

Amazon Connect CTI Adapter v5 for Salesforce Classic

Setup and Installation Guide



September, 2020

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Abstract

This guide provides the steps to setup the integrations between Amazon Connect and Salesforce using the Amazon Connect CTI Adapter and Amazon Connect Lambda Package for Salesforce.

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Introduction

The core functionality of the Amazon Connect CTI Adapter provides a WebRTC browser-based Contact Control Panel (CCP) within Salesforce. The Amazon Connect CTI integration consists of two components, a [managed Salesforce package](#) and an [AWS Serverless application](#) deployed to your AWS environment.

With those components, customers can build a deep integration between the Amazon Connect contact center platform and Salesforce, the leading customer relationship management (CRM) platform. The AWS Serverless application package contains a set of common AWS Lambda functions to be used by Amazon Connect to interact with Salesforce.

Release Notes

5.3 September 2020

- **Bugfix:** Fix the issue that caused ACSFCCP_CallRecordingTask component to not work.

5.2 September 2020

- **Bugfix:** Fix the issue that prevented users from creating a new record using CTI Flows in Classic.
- **Bugfix:** Fix the issue that caused the contact channel analytics to not get updated at the end of a call.
- **Bugfix:** Fix the contact channel analytics recording view.
- **Feature:** Add a CTI block called "Get Chat Message."
- **Feature:** Add a CTI block called "SOQL Query." This block executes an arbitrary SOQL statement and returns the results.

5.1 Late August 2020

- **Bugfix:** Ensure "Get App View" CTI Flow block doesn't break the sidebar
- **Enhancement:** Add "queueARN" field to "Dial Number" CTI Flow block
- **Bugfix:** Ensure some required CTI Flow block fields are not shown as "optional"
- **Bugfix:** Ensure "Save (or Create) a Record" block works as expected
- **Bugfix:** Fix the validation error on "CallDurationInSeconds" field in "Create a Task" block
- **Bugfix:** Fix phantom scrollbar on Windows machines
- **Bugfix:** Fix issue where copying contact attributes to clipboard doesn't work
- **Bugfix:** Fix issue where "saveLog" CTI Flow block throws an error
- **Bugfix:** Fix issue with onOffline CTI Flow event not firing
- **Bugfix:** Fix various omnichannel presence sync bugs
- **Bugfix:** Ensure the CCP default dimensions are adjusted to CCPv2 defaults
- **Feature:** Add block "Set Agent Status By Name on Connect."

5.0 August 2020

- **This release has new features and updates:** Please test and validate version 5.0 in your Salesforce sandbox before upgrading this in production.
- **CTI Flows:** CTI Flows replace Lightning CTI Extensions in allowing customers to build their agent workflows for Lightning and Classic via a drag and drop UI. Many of the CTI blocks are similar to the Lightning CTI Extension script API calls and can be mapped similarly. Lightning CTI Extension scripts are NOT automatically migrated to CTI Flows. When upgrading the package with existing scripts, it will give you the option to download the existing script for reference before building your CTI Flows. We strongly recommend you validate this install/upgrade in a test environment and fully test the CTI Flows against your previous scripts functionality. Please open a support ticket if there is additional functionality you require from your current scripting implementation.
- **Security Profile improvements:** Added AC Administrator, AC Agent, and AC Manager permission sets to enforces objects access and fields level security (FLS) as per Salesforce security guideline for managed package. To access Amazon Connect Objects and fields, user should either one of Amazon Connect permission sets AC Administrator, AC Agent, and AC Manager.
- **Attributes:** Amazon Connect CCP (Contact Control Panel) in Lightning and Classic now display an overlay for showing attributes consistently.
- **AWS Secrets Manager** support for storing Salesforce credentials.
- **VPC Support:** ability to place Lambdas in VPC
- **New Salesforce API integration:** Exposed new operations in sfinvokeapi to read or create Salesforce records(query, queryOne, createChatterPost, createChatterComment,

- lookup_all, delete)
- **Upgrade:** Amazon Connect Streams API bumped up to version 1.5.
 - **Bugfix:** Task creation issue for non-connect users - Fixed task trigger apex code, added a validation before evaluate security access check for Amazon Connect managed package objects
 - **Bugfix:** Contact interaction duration fixed.
 - **Other minor bugfixes and improvements**

4.5 April 2020

- **This release has new features and updates:** Please test and validate version 4.5 in your Salesforce sandbox before upgrading this in production.
- **Installation / Configuration:** AC_Administrator role has been added to manage CTI Configuration in addition to AC_Manager and AC_Agent. See documentation for further information.
- **API:** Updated support for CCPv2 in Classic/Console. See documentation for Call Center settings.
- **Bugfix:** Updated attribute display to resolve duplicated attributes.
- **Security:** Improved enforced Salesforce sharing model (record and field level) support.

