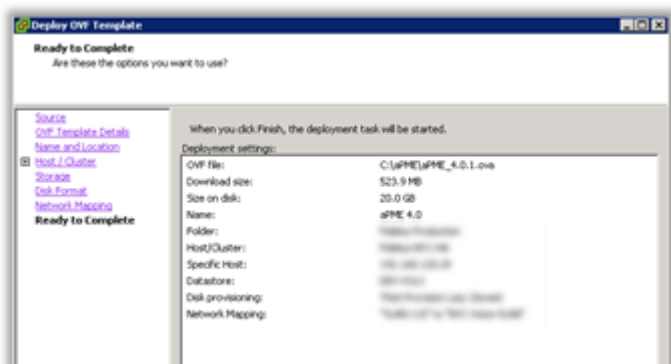
13. To adjust the virtual machine CPU and Memory, locate the newly deployed virtual machine in vCenter, right click on the virtual machine and select Edit Settings.



14. On the Hardware tab, select CPU and adjust the setting to provide the required number of cores for your environment.



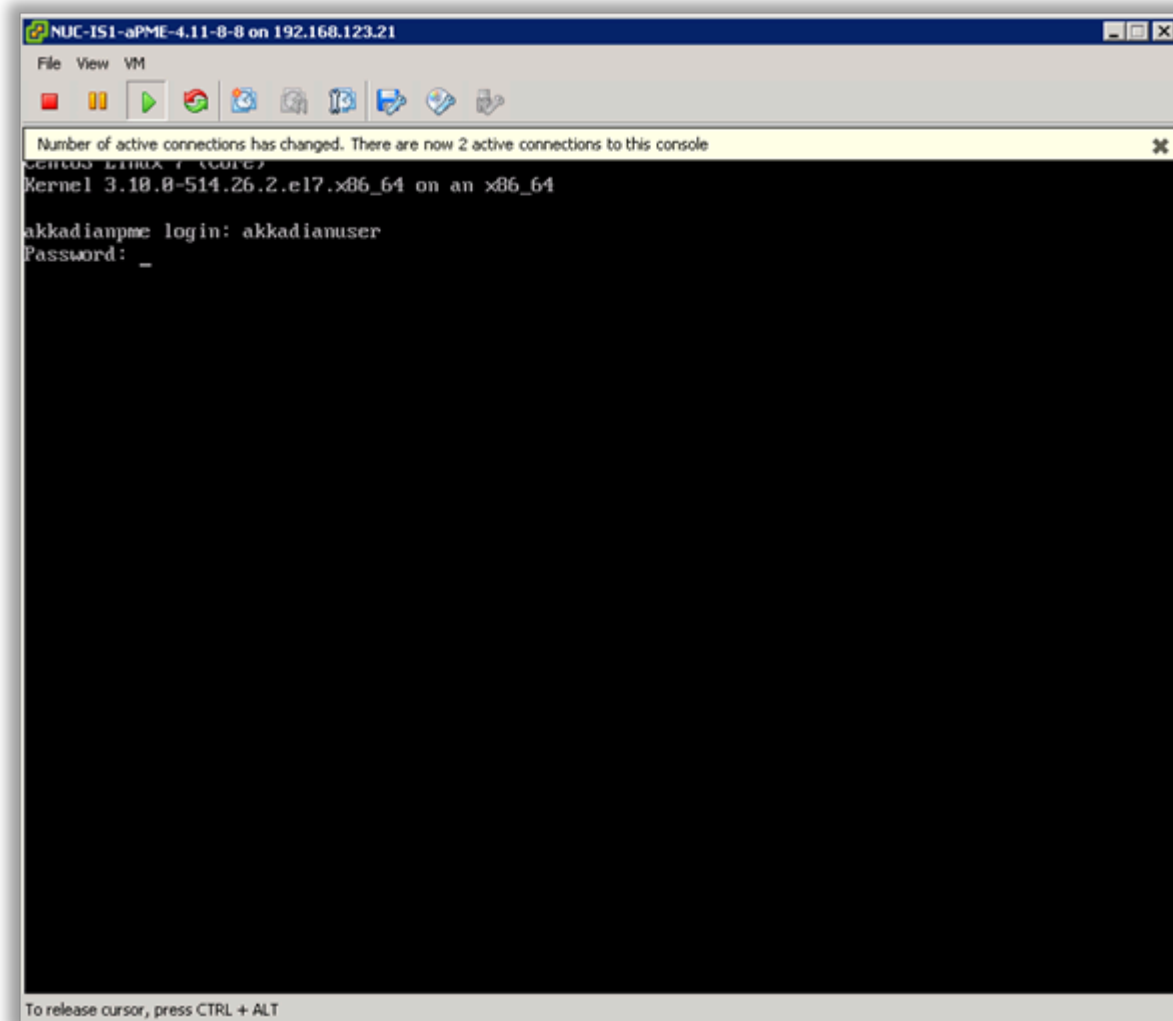
15. After adjusting the CPU, click on Memory and adjust the settings to provide the required resources for your environment. When completed, click OK to commit the changes.



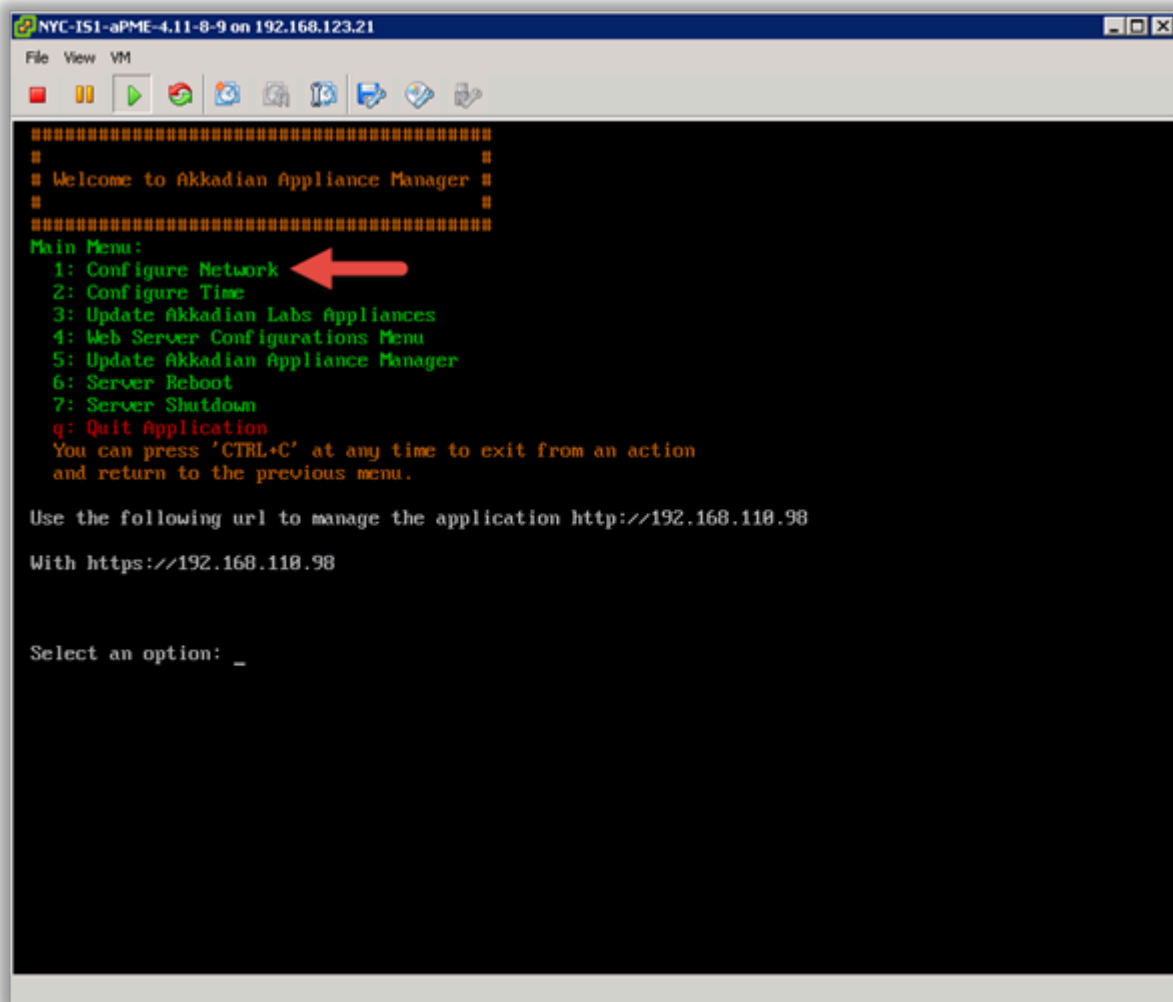
16. Power on the virtual machine and proceed.
17. Locate the virtual machine in vSphere and open a console.
18. When the server boot process is complete, the system will arrive at a login prompt. Login using:

Username – **akkadianuser**

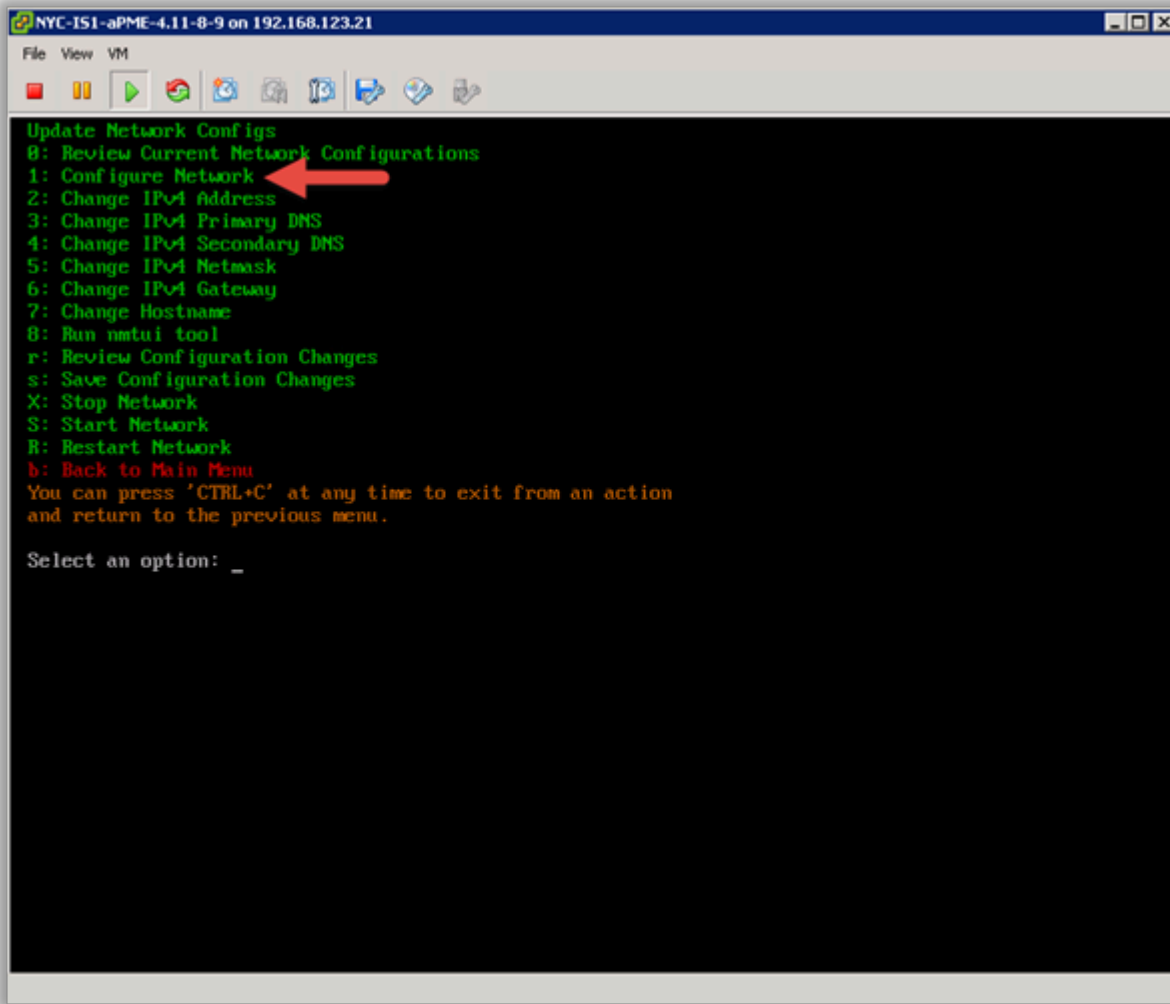
Password – **akkadianpassword**



19. From the Akkadian Appliance Manager main menu, select option 1 to Configure Network.



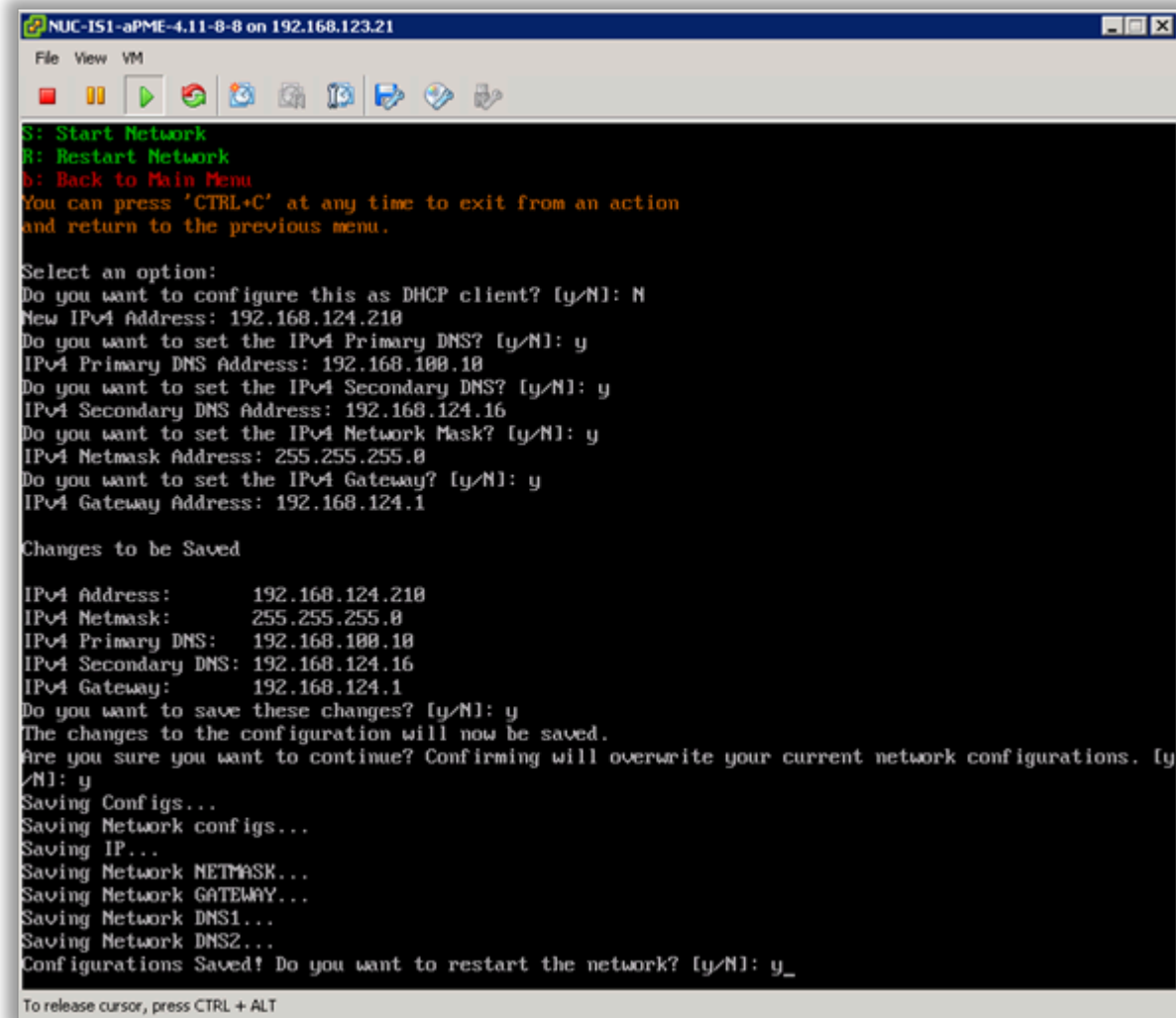
20. Select option 1 to configure the network setting.



21. Select option 0 ("ens160") from the network interface menu.

```
Select an option:
0.ens160
b. Back to Main Menu
Please select a network interface to configure: _
```

22. Follow the prompt to configure the network settings for your environment.

A screenshot of a terminal window titled "NUC-151-aPME-4.11-8-8 on 192.168.123.21". The window has a menu bar with "File", "View", and "VM". Below the menu bar is a toolbar with various icons. The terminal displays a network configuration menu with options: "S: Start Network", "R: Restart Network", and "N: Back to Main Menu". It also includes instructions: "You can press 'CTRL+C' at any time to exit from an action and return to the previous menu." The user selects option 'S', leading to a series of prompts: "Do you want to configure this as DHCP client? [y/N]: N", "New IPv4 Address: 192.168.124.218", "Do you want to set the IPv4 Primary DNS? [y/N]: y", "IPv4 Primary DNS Address: 192.168.100.10", "Do you want to set the IPv4 Secondary DNS? [y/N]: y", "IPv4 Secondary DNS Address: 192.168.124.16", "Do you want to set the IPv4 Network Mask? [y/N]: y", "IPv4 Netmask Address: 255.255.255.0", "Do you want to set the IPv4 Gateway? [y/N]: y", and "IPv4 Gateway Address: 192.168.124.1". This is followed by a summary of "Changes to be Saved" and a confirmation prompt: "Do you want to save these changes? [y/N]: y". The user confirms, and the system proceeds to save the configurations: "The changes to the configuration will now be saved.", "Are you sure you want to continue? Confirming will overwrite your current network configurations. [y/N]: y", "Saving Configs...", "Saving Network configs...", "Saving IP...", "Saving Network NETMASK...", "Saving Network GATEWAY...", "Saving Network DNS1...", "Saving Network DNS2...", and "Configurations Saved! Do you want to restart the network? [y/N]: y_". At the bottom, it says "To release cursor, press CTRL + ALT".

```
NUC-151-aPME-4.11-8-8 on 192.168.123.21
File View VM

S: Start Network
R: Restart Network
N: Back to Main Menu
You can press 'CTRL+C' at any time to exit from an action
and return to the previous menu.

Select an option:
Do you want to configure this as DHCP client? [y/N]: N
New IPv4 Address: 192.168.124.218
Do you want to set the IPv4 Primary DNS? [y/N]: y
IPv4 Primary DNS Address: 192.168.100.10
Do you want to set the IPv4 Secondary DNS? [y/N]: y
IPv4 Secondary DNS Address: 192.168.124.16
Do you want to set the IPv4 Network Mask? [y/N]: y
IPv4 Netmask Address: 255.255.255.0
Do you want to set the IPv4 Gateway? [y/N]: y
IPv4 Gateway Address: 192.168.124.1

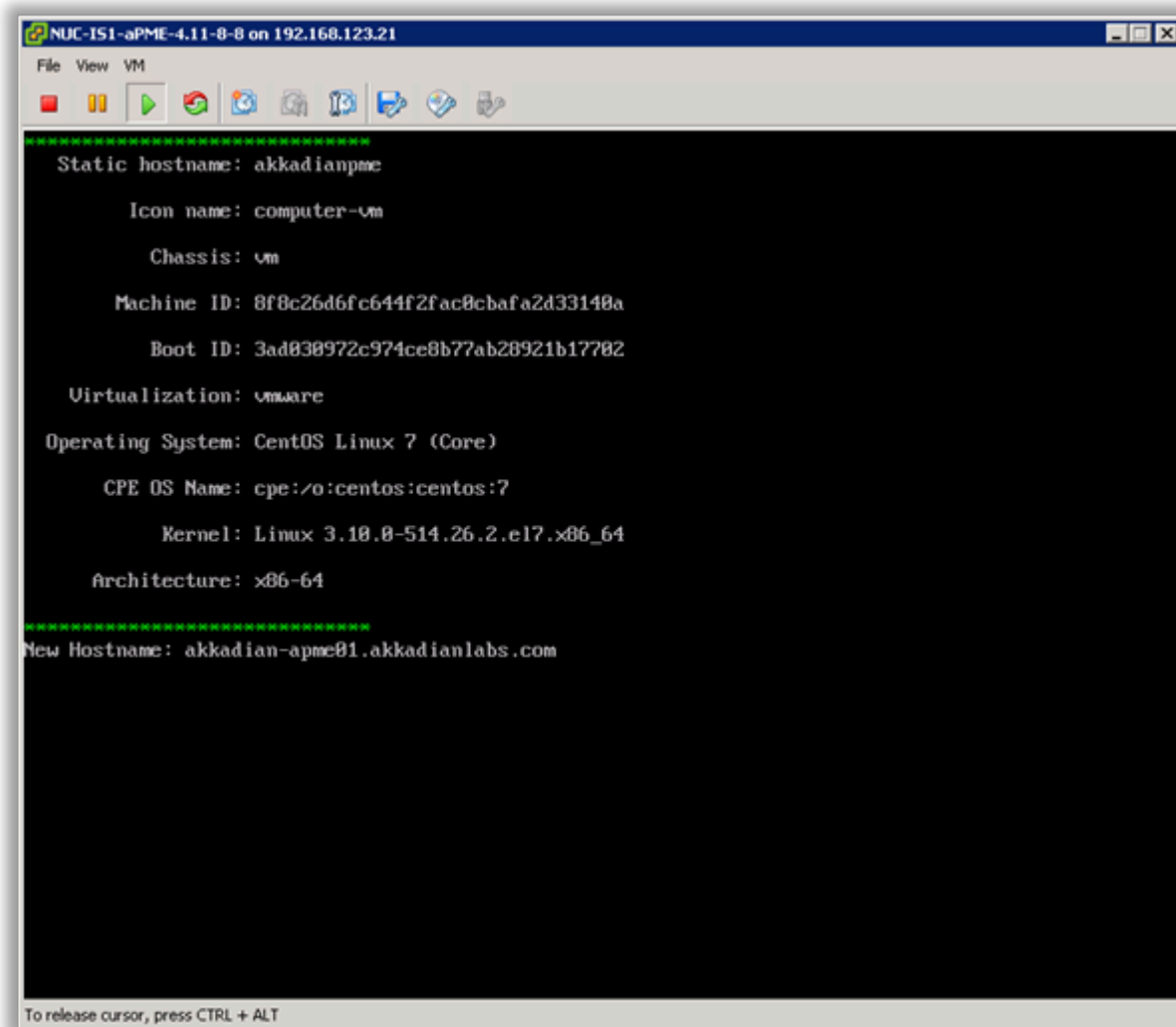
Changes to be Saved

IPv4 Address:      192.168.124.218
IPv4 Netmask:      255.255.255.0
IPv4 Primary DNS:  192.168.100.10
IPv4 Secondary DNS: 192.168.124.16
IPv4 Gateway:      192.168.124.1
Do you want to save these changes? [y/N]: y
The changes to the configuration will now be saved.
Are you sure you want to continue? Confirming will overwrite your current network configurations. [y/N]: y
Saving Configs...
Saving Network configs...
Saving IP...
Saving Network NETMASK...
Saving Network GATEWAY...
Saving Network DNS1...
Saving Network DNS2...
Configurations Saved! Do you want to restart the network? [y/N]: y_

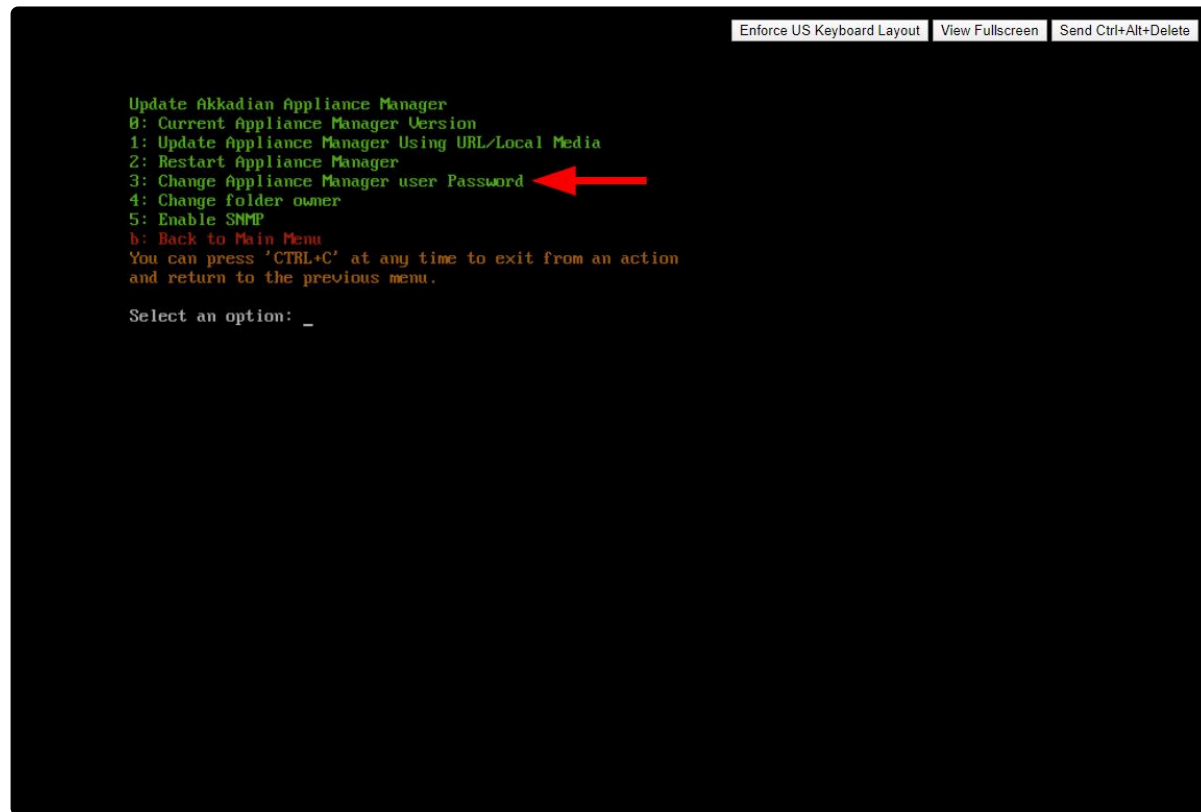
To release cursor, press CTRL + ALT
```

23. Select option 7 from the network configuration menu to configure the hostname. It is recommended the hostname is entered using the fully qualified domain name.

Example – servername.yourdomain.com



24. Optionally you may configure the server time by selecting option 2 from the configure network menu.
25. It is recommended you change the default Akkadian Appliance Manager password by selecting option 5 ("Appliance Manager Settings") from the main menu and then selecting "3" ("Change Appliance Manager user Password").

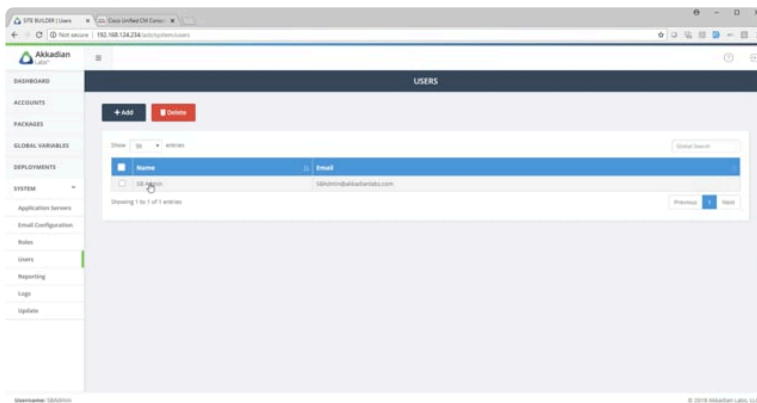


26. When all configurations are complete, select “s” from the network configuration menu to save the configuration and restart the network.
27. From the main menu, select Reboot Server to finalize the configuration.
28. When the system returns to the login prompt, the Akkadian Site Builder virtual appliance deployment is complete and can be accessed by going to <https://{Server IP or Name}/asb>.

3. Initial Configuration

After completing the installation, Akkadian Site Builder requires some basic configuration before you can begin provisioning. Written documentation during the beta will be limited and instead will be provided using videos.

Please view the following video to learn how to get started with the Akkadian Site Builder.



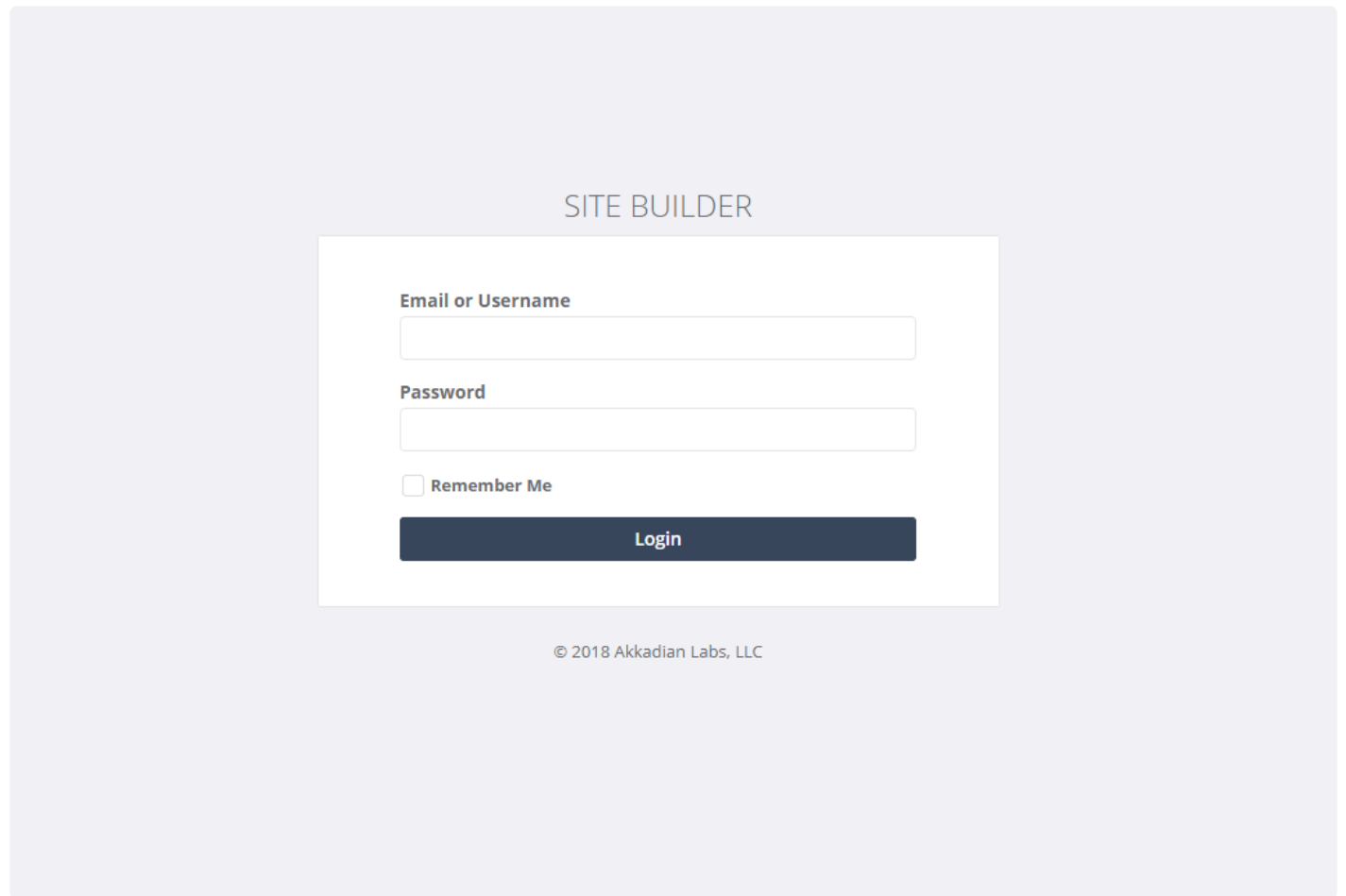
<https://player.vimeo.com/video/287356714>

3.1 Logging in for the First Time

1. In a browser, navigate to `HTTPS://{Server IP or NAME}/asb`
2. Log in using the default credentials:

Username – SBAAdmin

Password – SBAAdmin123 (Case sensitive)



3.1.1 Changing the Default Password


It is highly recommended that you change the default SBAdmin password and set a valid email address for password recovery.

1. Click on "System" to expand the menu. Then click on "Users:."

The screenshot displays the Akkadian Site Builder Admin interface. On the left sidebar, the 'SYSTEM' menu is expanded, and the 'Users' option is highlighted with a red arrow. The main content area is titled 'USERS'. At the top of this area are '+ Add' and 'Delete' buttons. Below these is a table with columns 'Name' and 'Email'. The table contains one entry: 'SB Admin' with email 'SBAdmin@akkadianlabs.com'. A red arrow points to the 'SB Admin' name. Above the table is a 'Show 50 entries' dropdown and a 'Global Search' input field. Below the table, it says 'Showing 1 to 1 of 1 entries' and has pagination controls: 'Previous', '1', and 'Next'.

1. Click on the SB Admin user to

! Please ensure the SBAdmin email address is valid for a successful password recovery!



DASHBOARD

ACCOUNTS

PACKAGES

GLOBAL VARIABLES

DEPLOYMENTS

SYSTEM

Application Servers

Email Configuration

Roles

Users

Reporting

Logs

Update

USERS > Edit User

First Name

SB

×

Last Name

Admin

×

Email

SBAdmin@akkadianlabs.com

←

×

Username

SBAdmin

×

Password

.....

←

×

Confirm Password


.....

←

×

Cancel

Save



© 2018 Akkadian Labs, LLC

4. System Configuration

4.1 Application Servers

Application Servers are the targets for Site Builder Package deployment. Akkadian Site Builder currently supports the following Cisco UC applications:

- Cisco Unified Communications Manager
- Cisco Unity Connection

This section will guide you through the process of configuring applications servers in Site Builder.

4.1.1 Cisco Unified Communication Manager

Akkadian Site Builder integrates into a CUCM cluster using the AXL Web Service, which is typically running on the Publisher node.

This section will guide you through the process of preparing CUCM for integration and configuring CUCM as an Application Server in Site Builder.

4.1.1.1 Preparing CUCM

Two items are required on Cisco Unified Communications Manager to allow access via the AXL API:

1. The Cisco AXL Web Service must be activated and started
2. An Application user with with required privileges

The Cisco AXL Web Service is disabled by default on some versions of Cisco Unified Communications Manager. The service must be activated to enable AXL API access.

To activate the AXL Web Service:

1. Browse to the CUCM **Serviceability** page on <https://ccmservice>
2. **Tools > Service Activation**
3. Select the Publisher node
4. Scroll down to **Database and Admin Services**
5. Check the box for **Cisco AXL Web Service** and click Save

Database and Admin Services		
	Service Name	Activation Status
<input checked="" type="checkbox"/>	Cisco AXL Web Service	Activated

To create CUCM Application User:

1. From the Cisco Unified Communications Manager Administration Web page, select Application User from the User Management menu, and then click Add New.
2. In the User ID field, enter a name for the account.
3. In the Password and Confirm Password fields, type a password for the new user and then click Save.
4. Navigate down the page to Permissions Information.
5. Click Add to Access Control Group and then click Find.
6. Select the following Groups:

- **Standard TabSync User**
- Click **Add Selected**
- Click **Save**

Permissions Information

Groups

Standard CCM Server Monitoring
Standard EM Authentication Proxy Rights
Standard TabSync User

Add to Access Control Group
Remove from Access Control Group

Roles

Standard AXL API Access
Standard CCM Admin Users
Standard CCMADMIN Read Only
Standard EM Authentication Proxy Rights
Standard SERVICEABILITY

4.1.1.2 CUCM Integration

To add a Cisco Unified Communications Manager Application Server:

1. Select **Application Servers** from the **System** menu
2. On the menu, click **Add**
3. A drop-down list will appear below the **Add** button, select **Application server**
4. In the Application Server Type drop-down menu, choose **CUCM**
5. Complete the remaining required fields
6. Click **Save**
7. Repeat this process for additional CUCM integrations

Application Servers > **New Application Server**

The screenshot shows a form titled "New Application Server" within the "Application Servers" section. The form contains the following fields and controls:

- Application Server Type***: A dropdown menu with "CUCM" selected.
- Application Server Name***: A text input field with a clear (X) button.
- Application Server Url***: A text input field containing "0.0.0.0" with a clear (X) button. Below the field, it says "version: unverified".
- Username***: A text input field with a clear (X) button.
- Password***: A text input field with a clear (X) button.
- Use Cloud Connector**: A checkbox that is currently unchecked.
- At the bottom right, there are two buttons: "Cancel" and "Save".