4.4 March 2020

- **This release has significant new features and updates:** Please test and validate version 4.3 in your Salesforce sandbox before upgrading this in production.
- **Documentation:** Guide has been rewritten and restructured based on feedback.
- **Installation / Configuration:** Improved installation and configuration guide
- **Installation / Configuration:** Added Enhanced Agent Logout functionality to Lightning.
- **API:** Updated to the latest Amazon Connect Streams and Chat libraries
- **API:** Additional extensibility methods provided
- **Setup:** Improved Presence Sync Rule editor
- **Setup:** CTI Adapter validation is performed upon initialization and will inform the user of common misconfigurations.
- **Setup:** Additional CTI Script examples are provided.
- **Setup:** The ability to place the lightning transcript view on Task, Contact Channel, and Contact Channel Analytics object has been added.
- **Bugfix:** OmniChannel workload related data not being usable has been resolved.
- **Bugfix:** CTI Attribute issue when processing multiple pieces of contact attribute data has been resolved.
- **Bugfix:** The call transcript now scrolls within a fixed region rather than consuming vertical space.
- **Bugfix:** Finding Task Record in Classic/Console fixed.
- **Security:** The ability to create, update, and delete AC_CtiAdapter, AC_CtiScript, AC_CtiAttribute and AC_PresenceSyncRule records has been removed from the AC_Agent permission set.

4.2 December 2019

- **This release has significant new features and updates:** Please test and validate version 4.2 in your Salesforce sandbox before upgrading this in production.
- **Installation / Configuration:** Improved installation and configuration guide
- **API:** Lightning CCP Extension scripts and reference guide
- **Setup:** A default CTI adapter and scripts for click-to-dial, voice contact pop, and chat contact pop are not included in the base installation.
- **Editor:** A more robust script editor is included for use in CTI adapter / script configuration.
- **Bugfix:** SSO issue has been resolved

4.1 November 2019

- **This release has significant new features and updates:** Please test and validate version 4.0 in your Salesforce sandbox before upgrading this in production. As we look to simplify documentation, this release introduces a new [Amazon Connect CTI Adapter v4 for Salesforce Lightning](#) setup and installation guide. Please review this setup guide in detail to see all the latest changes for Lightning CTI Adapter installations.
- **Classic and Console CTI setup guide:** Please use the [Amazon Connect CTI Adapter v4 for Salesforce Classic](#) setup and installation guide for Classic and Console CTI Adapter installations.
- **Amazon Connect Chat and Contact Control Panel (CCP) v2:** support for Amazon Connect chat and integration of CCP v2. CCP v2 is required for Lightning CTI Adapter installations. CCP v1 is still supported for Classic / Console CTI Adapter installations.
- **Historical and Real-Time Reporting:** updated historical metric functionality with additional metrics and dashboards. Added real-time metrics and dashboards. This functionality requires an update of AWS Serverless Lambda functions for Salesforce.
- **Lightning CCP Extensions and configuration:** We have revamped the approach for the Call Center config and have added a new AC CTI Adapters Lighting config page.
- **High Velocity Sales:** CTI Adapter integration supported for Salesforce High Velocity Sales product.

3.11 August 2019

- Added support for Salesforce platform encryption
- Fixed issue with logout action not re-rendering the sign-in button
- Fixed documentation issue regarding presence sync sources
- Fixed documentation issue regarding recorded conversations security configuration
- Updated documentation for presence sync rule configuration

3.10 July 2019

- Added support for enabling / disabling softphone popout
- Added support for previousWorkloadPct and newWorkloadPct operands in presence sync rules
- Fixed issue with presence sync rules loading

3.9 May 2019

- Added support for Opportunities for Task association
- Fixed issue with presence sync rules loading
- Fixed issue with state setting when no presence rules defined
- Fixed issue with Task pop in specific config scenarios