4.1.2 Cisco Unity Connection

Akkadian Site Builder integrates into a Unity Connection cluster using Representational State Transfer (REST) application programming interfaces (APIs) that provide provisioning access.

This section will guide you through the process of preparing Unity Connection for integration and configuring Unity Connection as an Application Server in Site Builder.

4.1.2.1 Preparing CUC

Akkadian Site Builder communicates with Cisco Unified Connection using the REST API. The built-in Cisco Unity Connection application administrator account can be used for access, but for security purposes a separate account should be created.

To configure a new user:

1. From the Cisco Unity Connection Web page, select **Users** from the User section, and then click **Add New**
2. In the User Type drop-down menu, select **"User Without Mailbox"**
3. In the Based-on Template drop-down menu, select **"administratortemplate"**

4. In the Alias field, type a username (Example – SBREST) and click **Save**
5. From the Edit Menu select Password Settings and uncheck “**User Must Change at Next Sign-In**” and click **Save**
6. From the **Edit Menu** select **Change Password**.
7. In the **Password** and **Confirm Password** fields, type a password for the user and click **Save**.
8. From the Edit Menu select Roles.
9. Verify the user has the “**System Administrator**” under **Assigned Roles**



The default CUC authentication rule expires passwords in 120 days. For service accounts, we suggest password are set not to expire.

Edit Roles

User Edit Refresh Help

Save

Roles

Assigned Roles System Administrator

Available Roles

- Audio Text Administrator
- Audit Administrator
- Greeting Administrator
- Help Desk Administrator
- Mailbox Access Delegate Account

Save

4.1.2.2 CUC Integration

To add a Cisco Unity Connection Application Server:

1. Select **Application Servers** from the **System** menu
2. On the menu, click **Add**
3. A drop-down list will appear below the **Add** button, select **Application server**
4. In the Application Server Type drop-down menu, choose **CUC**
5. Complete the remaining required fields
6. Click **Save**
7. Repeat this process for additional CUC integrations

Application Servers > **New Application Server**

Application Server Type* CUC

Application Server Name*

Application Server Url* 0.0.0.0
version: unverified

Username*

Password*

Cancel Save

4.2 Service Groups

Service Groups group application servers into a logical container for provisioning. A Service Group could contain a CUCM application server by itself, a CUC application server by itself or both. Once created, Service Groups cannot be modified or deleted as they are tied to the license.

To add a Service Group:

1. Select **Service Groups** from the **System** menu
2. On the menu, click **Add**
3. A drop-down list will appear below the **Add** button, select **Service Group**
4. Enter the Service Group Name
5. At least one application server type must be selected
 - a. If applicable, select a CUCM application server
 - b. If applicable, select a Unity Connection application server
6. Click **Save**
7. Repeat this process for additional Service Groups

Service Groups > **New Service Group**

Service Group Name*

✕

CUCM Server Name

Select Type of CUCM Server

▼

CUC Server Name

Select Type of Unity Server

▼

⌂ Cancel

Save

4.3 Email Configuration

Email configuration is optional, but is required for several features, such as notifications and password recovery.

To configure email:

1. Select **Email Configuration** from the **System** menu
2. Configure the required fields to connect to your email server
3. Click **Save**

The screenshot shows the Akkadian Site Builder Admin interface. On the left is a sidebar menu with options: DASHBOARD, PACKAGES, GLOBAL VARIABLES, DEPLOYMENTS, SYSTEM (expanded), Application Servers, Service Groups, Email Configuration (highlighted), Ldap Agreements, FTP Configuration, Roles, Users, Audit Trail, Logs, Update, Backup & Restore, Branding, Licensing, and Security Certificate. The main content area is titled 'Email Configuration' and contains a form with the following fields:

- Host* (text input)
- Port* (text input)
- Username (text input)
- Password (text input)
- Encryption (dropdown menu, currently set to 'None')
- From Name (text input, currently set to 'Site Builder')
- From Address (text input, currently set to 'no-reply@no-reply.com')

At the bottom of the form is a 'Save' button.

4.4 LDAP Agreements

LDAP configuration is optional, but is required for LDAP authentication.

Akkadian Site Builder supports creating multiple LDAP agreements in order to support multiple domains.

1. Select **LDAP Agreements** from the **System** menu
2. Click **Add** to create a new agreement
3. Enter the information for your LDAP configuration

Field	Description
LDAP Config Name	Enter a name to identify this specific LDAP configuration
Base	Enter the LDAP search base
Server	The LDAP server IP address or DNS name
Port*	Enter the LDAP server port number
Username	Enter the LDAP Username used to authenticate to the LDAP server
Password	Enter the LDAP Password used to authenticate to the LDAP server
Username Bind Attribute	Enter LDAP Attribute to bind to Username during authentication

✿ Akkadian Site Builder supports connecting to Active Directory on ports 389 and 3268.

4. When complete, click **Save**

Ldap-Agreements > New Ldap Agreement

LDAP Config Name *	<input type="text"/>	✕
Base *	<input type="text"/>	✕
Server *	<input type="text"/>	✕
Port *	<input type="text"/>	✕
Username *	<input type="text"/>	✕
Password *	<input type="password"/>	✕
Username Bind Attribute *	<input type="text"/>	✕
<div><button>⌂ Cancel</button><button>💾 Save</button></div>		

4.5 FTP Configuration

FTP configuration is optional, but is required for several features, such automatic backup and log archiving.

To configure FTP:

1. Select **FTP Configuration** from the **System** menu
2. On the menu, click **Add**
3. Configure the required fields to connect to your ftp server

4. Click **Save**
5. Repeat the process to add additional FTP locations

The screenshot displays the Akkadian Labs Admin Guide interface. On the left is a sidebar menu with the following items: DASHBOARD, PACKAGES, GLOBAL VARIABLES, DEPLOYMENTS, SYSTEM (expanded), Application Servers, Service Groups, Email Configuration, Ldap Agreements, FTP Configuration (highlighted), Roles, Users, Audit Trail, Logs, Update, Backup & Restore, and Branding. The main content area is titled 'FTP Configurations > New FTP Configuration'. It contains a form with the following fields: Name* (text input), Protocol (dropdown menu set to FTP), SSL (dropdown menu set to Yes), Passive (dropdown menu set to Yes), Hostname* (text input), Port* (text input set to 21), Username* (text input), Password* (text input), Default Path (text input), and Timeout* (text input set to 10). At the bottom of the form are two buttons: 'Cancel' and 'Save'.

4.6 Roles

Roles are used to provide users access to features by using routes. Each role can contain multiple routes.

The system contains four default roles:

Role	Description
Admin	Access to System routes only
Creator	Access to Packages and Global Variables
Deployer	Access to Deployments only
Full Access	Access to all routes

The default roles can be modified or deleted or additional roles may be created.

To add additional roles:

1. Select **Roles** from the **System** menu
2. On the menu, click **Add**
3. Configure the role name
4. Optionally provide a description for the role
5. Add one or more routes to the role
6. Click **Save**
7. Repeat the process to add additional roles

The screenshot displays the Akkadian Site Builder Admin interface. On the left is a sidebar with a navigation menu including: DASHBOARD, PACKAGES, GLOBAL VARIABLES, DEPLOYMENTS, SYSTEM (expanded), Application Servers, Service Groups, Email Configuration, FTP Configuration, Roles (highlighted), Users, Audit Trail, and Logs. The main content area is titled 'ROLES' and features a '+ Add' button and a 'Delete' button. Below these is a table with columns for Name and Description. The table lists four roles: Admin, Creator, Deployer, and Full Access. At the bottom of the table area, it says 'Showing 1 to 4 of 4 entries' and includes 'Previous', '1', and 'Next' pagination links. A copyright notice '© 2018 Akkadian Labs, LLC' is at the bottom right.

	Name	Description
<input type="checkbox"/>	Admin	Access to System routes only
<input type="checkbox"/>	Creator	Access to Packages and Global Variables
<input type="checkbox"/>	Deployer	Access to Deployments only
<input type="checkbox"/>	Full Access	Access to all routes

4.7 Users

Site builder supports adding one or more users depending on the license. Users can be assigned one or more roles.

The system has one built-in user SBAdmin.

✿ Before creating LDAP authenticated users, an **LDAP Agreement** must be configured.

To add additional users:

1. Select **Users** from the **System** menu
2. On the menu, click **Add**
3. Set the User Type drop-down menu to **Local** or **LDAP**
 - a. For Local authentication, the email address is required
 - b. For LDAP authentication, set the User Type to LDAP and select the LDAP Agreement
4. Configure the required fields
5. Add the **Role(s)** to assign permissions
6. Click **Save**
7. Repeat the process to add additional users

4.8 Audit Trail

The Audit Trail provides a list of all the user transactions that have been executed in Site Builder.

To view the Audit Trail:

1. Select **Audit Trail** from the **System** menu
2. User **Global Search** to locate a transaction

Global Search

Category	Action	Username	Status	Created	Updated
App Config	Update `manual`	SBAdmin	Success	2018-11-10 00:45:17	2018-11-10 00:45:17
App Config	Update `automatic`	SBAdmin	Success	2018-11-10 00:45:14	2018-11-10 00:45:14
App Config	Update `tbamert@akkadianlabs.com`	SBAdmin	Success	2018-11-09 20:02:46	2018-11-09 20:02:47
Application Server	Add `CUCM 11`	SBAdmin	Success	2018-11-09 19:45:49	2018-11-09 19:45:50
Role	Delete `Full Access`	SBAdmin	Success	2018-11-09 19:25:05	2018-11-09 19:25:05
Deployment	Update `Site106`	Scheduled Job	Success	2018-11-09 17:10:15	2018-11-09 17:10:32
Deployment	Update `Site106`	SBAdmin	Success	2018-11-09 17:10:13	2018-11-09 17:10:13
Deployment	Update `Site106`	SBAdmin	Success	2018-11-09 17:10:10	2018-11-09 17:10:10
Deployment	Update `Site106`	SBAdmin	Success	2018-11-09 17:10:10	2018-11-09 17:10:10
Deployment	Add `Site106`	SBAdmin	Success	2018-11-09 17:10:10	2018-11-09 17:10:10

© 2018 Akkadian Labs, LLC

4.9 Logs

Logs contained detailed information regarding all transactions in Site Builder and are critical for troubleshooting.

The Audit Trail provides a list of all the user transactions that have been executed in Site Builder.

To view logs:

1. Select **Logs** from the **System** menu
2. User Global search to locate a specific log transaction
3. Click **Download All Logs** to collect all logs from the system
4. Click **Download Current Logs** to collect the logs from the last day

The screenshot displays the Akkadian Labs Admin interface. On the left is a sidebar menu with categories: DASHBOARD, PACKAGES, GLOBAL VARIABLES, DEPLOYMENTS, and SYSTEM. The SYSTEM category is expanded, showing options like Application Servers, Service Groups, Email Configuration, FTP Configuration, Roles, Users, Audit Trail, Audit Configuration, Logs (highlighted), Update, and Backup & Restore. The main content area is titled 'LOGS - 2018-11-12'. It features two buttons: 'Download All Logs' and 'Download Current Logs'. Below these is a table with columns: Level, Context, Date, and Content. A single log entry is shown with Level 'Info', Context 'production', Date '2018-11-12 18:14:28', and Content 'Requesting Process Node for https://192.168.110.145:8443/axl/'. Above the table is a 'Show 50 entries' dropdown and a 'Global Search' input field. Below the table is a pagination bar showing 'Showing 1 to 1 of 1 entries' and 'Previous 1 Next'.

Level	Context	Date	Content
Info	production	2018-11-12 18:14:28	Requesting Process Node for https://192.168.110.145:8443/axl/

© 2018 Akkadian Labs, LLC

4.10 Update

Site Builder updates can be applied manually or automatically. By default, the system is configured for manual updates, which will download the update, but it will not be automatically applied. Automatic updates will download and automatically apply the update. In order to download the update, both the manual and automatic methods require the system to have Internet access, but updates can also be downloaded and applied manually.

To configure the system for automatic updates:

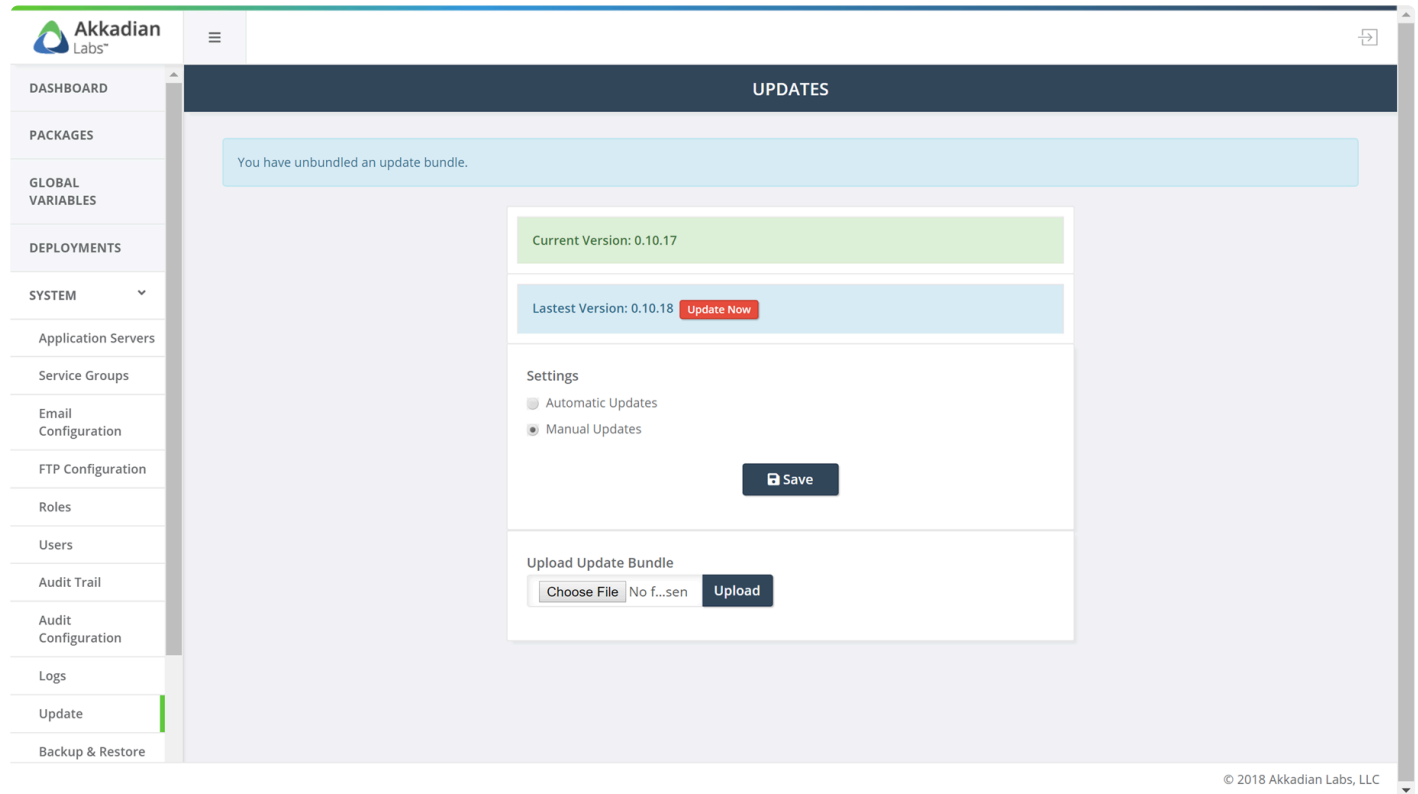
1. Log into Site Builder with Admin privileges
2. Select **Update** from the **System** menu
3. Select the **Automatic Updates** option and click **Save**

The screenshot shows the 'Update' configuration page. At the top, there are two status bars: a green one indicating 'Current Version: 0.10.19' and a blue one indicating 'Lastest Version: 0.10.19'. Below these is the 'Settings' section, which contains two radio buttons: 'Automatic Updates' (which is selected) and 'Manual Updates'. A dark blue 'Save' button with a floppy disk icon is positioned below the settings. At the bottom is the 'Upload Update Bundle' section, featuring a file selection interface with a 'Choose File' button, the text 'No file chosen', and an 'Upload' button.

To manually apply an update:

1. If necessary, download the update
2. Log into Site Builder with Admin privileges
3. Select **Update** from the **System** menu
4. In the **Upload Update Bundle** section, click **Choose File**
5. Select the update bundle
6. Click **Upload** to transfer the file to the sever

7. Once the file has uploaded, click **Update Now**



4.11 Backup & Restore

The Backup and Restore section provides the ability to:

- Perform manual backups
- Schedule backups
- Restore backups
- Manage scheduled backups

To perform a manual backup:

1. Select **Backup & Restore** from the **System** menu
2. Click the **Backup & Download** button

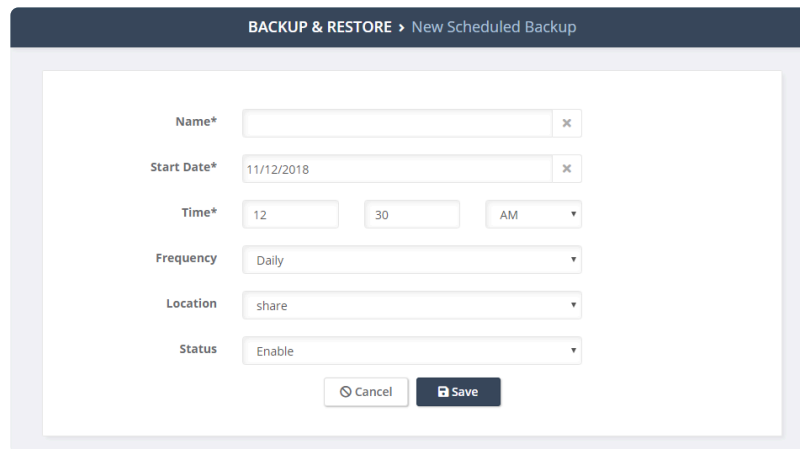


The system will be backed up and the file saved to your local computer

To schedule a backup:

✿ Please note an FTP location must be configured before configuring a scheduled backup

1. Select **Backup & Restore** from the **System** menu
2. Click the **Schedule New Backup** button
3. Complete the required fields
4. Click **Save**
5. Repeat the process to add additional scheduled backups



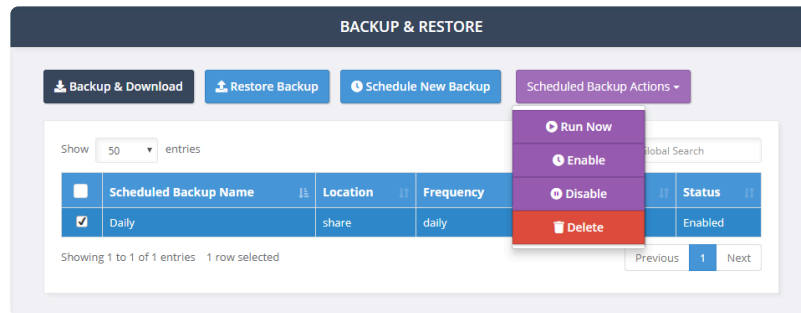
Managing scheduled backups:

✿ Please note the **Scheduled Backups Actions** button will remain disabled until you select an existing backup schedule.

1. Select **Backup & Restore** from the **System** menu
2. Select an existing backup schedule **Schedule New Backup** button

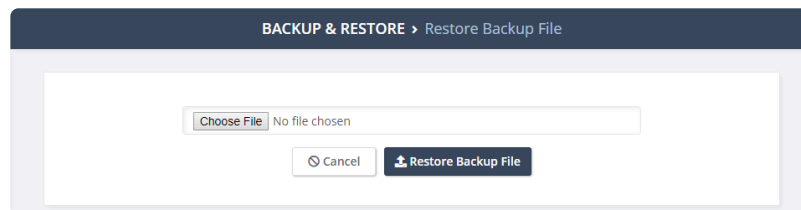
✿ Select multiple backup schedules to update more than one schedule.

1. Click the **Scheduled Backups Actions**
2. Choose an action (Run Now, Enable, Disable or Delete)



To restore from backup:

1. Select **Backup & Restore** from the **System** menu
2. Click the **Restore** button
3. Click **Choose File** and select the appropriate backup file
4. Click ***Restore Backup File ***



4.12 Branding

Branding can be used to update Site Builder with your company name, logo and colors.

To enable branding:

1. Select **Branding** from the **System** menu
2. Configure the required fields
3. Click **Save**

Branding > **Edit Branding**

Company Name

✕

Color

✕

Image

Choose File

No file chosen

✕

Requirements: Image (PNG, JPEG or GIF) must be less than 200KB and have dimensions less than 300px by 300px.

 Save

4.13 Security Certificates

Site Builder is deployed with a self-signed SSL certificate, but optionally can be configured with a certificate from a private or public certificate authority.

Site Builder supports SSL certificates generated using its own private key or using an external private key.

Method 1 – Use Site Builder’s private key

1. Select **Security Certificate** from the **System** menu
2. Select the **Generate Certificate Signing Request** tab
3. Complete the Certificate Signing Request form



The common name must match the fully qualified domain name of the server.

1. When complete, click **Generate CSR**
2. Download the CSR file
3. On your Certificate Authority, generate a certificate using the CSR

Security Certificate

Upload SSL Certificate

Generate Certificate Signing Request

Common Name*

Country

State

City

Organization

Organization Unit

Email

☐ Subject Alternative Names

CREATING A CSR WILL GENERATE A NEW PRIVATE KEY AND A NEW SELF-SIGNED SSL CERTIFICATE. THE CSR IS GENERATED USING THE NEW PRIVATE KEY.

Generate CSR

1. Select the **Upload SSL Certificate** tab
2. Click **Choose File** to the right of **SSL Certificate** and upload the certificate generate by your certificate authority

* Uploading a Private Key is not necessary as the certificate was generated using Provisioning Manager's private key

3. If the certificate was generated using a Public Certificate Authority, click **Upload** to complete the process
4. If the certificate was generated using an Internal Certificate Authority, select the **Use Internal Certificate Authority (CA)** check box
5. Upload the Root Certificate from your Internal CA
6. Click **Upload** to complete the process

* Site Builder must be restarted for the changes to take affect. This can be done using the Appliance Manager CLI or using VMWare tools.

Method 2 – Use an external private key

1. Select **Security Certificate** from the **System** menu
2. Select the **Generate Certificate Signing Request** tab
3. Complete the Certificate Signing Request form

! The common name must match the fully qualified domain name of the server.

1. When complete, click **Generate CSR**
2. Download the CSR file
3. On your Certificate Authority, generate a certificate using the downloaded CSR
4. Select the **Upload SSL Certificate** tab
5. Click **Choose File** to the right of **SSL Certificate** and upload the certificate generate by your certificate authority
6. Click **Choose File** to the right of **Private Key** and upload the private key from your certificate authority
7. If the certificate was generated using a Public Certificate Authority, click **Upload** to complete the process
8. If the certificate was generated using an Internal Certificate Authority, select the **Use Internal Certificate Authority (CA)** check box
9. Upload the Root Certificate from your Internal CA
10. Click **Upload** to complete the process

Security Certificate

Upload SSL Certificate

Generate Certificate Signing Request

SSL Certificate*

Choose File No file chosen

Private Key

Choose File No file chosen

Use Internal Certification Authority (CA) ☐

Upload

VIEW CERTIFICATE

NOTE: After making changes to the security certificate you will need to restart the server for the changes to take effect.

5. Global Variables

Global Variables are used to provide placeholders in template and packages. At the time of deployment, the user will be prompted to input data for each Global Variable in the package.

There are two types of Global Variables:

Default – captures provisioning data using a validated input field

List – creates drop-down list for selection at provision

To add Global Variables:

1. Select **Global Variables** from the left navigation menu
2. On the menu, click **Add**
3. Enter a global variable **Name**
4. Select the Global Variable **Type**
5. Optionally enter a global variable **Description**
6. If **List** type chosen, enter list data:
 - a. Enter a **Value** that will be used to populate this Global Variable if chosen
 - b. Enter a **Display Name**, which will act as a logical label for the value when the list is presented
7. Click **Save**

Configure the options above as described in the following table:

Field Name	Description
Global Variable Type	Default or List
Name	Enter the variable name
Description	Enter a description
Value Required (Checkbox)	By default, Global Variables are optional fields. Check Value Required to make these required fields.

Global Variables > **New Global Variable****Name *****Type *****Description****Value Required**☐

Cancel

Save

Global Variables > **New Global Variable**

Name * ✕

Type * List ▼

Description

optional

Value Required ☐

List Data

	Value	Display Name
1		
2		
3		
4		
5		
6		
7		
8		

⌛ Cancel 💾 Save

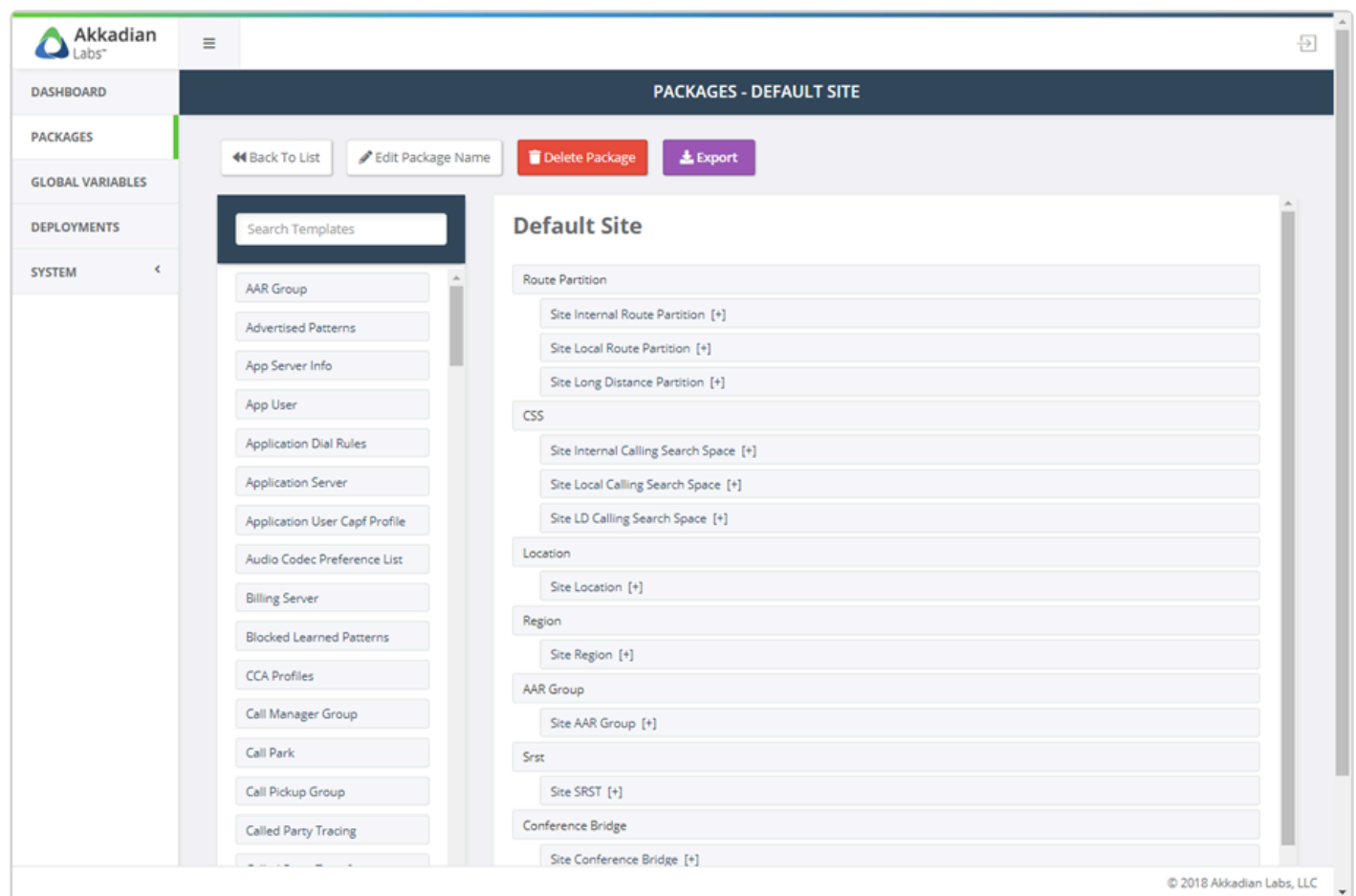
6. Packages

Packages are grouping of one more more provisioning templates. Packages can be used to deploy single item or an entire site or dial plan withing Communications Manager.

Before you begin configuring packages, it is best to spend some time planning. There are a few things you should think about before you begin the configuration process:

1. Does the package require Global Variables? If so, config the GVs first.
2. The template order matters! Creating the package in the right order makes things much easier. Site Builder does try and handle much of the logic, but determining the dependencies first makes things much easier. For example, when provisioning a Calling Search Space, each of the member Route Partitions must exist before being added. CSSs have a dependency on Partitions. Therefore, Partitions should be provisioned before CSSs.

This section will describe the process of adding, editing and deleting packages.

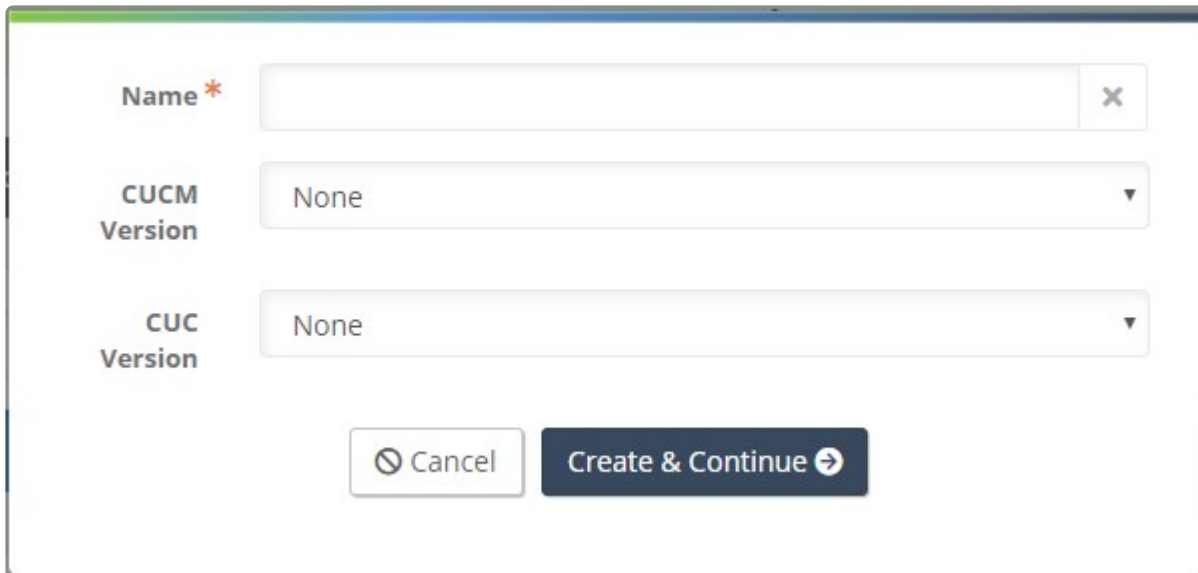


6.1 Adding Packages

Packages are required for deployment in Site Builder. Packages can be used in single or bulk deployments.

To add a Package:

1. Select **Packages** from the left navigation menu
2. Click the button, **+New**
3. From the menu that appears below the **+New** button, choose **Package**
4. Enter the Package Name, CUCM Version and/or CUC Version



* Note that packages are not backwards compatible with older Cisco Collaboration Systems Releases (CSR), but can be deployed up to 3 major version forward. For example, if a package is created for CUCM (or CUC) 10.x, it will be deploy-able on CUCM (or CUC) 10-12, but a version 12.5 package cannot be deployed on CUCM (or CUC) 11.5.

6.1.1 Adding CUCM Templates

1. Select the first Template from the list to add it to the Package

The screenshot displays the Akkadian Site Builder Admin interface. On the left is a sidebar with navigation links: DASHBOARD, PACKAGES, GLOBAL VARIABLES, DEPLOYMENTS, and SYSTEM. The main content area is titled 'Packages > Demo 11.5'. Below the title is a row of action buttons: 'Back To List', 'Rename Package', 'Export', 'Template Deployment Order', 'GV Display Order', and 'Delete Package'. The central area shows an 'Empty Package' configuration. It includes a text input field containing 'route pattern' with a dropdown arrow on the right. Below this input are two buttons: 'Add Route Pattern' and 'Add Sip Route Pattern'.

2. Configure the selected Template

- ✿ Input fields on templates can be populated with Global Variables or static text. In the example below, we will be prompted for Pattern, Description & Partition at deployment, but Digit Discard Instruction Name is statically configured to PreDot. Any data inputted must match exactly to the data in CUCM.

The screenshot shows the 'Add Route Pattern' form in the Akkadian Site Builder Admin interface. The form is located under the 'Packages > Demo 11.5 > Add Route Pattern' breadcrumb. The left sidebar contains navigation links for Dashboard, Packages, Global Variables, Deployments, and System. The main form area includes a 'Back To List' button and several action buttons: 'Rename Package', 'Export', 'Template Deployment Order', 'GV Display Order', and 'Delete Package'. The form fields are as follows:

- Template Label: Route Pattern
- Template Type: Standard
- Pre Delay: 0
- Post Delay: 0
- Pattern*: {{(Pattern)}} (indicated by a red arrow)
- Description: {{(Description)}} (indicated by an 'x' icon)
- Route Partition*: {{(Partition)}} (indicated by an 'x' icon)
- Block Enable: ☐
- Called Party Transformation Mask: (indicated by an 'x' icon)
- Calling Party Transformation Mask: (indicated by an 'x' icon)
- Use Calling Party Phone Mask*: Default (indicated by a dropdown arrow and an 'x' icon)
- Calling Party Prefix Digits: (indicated by an 'x' icon)
- Dial Plan Name: CUCM Data (indicated by an 'x' icon)
- Digit Discard Instruction Name: PreDot (indicated by a red arrow)
- Network Location*: OnNet (indicated by a dropdown arrow and an 'x' icon)
- Pattern Urgency: ☐

At the bottom of the form, there are 'Cancel' and 'Add Template' buttons. The footer of the interface shows 'Version: 2.0.30.5' and '©2020 Akkadian Labs, LLC'.