3.87 May 2019

- NOTE: The "mini" Task page has been deprecated in this release of the adapter. Users requiring custom functionality may use the page and controller code included in this document as a starting point for a custom Task page of their design.
- Added rules-based configuration of agent presence state between Amazon Connect and Salesforce
- Added enhanced contact attribute display and configuration including clickable hyperlinks, key-value display options, and key-value formatting
- Added option to enable/disable automatic call duration updating on the Task object
- Added functionality to directly pop associated record on click-to-dial avoiding search and pop behavior
- Fixed issue with callback Task pops not occurring in some cases

3.7 May 2019

- Unpublished version

3.6 April 2019

- NOTE: Automatic association of accounts, contacts, leads, or contacts to call activity (Task) records based upon tab navigation has been deprecated. Automatic association of accounts, contact, leads or contacts to call activity (Task) records when a single match is made via ANI lookup OR by contact attribute is supported.
- NOTE: The "mini" Task page will be deprecated in future releases. The default setting is now "DEFAULT_TASK_LAYOUT".
- NOTE: Automatic pop of Tasks in an object's (Account, Contact, Lead, Case) subtab is only supported with the object (Account, Contact, Lead, Case) is open in a primary tab.
- Added support for queued callback calls
- Added support for specifying call types for which to create Task objects
- Added support for enabling / disabling automatic call duration updates of call activity (Task) objects.
- Fixed issue with secondary click-to-dial in console mode
- Fixed issue with Task pop occurring during call connecting when set to start of call
- Fixed issue with call context data remaining after a call has ended
- Fixed issue with contact attributes being displayed after a call has ended or has been missed
- Fixed issue with click to dial with ani match to multiple Salesforce objects

3.1 March 2019

- Added ability to specify DEFAULT_TASK_LAYOUT for the Call Activity Page setting

- Added ability to specify static values used during initial task creation
- Added support for Standard Lightning navigation
- Added support for secondary click-to-dial in Console mode
- Fixed issue with primary tab closing upon call activity (Task) save
- Fixed issue with Case handling and Task association

3.0 February 2019

- Removed requirement for Omni-channel to be enabled to perform installation
- Added ability to specify custom ringtone
- Added ability to enable or disable the automatic creation of task (call activity) objects
- Added ability to specify a page to select creation of Lead or Contact when an object with matching ANI is not found
- Added ability specify task (call activity) object pop at the start of call, end of call, or to disable pop
- Added ability to edit task (call activity) subject
- Added automatic setting of whold and whatId on task (call activity) objects
- Added ability to specify a custom task pop page
- Added ability to include agent friendly name when creating task (call activity) objects for calls delivered to agent queues
- Added ability to add third call participant via click to dial
- Added call attributes display in classic mode
- Fixed call attributes display being persistent when no attributes are defined
- Added ability for automatic task creation on outbound calls
- Upgraded API to amazon connect streams 1.3
- Added support for Lightning Flow Setup

Further Reading

For additional information, see the following:

- Amazon Connect CTI Adapter for Salesforce:
[https://appexchange.salesforce.com/appxListingDetail?
listingId=a0N3A00000EJH4yUAH](https://appexchange.salesforce.com/appxListingDetail?listingId=a0N3A00000EJH4yUAH)
- Amazon Connect User Guide:
<https://docs.aws.amazon.com/connect/latest/userguide/using-amazon-connect.html>
- Amazon Connect Admin Guide:
<https://docs.aws.amazon.com/connect/latest/adminguide/what-is-amazon-connect.html>
- Amazon Connect API Reference:
<https://docs.aws.amazon.com/connect/latest/APIReference>Welcome.html>
- Amazon Connect Release Notes:
[https://docs.aws.amazon.com/connect/latest/adminguide/amazon-connect-release-
notes.html](https://docs.aws.amazon.com/connect/latest/adminguide/amazon-connect-release-notes.html)

- Amazon Connect FAQ:
<https://aws.amazon.com/connect/faqs>

Key Benefits and Requirements

Key Benefits

The key benefits of the adapter include:

- **Amazon Connect Voice and Chat:** ability to take voice and chat calls in the salesforce agent experience and advanced screen pop on the incoming phone number, case, account or contact. Agents can also click to dial a number within their contacts.
- **Single Sign-On support:** seamless login with Connect and Salesforce with any standard SAML 2.0 provider.
- **IVR data dips:** easily inject salesforce data into the customer experience. Businesses can offer personalized greetings and dynamic routing based on customer information.
- **Call disposition and activity management:** configure post call workflows to support your Agent's after call work.
- **Omnichannel Presence Sync:** enable Salesforce chat, sms and email to share presence with Amazon Connect. Amazon Connect will know when an agent is handling a Salesforce chat and make them unavailable for a voice call, and vice versa.
- **Call logging and recording:** Voice and chat interactions can be logged as Salesforce activities and Amazon Connect call recordings can be played within the Salesforce.
- **Contact center real-time reports:** display real-time contact center metrics within Salesforce from Amazon Connect.
- **Contact center historical reports:** display historical contact center metrics within Salesforce from Amazon Connect.
- **Lightning CCP extensions:** easily customize and extend behaviors within the CTI Adapter such as screenpop and activity management. Default scripts along with the API guide provide key examples.
- **High-velocity sales (HVS):** using Salesforce HVS, enable your inside sales team to follow a repeatable pre-define sales cadence for your business. It enables sales managers and reps to work on prioritize list of prospects and follow best sequence of sales outreach activities defined by your sales process.

We recommend that you initially install the package into your Salesforce sandbox. After the package is installed, you can configure your Salesforce Call Center configuration within Salesforce.

The next step is to whitelist your Salesforce Visualforce domain within your Amazon Connect Application integration. This allows cross-domain access to your Amazon Connect instance.

If you want to quickly get setup with basic CTI capabilities in Lightning, we suggest you walk through our Salesforce trailhead available at <https://sfdc.co/Amazon-Connect>.

Requirements

To successfully create, configure, and implement the Amazon Connect CTI Adapter for Salesforce, you must ensure that the requirements and prerequisites described in this section are in place before you start.

Prerequisites

To install the Amazon Connect CTI package, you must:

1. Have a running instance of Salesforce Classic, Salesforce Console, or Lightning Experience
2. Create an Amazon Connect instance (<https://aws.amazon.com/connect/>)

Browser Compatibility

Amazon Connect requires WebRTC to enable soft-phone voice media stream and Websockets to enable soft-phone signaling. Consequently, users are required to use the latest version of either Google Chrome or Mozilla Firefox. For more information, please see the Amazon Connect documentation (<https://aws.amazon.com/connect/resources/#Documentation>)

Salesforce Lightning Support

Please note that following features are currently not supported in Salesforce Lightning:

- Outbound Campaign Calls using Salesforce Omni can be routed to the agent, but the automated screen pops and the dialing of the phone number will not work. The agent will have to click on the record links to open the records and use Salesforce's Click-to-Dial feature to make the phone call.
- Lightning Standard Navigation is not currently supported in App Options for the Amazon Connect CTI Adapter. Console navigation is fully supported.

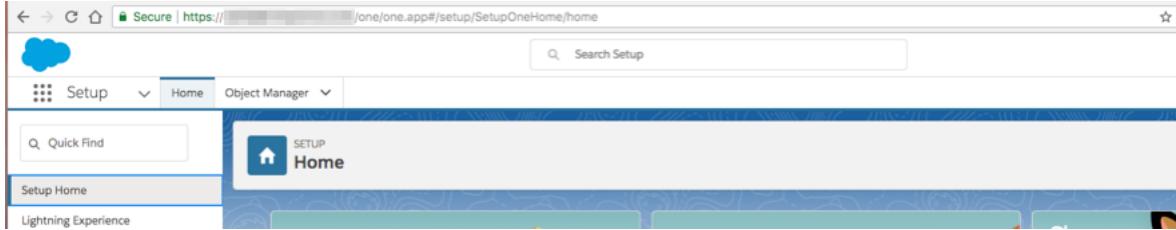
Installing the Amazon Connect CTI Adapter for Salesforce Package

Lightning Flow Setup Installation

1. Navigate to **Service Setup** within the Lightning UI under the gear icon.
2. Click **View All**
3. Search for or select **Add Phone Support**
4. Click **Start** on the **Voice Setup** screen
5. Under **Select Your Voice Provider**, select Amazon Connect CTI Adapter
6. Agree to the terms and conditions and click **Install Package**
7. Under **Add Voice Service Provider Details**, add the URL to your Amazon Connect instance (see instructions below if you are unsure). You will also need to whitelist your Salesforce domain within Amazon Connect.
8. Under **Who's Answering the Phone?**, select the name of the users you would like to access the phone configuration. This can be modified later under the Call Center configuration.
9. Click Finish. You can also launch the Amazon Connect Setup Guide.

Installing from the Salesforce AppExchange

1. Log in into your Salesforce instance and open **Setup**.



2. Open the [Amazon Connect CTI Package URL](#), then choose **Install for All Users**.



Install Amazon Connect - Universal Package

By Amazon AWS



Install for Admins Only



Install for All Users



Install for Specific Profiles...