3. Click **Add Template** to add the Template to the package
4. Repeat this process to add additional Templates

6.1.2 Adding CUC Templates

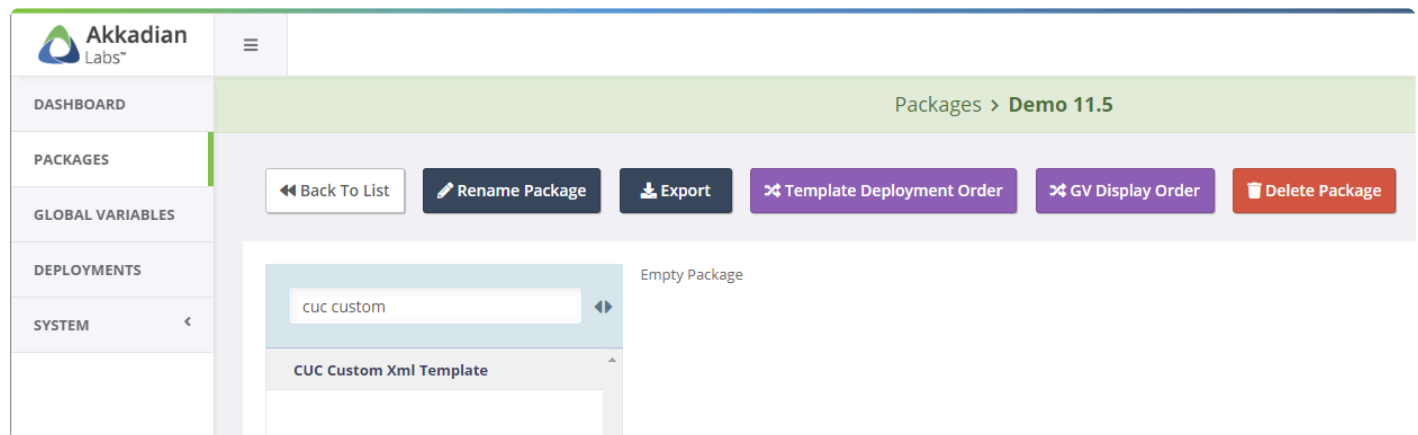
Akkadian Site Builder™ supports the provisioning and/or editing of following Unity Connection objects:

- Non-administrator Users with/without Mailboxes
- User Templates
- Call Handlers
- Directory Handlers
- Interview Handlers
- Call Routing
- Message Aging Policy
- Unified Messaging
- Dial Plan
- Basic System Settings

- Schedules
- Telephony Integrations

✿ As of this writing, there is only one type of Akkadian Site Builder™ Template for Unity Connection: **CUC Custom XML Template**.

1. Select the first Template from the list to add it to the Package



2. Configure the Template

✿ Input fields on templates can be populated with Global Variables or static text. In the example below, the value for the XML parameter, “DisplayName,” was prefixed with the contents of the highlighted Global Variable, “Customer”.

Version: 2.0.30.5

©2020 Akkadian Labs, LLC

3. Click **Add Template** to add the Template to the package
4. Repeat this process to add additional CUC Custom XML Templates

6.1.2.1 REST API

Cisco Unity Connection includes several Representational State Transfer (REST) application programming interfaces (APIs) that provide provisioning, messaging, and telephony access to Connection. These APIs provide the ability to integrate Connection features into existing enterprise-wide provisioning management systems and messaging clients. The APIs are REST interfaces that standardize operations such as add, delete, view, and modify. Akkadian Site Builder utilizes a subset of REST APIs called, Cisco Unity Connection Provisioning Interface (CUPI) API, which provides access to the most commonly provisioned data on Cisco Unity Connection systems: users, contacts, distribution lists, and call handlers.

* Due to the complexity of writing custom XML calls, it is strongly recommended that one possess a solid level of comfort with advanced programming languages. REST API in particular.

For more information on Cisco Unity Connection REST API and CUPI, please go to Cisco's website. At the time of writing, the document titled, ***Cisco Unity Connection Provisioning Interface (CUPI) API***, contains detailed descriptions of each of the provisioning APIs currently available, including input parameters and troubleshooting guidance. This document can be found on cisco.com under:

Support > Product Support > Unified Communications > Cisco Unity Connection > Maintain and Operate Guides > *Cisco Unity Connection Provisioning Interface (CUPI) API*

6.1.2.2 Nested Functions

Nested functions allow CUC Custom XML functions to obtain values for required data parameters through separate queries that are executed before the main API call is made. For example, to provision a new User Template in CUC, the Object ID of the phone system must be provided (within XML label, *MediaSwitchObjectId*). Since the Phone System's Object ID is both unknown and variable it must first be queried, held in a local variable then applied to the *MediaSwitchObjectId* label as part of the main XML call.

* Once again, it is recommended to have a good working knowledge of CUC REST API, particularly Cisco Unity Provisioning Interface (CUPI). Nested functions use the CUPI queries and result sets.

The nested function calls and the variables in which their results will be held are executed in a section above and separate from the main REST API call. The section is delimited by the strings, `<--nested` and `-->`, each on separate lines.

Within the nested section each nested call and associated variable are defined in the format:

Variable = REST API function

For example, to query the data of the Phone System named, *PhoneSystem*, and store the result in a variable called, *phonesysQueryResults*, the following nested call would be needed:

```
<--nested
phonesysQueryResults = vmrest/phonesystems?query=(DisplayName%20is%20PhoneSystem)
-->
```

! Spaces and any non-alphanumeric characters need to be replaced by their ASCII hexadecimal equivalent preceded by the escape character, '%'. In the example above the space character was replaced by "%20".

The result set from the previous example will look similar to the following code block. As stated earlier, it will be stored in its entirety in the variable, *phonesysQueryResults*.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<PhoneSystems total="1">
  <PhoneSystem>
    <URI>/vmrest/phonesystems/37900370-4c0b-4733-97bf-3e411640407a</URI>
    <ObjectId>37900370-4c0b-4733-97bf-3e411640407a</ObjectId>
    <DisplayName>PhoneSystem</DisplayName>
    <MwiAlwaysUpdate>>false</MwiAlwaysUpdate>
    <MwiPortMemory>>false</MwiPortMemory>
    <CcmAXLUser>ccmaxl</CcmAXLUser>
    <CcmAXLPassword>xR/ls6fQAc+AIsYCPWeanA==</CcmAXLPassword>
    <CallLoopSupervisedTransferDetect>true</CallLoopSupervisedTransferDetect>
    <CallLoopForwardNotificationDetect>true</CallLoopForwardNotificationDetect>
    <CallLoopDTMF>A</CallLoopDTMF>
    <CallLoopGuardTimeMs>2500</CallLoopGuardTimeMs>
    <PortCount>10</PortCount>
    <EnablePhoneApplications>>false</EnablePhoneApplications>
    <DefaultTRaPSwitch>true</DefaultTRaPSwitch>
    <MwiForceOff>>false</MwiForceOff>
    <RestrictDialUnconditional>>false</RestrictDialUnconditional>
    <RestrictDialScheduled>>false</RestrictDialScheduled>
    <RestrictDialStartTime>0</RestrictDialStartTime>
    <RestrictDialEndTime>0</RestrictDialEndTime>
    <CallLoopExtensionDetect>true</CallLoopExtensionDetect>
    <AXLServerURI>/vmrest/phonesystems/37900370-4c0b-4733-97bf-3e411640407a/axlservers</AXLServerURI>
    <PhoneSystemAssociationURI>/vmrest/phonesystems/37900370-4c0b-4733-97bf-3e411640407a/phonesystemassociations</PhoneSystemAssociationURI>
  </PhoneSystem>
</PhoneSystems>
```

From the result set above, only the contents of *ObjectId* are needed, which will need to be further queried from the container variable. The value of *ObjectId* will be used in the User Template XML label, **MediaSwitchObjectId**. The following notation method will be used to extract the specific value desired from the nested result set:

|nested.NestedResultVariable._XMLPath_|

Using the example above, the XML label, *MediaSwitchObjectId*, will look like the following:

```
<MediaSwitchObjectId>|nested.phonesysQueryResults.PhoneSystems.ObjectId|</MediaSw
```



```
itchObjectId>
```

Following is an example of an XML call in Akkadian Site Builder to create a new User Template with the alias, “voicemail-user-template.” Note that the **Global Variable**, *Customer*, is used within the *DisplayName* field. As mentioned in the **Global Variable** section, the value of *Customer* will be prompted at provisioning and will be inserted where the *Customer* placeholder is displayed.

Search Templates

CUC Custom Xml Template

Template Label: User Template Create voicemail-user-template

Template Type: Standard

Deployment Priority: 20

Pre Delay: 0

Post Delay: 0

Cancel Save & Close Copy Delete

Method*: POST

Url End Point*: vmrest/ usertemplates

Query Parameters: templateAlias=voicemailusertemplate

XML

```
<!--nested
# Hastags are comments
# You can use global variables
phonesysQueryResults = vmrest/phonesystems?query=(DisplayName%20is%20PhoneSystem)
-->
<UserTemplate>
  <Alias>voicemail-user-template</Alias>
  <DisplayName>{{(Customer)}} voicemail user template</DisplayName>
  <MediaSwitchObjectId>{{nested.phonesysQueryResults.PhoneSystem.ObjectId}}</MediaSwitchObjectId>
  <CreateSmtProxyFromCorp>true</CreateSmtProxyFromCorp>
  <ReceiveQuota>41943040</ReceiveQuota>
  <SendQuota>31457280</SendQuota>
  <WarningQuota>20971520</WarningQuota>
</UserTemplate>
```

Nested functions can also be used in URL End Points. For example, some URLs require Object IDs. The

URL for adding a SIP Server to an existing Port Group is one such case. The illustration below demonstrates how a nested query can be implemented in the URL End Point string.

Method* POST

Url End Point* vmrest/ portgroups/ nested.mpgQueryResults.PortGroup.ObjectId /portgroupservers :

Query Parameters One per line. Example:
templateAlias=voicemailusertemplate

XML

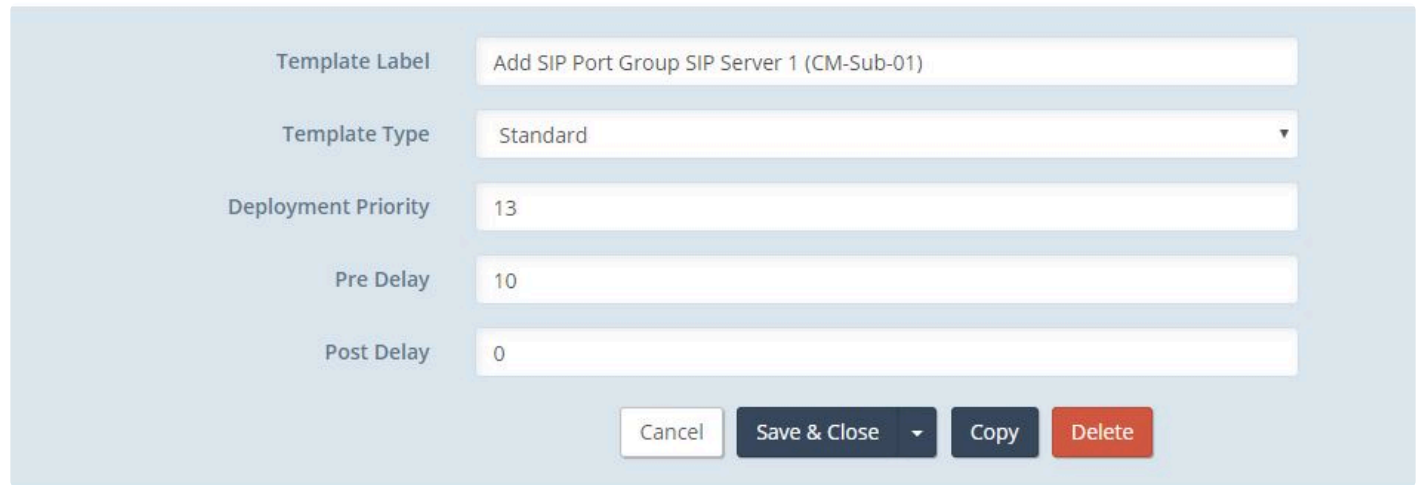
```
<!--nested
# Hastags are comments
# You can use global variables
mpgQueryResults = vmrest/portgroups?query=(DisplayName%20is%20PhoneSystem-1)
-->
<PortGroupServer>
  <MediaRemoteServiceEnum>102</MediaRemoteServiceEnum>
  <MediaPortGroupObjectId>| nested.mpgQueryResults.PortGroup.ObjectId |</MediaPortGroupObjectId>
  <HostOrIPAddress>{{CM-Sub-01 FQDN}}</HostOrIPAddress>
  <Port>5060</Port>
  <TlsPort>5061</TlsPort>
  <Precedence>1</Precedence>
</PortGroupServer>
```

6.1.3 Pre & Post Delay

Pre Delay and **Post Delay** are numeric entry fields that represent (in **seconds**) the amount of delay that must be observed before (**Pre Delay**) or after (**Post Delay**) executing the Template.

Certain provisioning functions in CUPi actually take several seconds after executing a REST API call to create a new object before they appear and can be queried in the database.

For example, when creating a new **Port Group** it can take up to 15 seconds before it is searchable in the database. The **Port Group's** Object ID is needed to associate **SIP Servers**. In this case, you would need to implement a **Post Delay** on the **Port Group** create template and/or a **Pre Delay** on the first **SIP Server** create template as illustrated below.



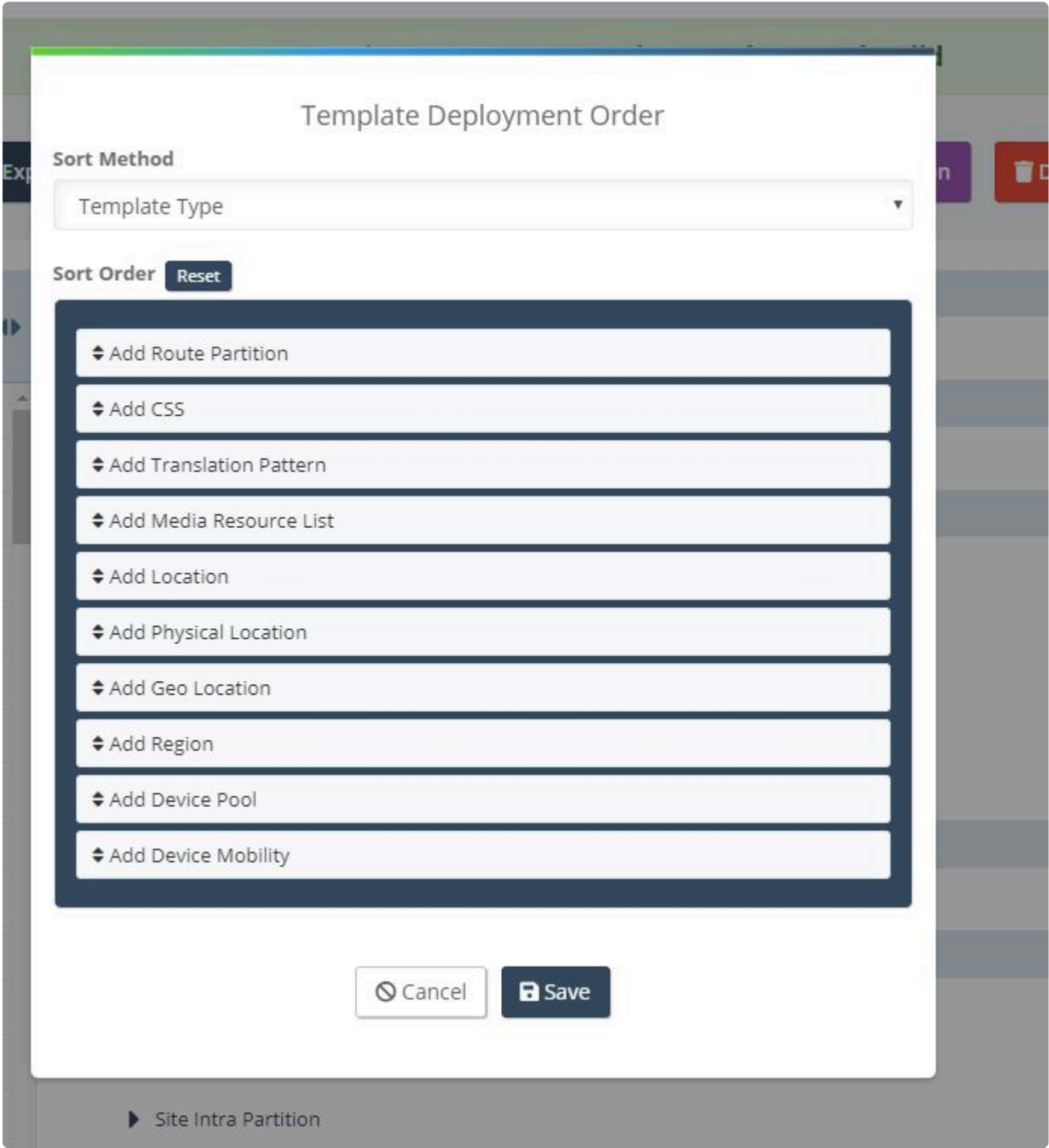
The screenshot shows a configuration form for a template. It has five input fields: 'Template Label' with the text 'Add SIP Port Group SIP Server 1 (CM-Sub-01)', 'Template Type' with a dropdown menu showing 'Standard', 'Deployment Priority' with the value '13', 'Pre Delay' with the value '10', and 'Post Delay' with the value '0'. At the bottom right, there are four buttons: 'Cancel' (light blue), 'Save & Close' (dark blue with a dropdown arrow), 'Copy' (dark blue), and 'Delete' (red).

6.1.4 Template Deployment Order

When deploying a Site Builder package it is important to be mindful of the order of operations. Some templates will have dependencies on others that need to be deployed first. For example, a Calling Search Space template would have dependencies on its member Route Partitions. Therefore, Route Partitions would need to be deployed before Calling Search Spaces.

There are four different sort methods:

1. **Default** – The Template types will be deployed in the order that they appear in the Package.
2. **Default + Priority** – The Template types will be deployed in the order that they appear in the Package. Additionally, the individual templates within the Template type container can be assigned a numeric priority value. The higher the numeric value, the higher the priority. For example, a template with priority 20 will be deployed before a template with priority 15, and so on. Templates without an assigned priority value will be deployed first (before any templates with assigned priority values).
3. **Template Type** – The template types used in the package will be listed below Sort Method dropdown list. Each of the types in the list can be dragged and dropped into the desired order.
4. **Template Type + Priority** – The template types used in the package will be listed below Sort Method dropdown list. Each of the types in the list can be dragged and dropped into the desired order. Additionally, the individual templates within the Template type container can be assigned a numeric priority value. The higher the numeric value, the higher the priority. For example, a template with priority 20 will be deployed before a template with priority 15, and so on. Templates without an assigned priority value will be deployed first (before any templates with assigned priority values).



Template Label: Region 1

Template Type: Standard

Deployment Priority: 10

Pre Delay: 0

Post Delay: 0

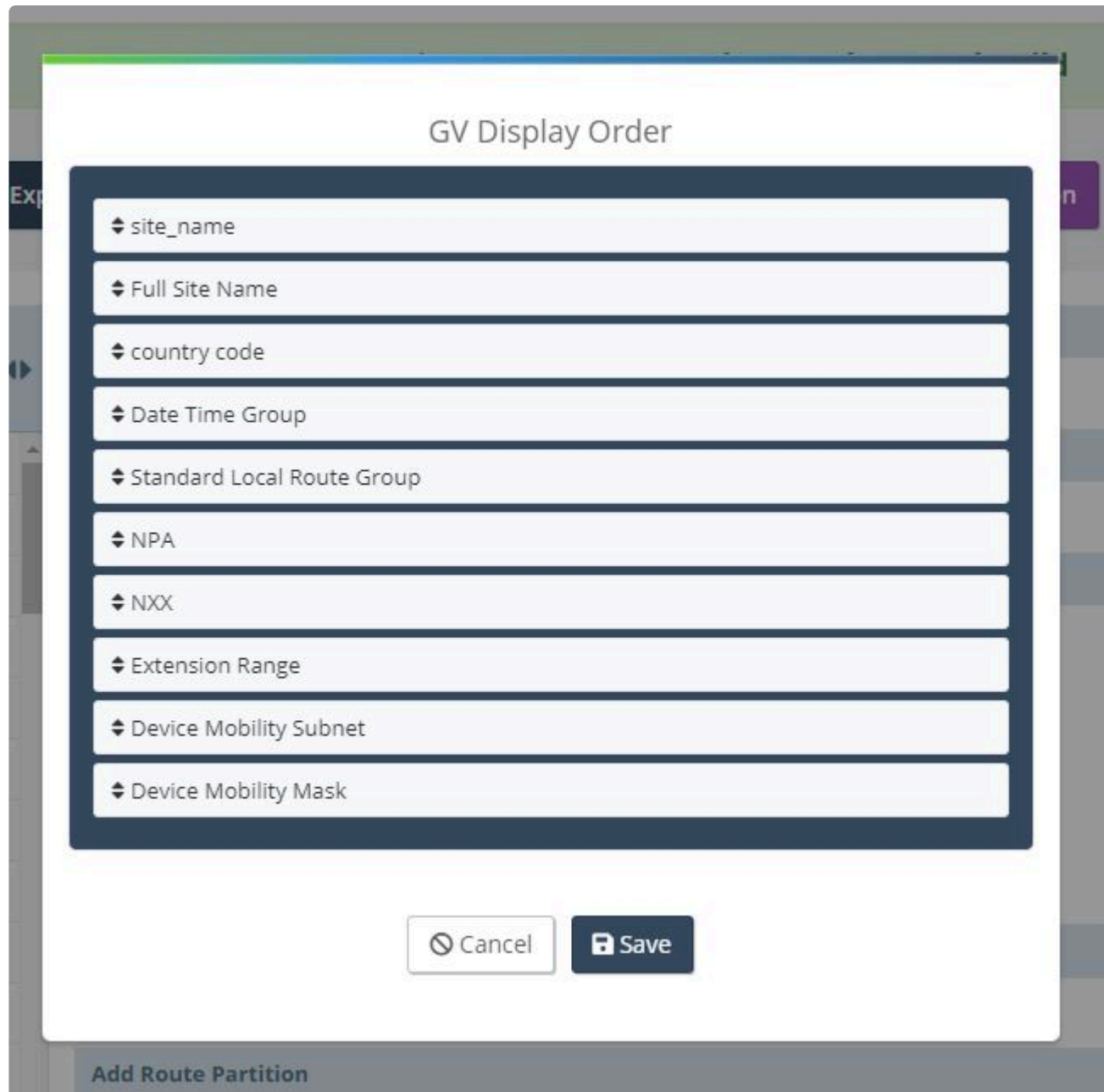
Buttons: Cancel, Save & Close, Copy, Delete

Name*: Region_1

Related Regions: regionName

6.1.5 Global Variable (GV) Display Order

Global Variables are an integral part of the Site Builder tool that allow the Packages to be reused with minimal changes between uses. At deployment the Global Variables are presented to the user in a list to be populated with actual values. The order in which the Global Variables are presented in the list can be configured ahead of time by selecting the **GV Display Order** button within the Package. A window will pop up with all of the referenced Global Variables within the Package. Use your mouse to drag and drop the Global Variables into the desired order and click, **Save**.

A screenshot of a web application interface showing a modal dialog box titled "GV Display Order". The dialog box has a white background and a dark blue border. Inside, there is a list of ten items, each with a small blue diamond icon on the left and a text label. The items are: "site_name", "Full Site Name", "country code", "Date Time Group", "Standard Local Route Group", "NPA", "NXX", "Extension Range", "Device Mobility Subnet", and "Device Mobility Mask". At the bottom of the dialog box, there are two buttons: a "Cancel" button with a circular arrow icon and a "Save" button with a floppy disk icon. The "Save" button is highlighted with a pink glow. Below the dialog box, there is a button labeled "Add Route Partition".

GV Display Order

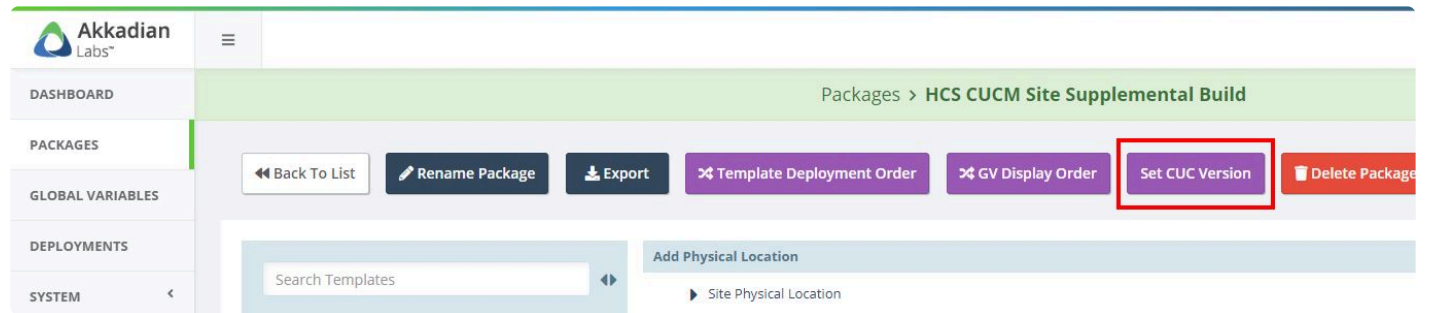
- site_name
- Full Site Name
- country code
- Date Time Group
- Standard Local Route Group
- NPA
- NXX
- Extension Range
- Device Mobility Subnet
- Device Mobility Mask

Cancel Save

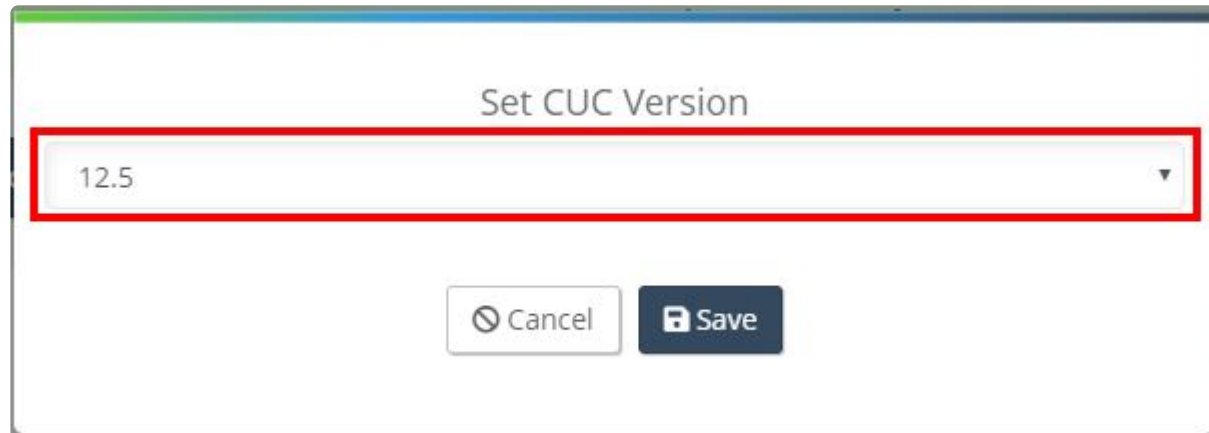
Add Route Partition

6.1.6 Set CUC Version

For packages that had been created in a previous version of Site Builder that did not have a CUC option the CUC version can be added after the fact with the Set CUC Version button.



A new dialog box will pop up. Choose the desired CUC version from the dropdown list.



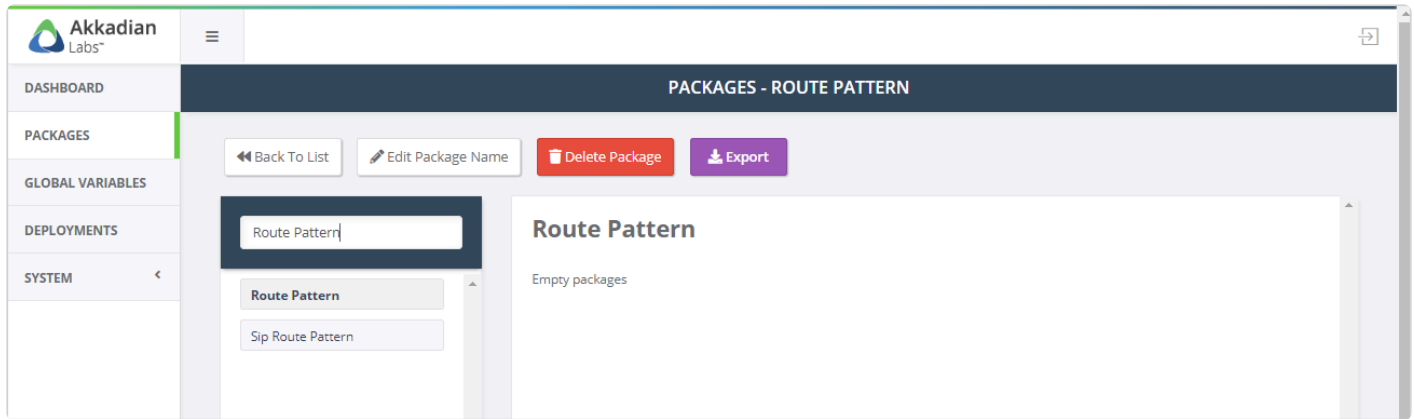
6.2 Editing Packages

To edit a Package:

1. Select **Package** from the left navigation menu
2. In the list, click on the package name
3. When the package opens, you can:
 - Add additional templates to package
 - Edit existing templates in package
 - Delete existing templates from package

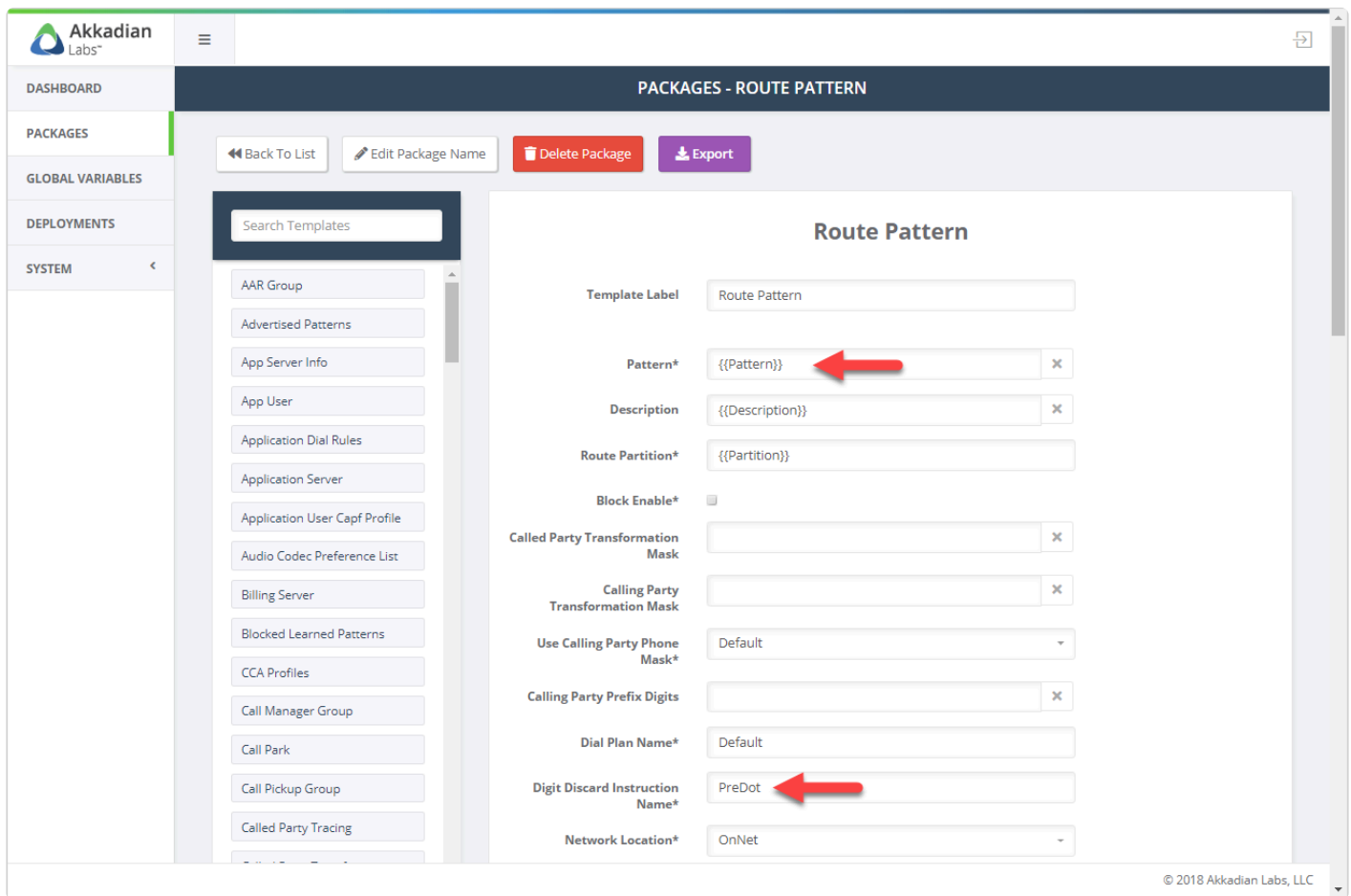
To add a template to an existing package:

1. Select the first Template from the list to add it to the Package



2. Configure the selected Template

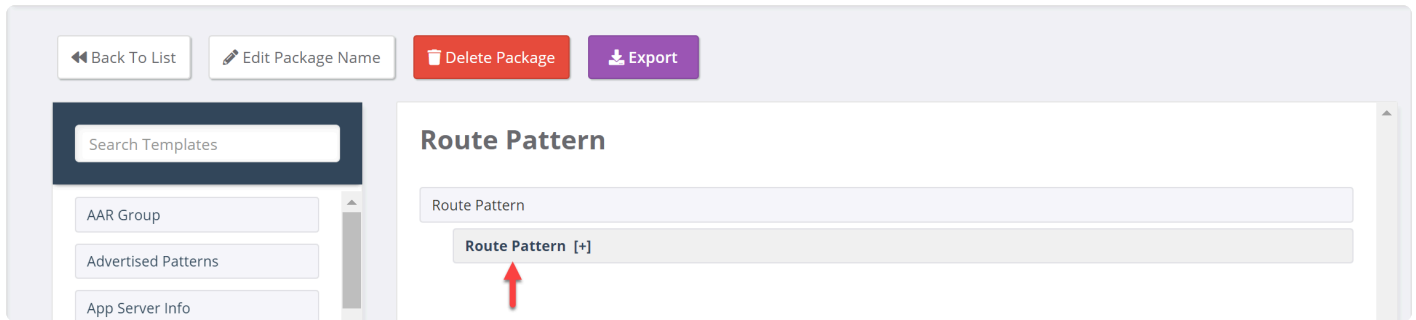
- ✿ Input fields on templates can be populated with Global Variables or static text. In the example below, we will be prompted for Pattern, Description & Partition at deployment, but Digit Discard Instruction Name is statically configured to PreDot. Any data inputted must match exactly to the data in CUCM.



3. Click **Add Template** to add the Template to the package
4. Repeat this process to add additional Templates

To edit a template in an existing package:

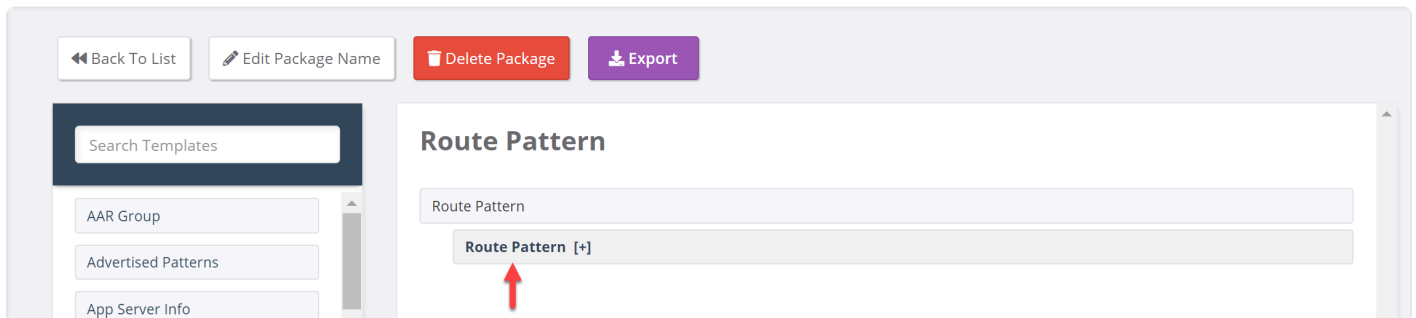
1. In the package click on the template name



2. Update the desired fields
3. Scroll to the bottom of the template and click **Save Template**
4. Repeat this process of additional templates

To delete a template from an existing package:

1. In the package click on the template name



2. Scroll to the bottom of the template and click **Delete Template**
3. Repeat this process of additional templates

6.3 Deleting Packages

To edit a package:

1. Select **Package** from the left navigation menu
2. In the list, select the package
3. Click the **Delete** button

The screenshot shows the 'Packages' section of the Akkadian Site Builder Admin interface. The left sidebar contains navigation links: DASHBOARD, PACKAGES, GLOBAL VARIABLES, DEPLOYMENTS, and SYSTEM. The main content area displays a table of packages with columns: Package Name, CUCM, CUC, Created, Updated, Permission, and Owner. The 'Demo 11.5' package is highlighted in blue. A red arrow points to the 'Delete' button in the top action bar, and another red arrow points to the 'Demo 11.5' package in the list.

Package Name	CUCM	CUC	Created	Updated	Permission	Owner
Demo Packages					shared	
F Customer CUC					none	
I Customer CUC					shared	
Miscellaneous CUC Actions					none	
Nested					shared	
P Customer					none	
CUC System Build 1		11.5	2019-12-17 15:47:19	2020-01-22 11:12:45	private	SBAdmin
CUC System Build 2		11.5	2020-01-16 10:09:48	2020-01-22 11:13:04	private	SBAdmin
CUC System Build 3 w Nested		11.5	2020-01-23 13:48:02	2020-01-23 13:48:02	private	SBAdmin
Default Plan	11.5		2019-09-16 15:44:03	2019-09-16 15:44:03	public	
Demo 11.5	11.5	11.5	2020-03-10 23:01:28	2020-03-10 23:01:28	private	SBAdmin
Region Test	11.5		2020-01-29 09:24:25	2020-05-01 03:03:04	private	SBAdmin

Legend: No owner associated - Accessible to all Package Bundle

6.4 Copying Packages

To copy a package:

1. Select **Package** from the left navigation menu
2. In the list, select the package
3. Click the **Copy Package** button

The screenshot shows the 'Packages' section of the Akkadian Site Builder Admin interface. The left sidebar contains navigation links: DASHBOARD, PACKAGES, GLOBAL VARIABLES, DEPLOYMENTS, and SYSTEM. The main content area displays a table of packages with columns: Package Name, CUCM, CUC, Created, Updated, Permission, and Owner. The 'Demo 11.5' package is highlighted in blue. A red arrow points to the 'Copy Package' button in the top action bar, and another red arrow points to the 'Demo 11.5' package in the list.

Package Name	CUCM	CUC	Created	Updated	Permission	Owner
Demo Packages					shared	
F Customer CUC					none	
I Customer CUC					shared	
Miscellaneous CUC Actions					none	
Nested					shared	
P Customer					none	
CUC System Build 1		11.5	2019-12-17 15:47:19	2020-01-22 11:12:45	private	SBAdmin
CUC System Build 2		11.5	2020-01-16 10:09:48	2020-01-22 11:13:04	private	SBAdmin
CUC System Build 3 w Nested		11.5	2020-01-23 13:48:02	2020-01-23 13:48:02	private	SBAdmin
Default Plan	11.5		2019-09-16 15:44:03	2019-09-16 15:44:03	public	
Demo 11.5	11.5	11.5	2020-03-10 23:01:28	2020-03-10 23:01:28	private	SBAdmin
Region Test	11.5		2020-01-29 09:24:25	2020-05-01 03:03:04	private	SBAdmin

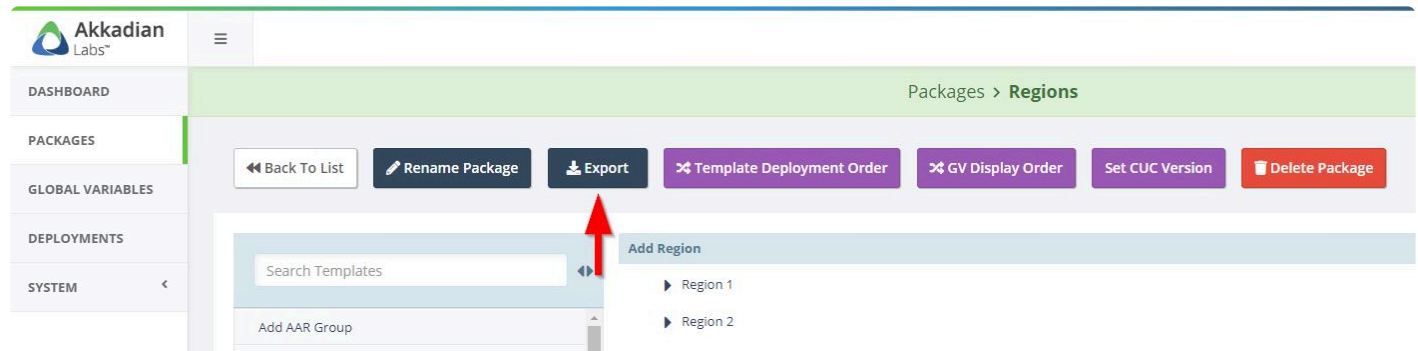
Legend: No owner associated - Accessible to all Package Bundle

6.5 Exporting Packages

Packages can be exported and imported into other Site Builder systems.

To export a package:

1. Select **Package** from the left navigation menu
2. In the list, click on the package name
3. Click the **Export** button



6.6 Folders

Folders can be used to logically group Packages and/or to assign specific access/execution permissions to a group of Packages.

6.6.1 Adding New Folders

To add a Folder:

1. Select **Packages** from the left navigation menu
2. Click the button, **+New**
3. From the menu that appears below the **+New** button, choose **Folder**
4. In the Packages List, a new folder will appear with its name entry field highlighted. You may enter a new folder name or continue to use the automatically generated name.

Akkadian Labs

Navigation: DASHBOARD, PACKAGES, GLOBAL VARIABLES, DEPLOYMENTS, SYSTEM

Packages Section:

- + New
- Import
- Copy Package
- Folder Actions
- Delete

Global Search

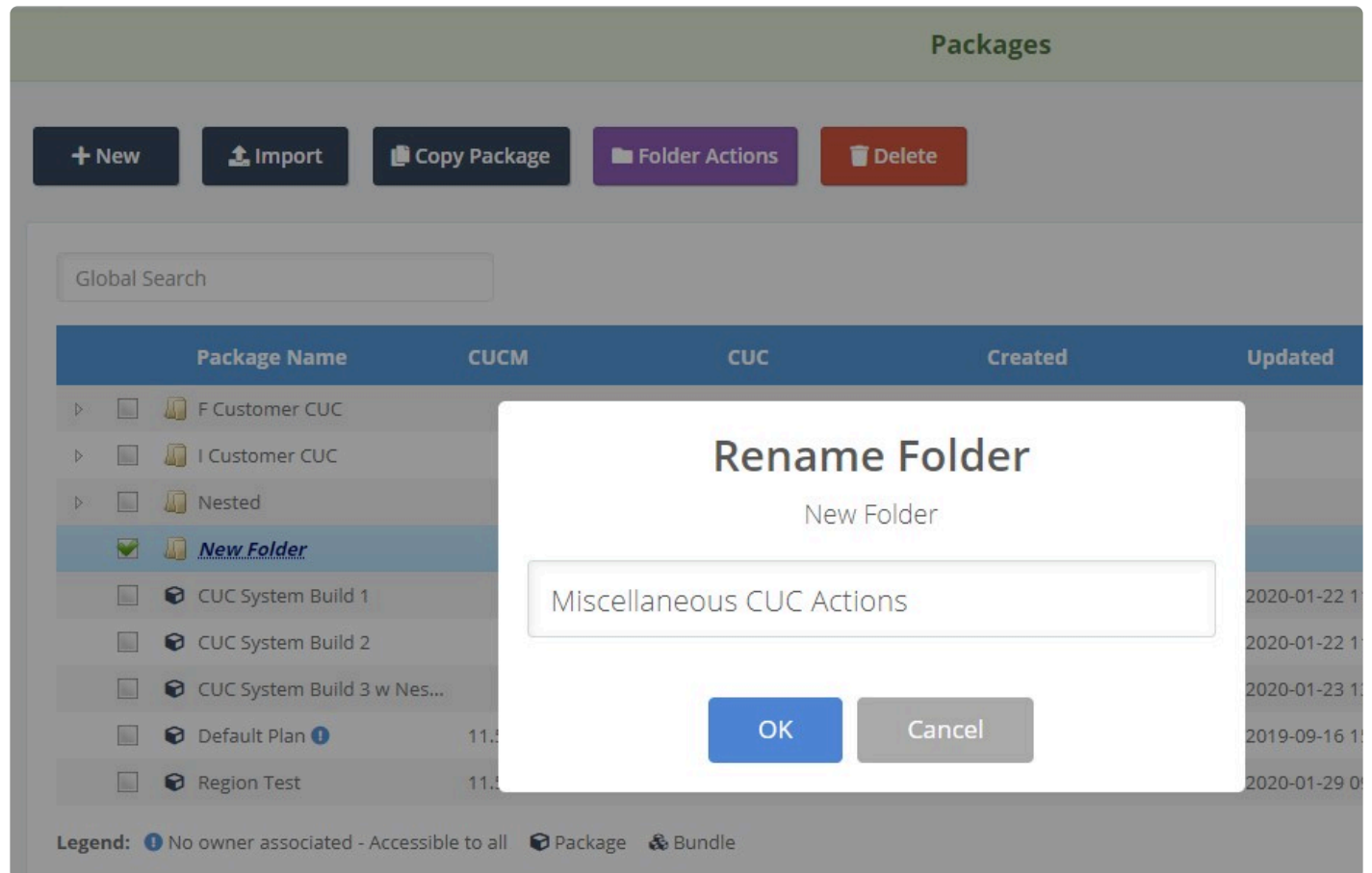
Package Name	CUCM	CUC	Created
▶ <input type="checkbox"/> F Customer CUC			
▶ <input type="checkbox"/> I Customer CUC			
▶ <input type="checkbox"/> Nested			
<input type="checkbox"/> <input type="text" value="New Folder"/>			
<input type="checkbox"/> CUC System Build 1		11.5	2019-12-17 15:00
<input type="checkbox"/> CUC System Build 2		11.5	2020-01-16 10:00
<input type="checkbox"/> CUC System Build 3 w Ne...		11.5	2020-01-23 13:00
<input type="checkbox"/> Default Plan ⓘ	11.5		2019-09-16 15:00
<input type="checkbox"/> Region Test	11.5		2020-01-29 09:00

Legend: ⓘ No owner associated - Accessible to all Package Bundle

6.6.2 Renaming Folders

To change a Folder's name:

1. Select **Packages** from the left navigation menu
2. Click/check the checkbox to the left of the Folder of which you would like to change the name
3. Click the button, **Folder Actions**
4. From the menu that appears below the **Folder Actions** button, choose **Rename**
5. In the **Rename Folder** popup window, type the new folder name in the supplied entry field.



6.6.3 Assigning Permissions

To assign permissions to a particular folder, simply right-click above the target folder in the Package list and choose **Folder Permissions** from the menu.

Akkadian Labs™

PACKAGES

+ New Import Copy Package Folder Actions Delete

Global Search

Package Name	CUCM	CUC	Created
Demo Packages			
F Customer CUC			
I Customer CUC			
Miscellaneous CUC Actions			
Nested			
P Customer			
CUC System Build 1			2019-12-17 15:47:19
CUC System Build 2			2020-01-16 10:09:48
CUC System Build 3 w Nest			2020-01-23 13:48:02
Default Plan			2019-09-16 15:44:03
Demo 11.5			2020-03-10 23:01:28
Regions			2020-01-29 09:24:25

Legend: ⓘ No owner associated - Accessible to all 📦 Package 📁 Bundle

The **Access** dropdown list has four choices:

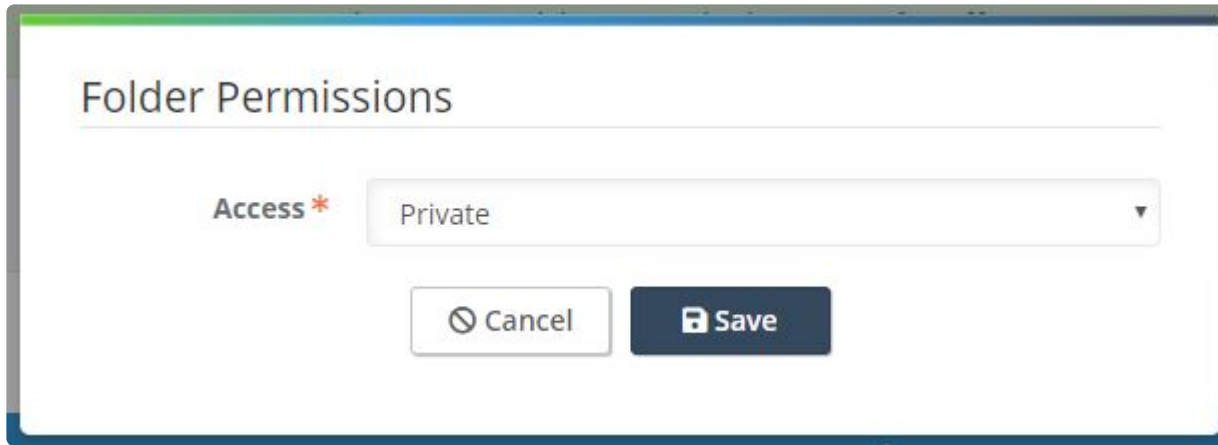
1. **None**

Folder Permissions

Access * None

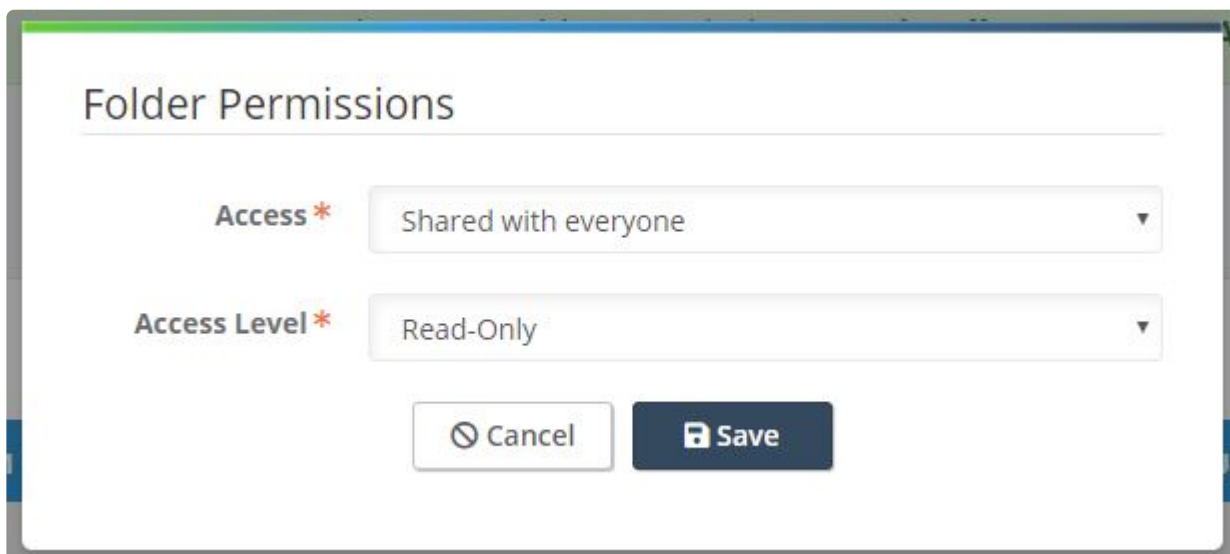
Cancel Save

2. **Private** – Contents of the folder can only be viewed and/or deployed by the current user.



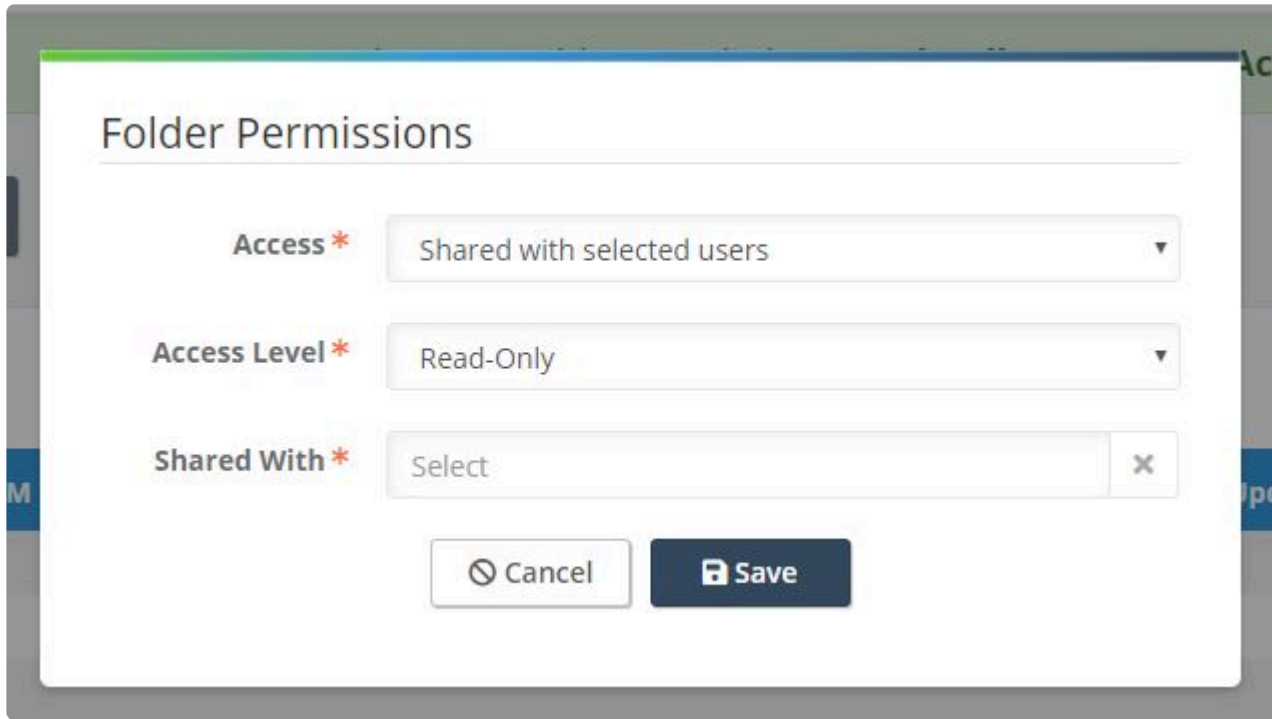
The screenshot shows a dialog box titled "Folder Permissions". It contains a label "Access" with a red asterisk, followed by a dropdown menu currently displaying "Private". Below the dropdown are two buttons: "Cancel" (with a circular arrow icon) and "Save" (with a floppy disk icon).

3. **Shared with everyone** – All users can access and/or deploy the contents of the folder. The possible **Access Levels** are **Read-Only** and **Read/Write**.



The screenshot shows the "Folder Permissions" dialog box with two dropdown menus. The first, labeled "Access" with a red asterisk, is set to "Shared with everyone". The second, labeled "Access Level" with a red asterisk, is set to "Read-Only". The "Cancel" and "Save" buttons are at the bottom.

4. **Shared with selected users** – Only the selected users can access and/or deploy the contents of the folder. The possible **Access Levels** are **Read-Only** and **Read/Write**.

A screenshot of a 'Folder Permissions' dialog box. The dialog has a title bar with a green, yellow, and blue gradient. Inside, the title 'Folder Permissions' is at the top. Below it are three fields: 'Access *' with a dropdown menu showing 'Shared with selected users', 'Access Level *' with a dropdown menu showing 'Read-Only', and 'Shared With *' with a text input field containing 'Select' and a clear button (X). At the bottom are two buttons: 'Cancel' with a circular arrow icon and 'Save' with a floppy disk icon.

Folder Permissions

Access * Shared with selected users ▼

Access Level * Read-Only ▼

Shared With * Select X

⌂ Cancel Save

6.6.4 Adding and Removing Packages from Folders

To add packages to a folder, simply drag and drop packages from the list onto the desired folder.

Akkadian Labs

DASHBOARD

PACKAGES

GLOBAL VARIABLES

DEPLOYMENTS

SYSTEM

Packages > Folder Permissions > **Miscellaneous**

+ New Import Copy Package Folder Actions Delete

Global Search

Package Name	CUCM	CUC	Created
▶ Demo Packages			
▶ F Customer CUC			
▶ I Customer CUC			
▶ Miscellaneous CUC Actions			
▶ Nested			
▶ P Customer			
▶ CUC System Build 1		11.5	2019-12-17 15:47:19
▶ CUC System Build 2		11.5	2020-01-16 10:09:48
▶ CUC System Build 3 w Nested		11.5	2020-01-23 13:48:02
▶ Default Plan	11.5		2019-09-16 15:44:03
▶ Demo 11.5	11.5	11.5	2020-03-10 23:01:28
▶ Regions	11.5		2020-01-29 09:24:25

Legend: ⓘ No owner associated - Accessible to all Package Bundle

To remove packages from a folder, drag the desired package from the list below the menu to any other folder or to the base list and drop it.

Global Search

Package Name	CUCM	CUC
Demo Packages		
F Customer CUC		
I Customer CUC		
Miscellaneous CUC Actions		
CUC System Build 2		11.5
Nested		
P Customer		
CUC System Build 1		11.5
CUC System Build 3 w Nested		11.5
Default Plan	11.5	
Demo 11.5	11.5	11.5
Regions	11.5	

Legend: ⓘ No owner associated - Accessible to all 📦 Package 🔗 Bundle

6.7 Bundles

Bundles can be used to fuse together multiple Akkadian Site Builder packages into a single unit that can be deployed as one.

One possible use for Bundles is to piece together a set of smaller Site Builder packages into a single, all-encompassing job. This could allow you to create and maintain smaller, task-oriented (or Object Oriented) jobs in separate packages that can be combined into larger jobs that include different combinations of tasks.

To add a new Bundle:

1. Select **Packages** from the left navigation menu
2. Select two (2) or more **Packages** from the list of packages
3. Click the button, **+New**
4. From the menu that appears below the **+New** button, choose **Bundle**
5. Enter the Bundle Name. The CUCM Version and/or CUC Version should already be populated.

6. Click **Save**.

Akkadian Labs™

DASHBOARD

PACKAGES

GLOBAL VARIABLES

DEPLOYMENTS

SYSTEM

+ New **Import** **Copy Package** **Folder Actions** **Delete**

- Package
- Folder
- Bundle

Package Name	CUCM	CUC
▶ Demo Packages		
▶ F Customer CUC		
▶ I Customer CUC		
Miscellaneous CUC Actions		
▶ Nested		
▶ P Customer		
✓ CUC Call Handlers		11.5
CUC System Build 1		11.5
CUC System Build 2		11.5
CUC System Build 3 w Nested		11.5
Default Plan ⓘ	11.5	
Demo 11.5	11.5	11.5
✓ Regions	11.5	

Legend: ⓘ No owner associated - Accessible to all Package Bundle

New Package Bundle

Name *

Call Handler Bundle



CUCM Version

11.5

CUC Version

11.5

 Cancel

 Save

7. Deployments

Deployments are used to deploy packages. Before running a deployment the following must be configured:

- Application Server
- Service Group
- Package



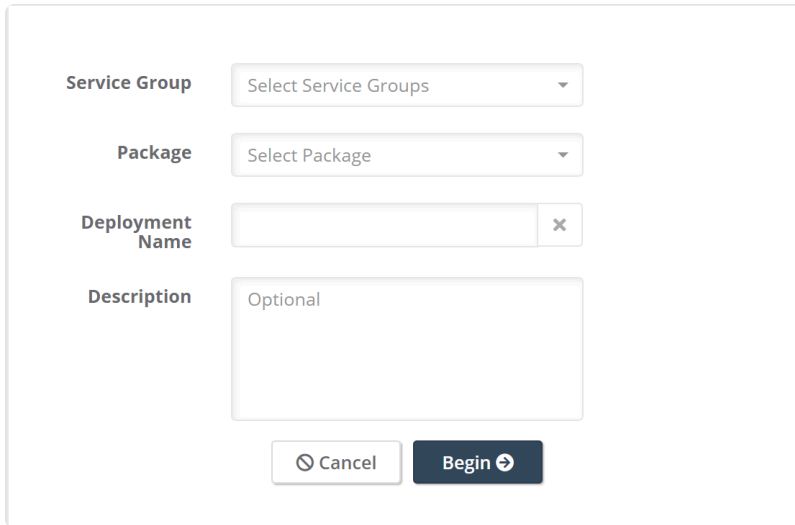
Deployments can be used to deploy a package once or in bulk.

	Name	Status	Description	Created	Updated
<input type="checkbox"/>	Bulk Route Pattern 1 [Bulk]-10	Deployed	Bulk Route Pattern 1	2018-11-15 15:34:47	2018-11-15 20:34:51
<input type="checkbox"/>	Bulk Route Pattern 1 [Bulk]-9	Deployed	Bulk Route Pattern 1	2018-11-15 15:34:46	2018-11-15 20:34:54
<input type="checkbox"/>	Bulk Route Pattern 1 [Bulk]-8	Deployed	Bulk Route Pattern 1	2018-11-15 15:34:45	2018-11-15 20:34:56
<input type="checkbox"/>	Bulk Route Pattern 1 [Bulk]-7	Deployed	Bulk Route Pattern 1	2018-11-15 15:34:44	2018-11-15 20:34:59
<input type="checkbox"/>	Bulk Route Pattern 1 [Bulk]-6	Deployed	Bulk Route Pattern 1	2018-11-15 15:34:43	2018-11-15 20:34:53
<input type="checkbox"/>	Bulk Route Pattern 1 [Bulk]-5	Deployed	Bulk Route Pattern 1	2018-11-15 15:34:42	2018-11-15 20:35:02

7.1 Running Deployments

To run a deployment

1. Select **Deployments** from the left navigation menu
2. On the menu, click **Add**
3. Select the **Service Group** for the deployment
4. Select the **Package** to deploy
5. Enter a **Deployment Name**
6. Optionally enter a **Deployment Description**
7. Click **Begin**

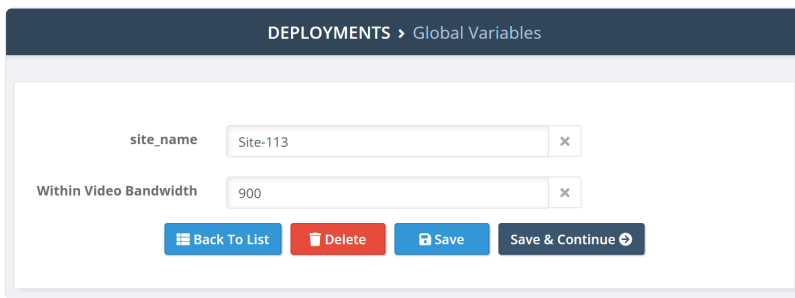


A deployment configuration form with the following fields:

- Service Group:** A dropdown menu with the text "Select Service Groups".
- Package:** A dropdown menu with the text "Select Package".
- Deployment Name:** A text input field with a clear button (X) on the right.
- Description:** A text area with the placeholder text "Optional".

At the bottom of the form are two buttons: "Cancel" (with a circular arrow icon) and "Begin" (with a right arrow icon).

8. Input the data for any Global Variables



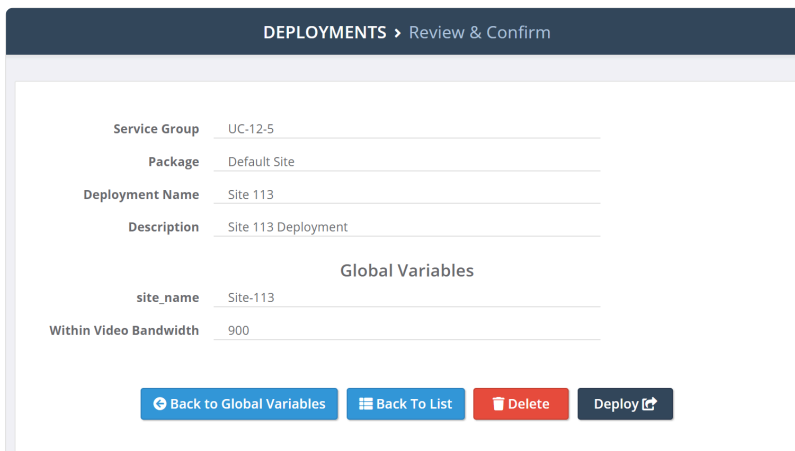
A configuration form titled "DEPLOYMENTS > Global Variables". It contains the following fields:

- site_name:** A text input field with the value "Site-113" and a clear button (X).
- Within Video Bandwidth:** A text input field with the value "900" and a clear button (X).

At the bottom are four buttons: "Back To List" (with a list icon), "Delete" (with a trash icon), "Save" (with a save icon), and "Save & Continue" (with a right arrow icon).

9. Click **Save & Continue**

10. Review the setting and then click **Deploy**



A "Review & Confirm" form titled "DEPLOYMENTS > Review & Confirm". It displays the following information:

- Service Group:** UC-12-5
- Package:** Default Site
- Deployment Name:** Site 113
- Description:** Site 113 Deployment

Below this is a section titled "Global Variables" with the following fields:

- site_name:** Site-113
- Within Video Bandwidth:** 900

At the bottom are four buttons: "Back to Global Variables" (with a left arrow icon), "Back To List" (with a list icon), "Delete" (with a trash icon), and "Deploy" (with a play icon).

11. The deployment will be submitted to the queue and then processed

The screenshot shows the Akkadian Site Builder Admin interface. The left sidebar contains a navigation menu with the following items: DASHBOARD, PACKAGES, GLOBAL VARIABLES, DEPLOYMENTS (highlighted), and SYSTEM. The main content area is titled 'DEPLOYMENTS' and features three buttons: '+ Add' (blue), 'Refresh' (blue with a circular arrow icon), and 'Import' (purple with an upload icon). Below these buttons is a table with the following columns: Name, Status, Description, Created, and Updated. The table contains one entry: Site 113, Queued, Site 113 Deployment, 2018-11-15 21:32:46, and 2018-11-15 21:43:52. A notification box in the top right corner states: 'The request has been accepted and will be processed shortly.'

7.2 Running Bulk Deployments

To run a bulk deployment

1. Select **Deployments** from the left navigation menu
2. On the menu, click **Add**
3. Select the **Service Group** for the deployment
4. Select the **Package** to deploy
5. Enter a **Deployment Name**
6. Optionally enter a **Deployment Description**
7. Check the **Bulk Deployment** checkbox
8. Click **Begin**

The screenshot shows the 'New Deployment' form in the Akkadian Site Builder Admin interface. The form is titled 'DEPLOYMENTS > New Deployment'. It contains the following fields and controls:

- Service Group:** A dropdown menu with 'UC-12-5' selected.
- Package:** A dropdown menu with 'Route Pattern' selected.
- Deployment Name:** A text input field with 'Bulk Route Pattern Site 113' entered.
- Description:** A text area with 'Bulk Route Pattern for Site 113' entered.
- Bulk Deployment:** A checkbox that is checked, with a value of '10' displayed next to it.
- Buttons:** 'Cancel' and 'Begin' buttons at the bottom right.

9. Input the data for any Global Variables

DEPLOYMENTS > New Deployment

Buttons: Back To List, Delete, Save, Save & Deploy, Export

	Pattern	Description	Partition
1	9.14135663071	Route Pattern Site 113	Site-113_LD_RTP
2	9.14135663072	Route Pattern Site 113	Site-113_LD_RTP
3	9.14135663073	Route Pattern Site 113	Site-113_LD_RTP
4	9.14135663074	Route Pattern Site 113	Site-113_LD_RTP
5	9.14135663075	Route Pattern Site 113	Site-113_LD_RTP
6	9.14135663076	Route Pattern Site 113	Site-113_LD_RTP
7	9.14135663077	Route Pattern Site 113	Site-113_LD_RTP
8	9.14135663078	Route Pattern Site 113	Site-113_LD_RTP
9	9.14135663079	Route Pattern Site 113	Site-113_LD_RTP
10	9.14135663080	Route Pattern Site 113	Site-113_LD_RTP
11	+ New Deployment		

10. Click **Save & Deploy**

11. The deployment will be submitted to the queue and then processed

DEPLOYMENTS

Buttons: + Add, Refresh, Import

Show 50 entries Global Search

	Name	Status	Description	Created	Updated
<input type="checkbox"/>	Bulk Route Pattern Site 113 [Bulk]-10	Deployed	Bulk Route Pattern for Site 113	2018-11-15 22:17:13	2018-11-16 03:17:25
<input type="checkbox"/>	Bulk Route Pattern Site 113 [Bulk]-9	Deployed	Bulk Route Pattern for Site 113	2018-11-15 22:17:12	2018-11-16 03:17:27
<input type="checkbox"/>	Bulk Route Pattern Site 113 [Bulk]-8	Deployed	Bulk Route Pattern for Site 113	2018-11-15 22:17:11	2018-11-16 03:17:18
<input type="checkbox"/>	Bulk Route Pattern Site 113 [Bulk]-7	Deployed	Bulk Route Pattern for Site 113	2018-11-15 22:17:10	2018-11-16 03:17:23
<input type="checkbox"/>	Bulk Route Pattern Site 113 [Bulk]-6	Deployed	Bulk Route Pattern for Site 113	2018-11-15 22:17:09	2018-11-16 03:17:28
<input type="checkbox"/>	Bulk Route Pattern Site 113 [Bulk]-5	Deployed	Bulk Route Pattern for Site 113	2018-11-15 22:17:08	2018-11-16 03:17:19
<input type="checkbox"/>	Bulk Route Pattern Site 113 [Bulk]-4	Deployed	Bulk Route Pattern for Site 113	2018-11-15 22:17:07	2018-11-16 03:17:20
<input type="checkbox"/>	Bulk Route Pattern Site 113 [Bulk]-3	Deployed	Bulk Route Pattern for Site 113	2018-11-15 22:17:06	2018-11-16 03:17:17
<input type="checkbox"/>	Bulk Route Pattern Site 113 [Bulk]-2	Deployed	Bulk Route Pattern for Site 113	2018-11-15 22:17:05	2018-11-16 03:17:24
<input type="checkbox"/>	Bulk Route Pattern Site 113 [Bulk]-1	Deployed	Bulk Route Pattern for Site 113	2018-11-15 22:17:04	2018-11-16 03:17:22

7.3 Rolling Back a Deployment

A deployment may be rolled back for any reason. The rollback will remove all data that was provisioned by deployment.

To rollback a deployment:

1. Select **Deployments** from the left navigation menu
2. Select or search for the deployment in the list

The request has been accepted and will be processed shortly.

DEPLOYMENTS

+ Add Refresh Import

Show 50 entries Global Search

	Name	Status	Description	Created	Updated
<input type="checkbox"/>	Site 113	Queued	Site 113 Deployment	2018-11-15 21:32:46	2018-11-15 21:43:52

3. Click on the deployment name of view the details
4. Click the **Rollback** button to roll back the deployment
5. Confirm the rollback operation

! Note that rollbacks are permanent and cannot be reversed.

DEPLOYMENTS > Review & Confirm

Service Group UC-12-5

Package Default Site

Deployment Name Site 113

Description Site 113 Deployment

Global Variables

site_name Site-113

Within Video Bandwidth 900

Back To List Rollback

ADDITIONAL DETAILS