Install

Cancel

App Name

Amazon Connect - Universal
Package

Publisher

Amazon AWS

Version Name

Production - September 2018 2.3

[Release Notes](#)

[Additional Details](#)

[View Components](#)



Install Amazon Connect - Universal Package

By Amazon AWS



Installing and granting access to all Users...

App Name

Amazon Connect - Universal
Package

Publisher

Amazon AWS

Version Name

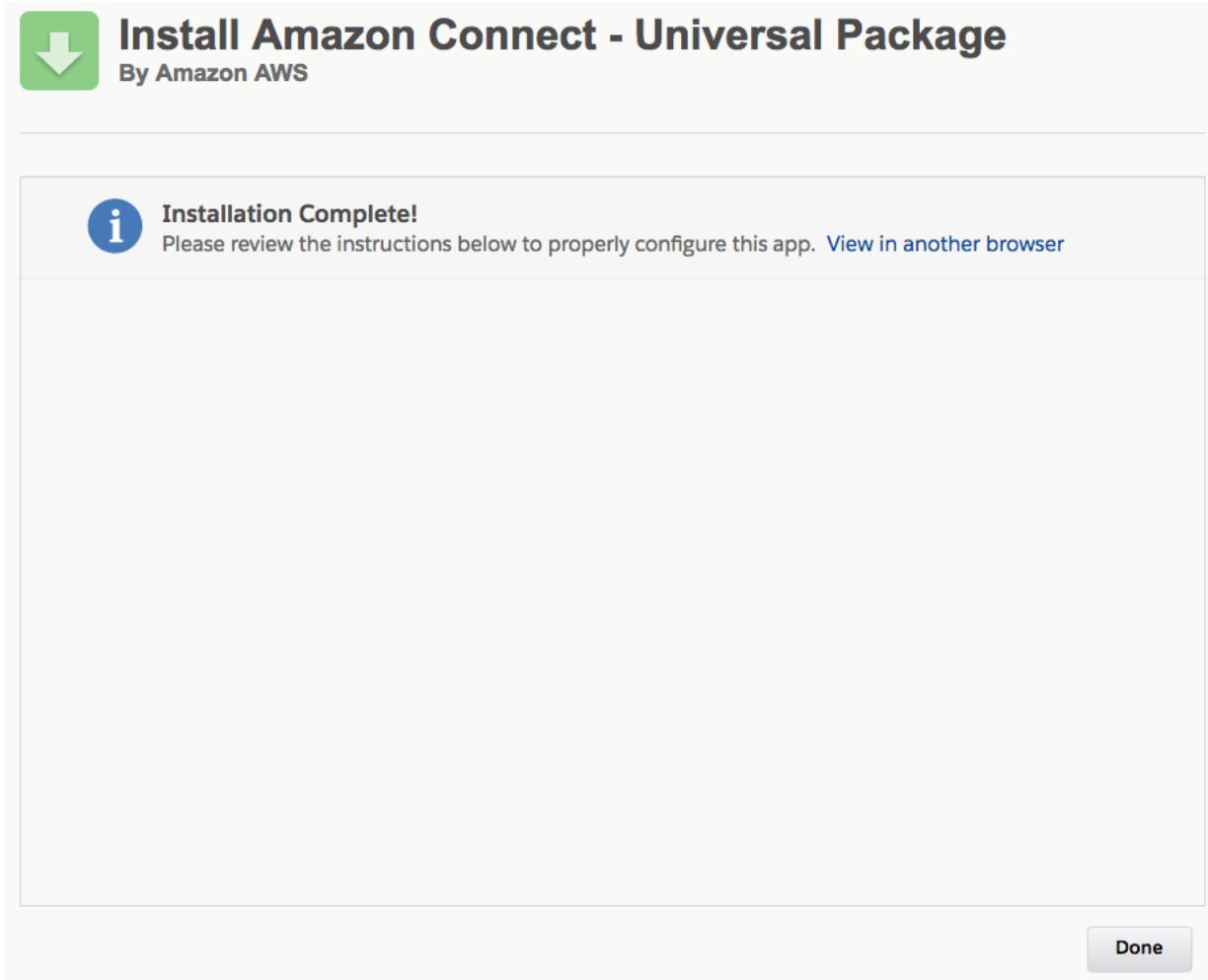
Production - September 2018 2.3

Version Number

[Release Notes](#)

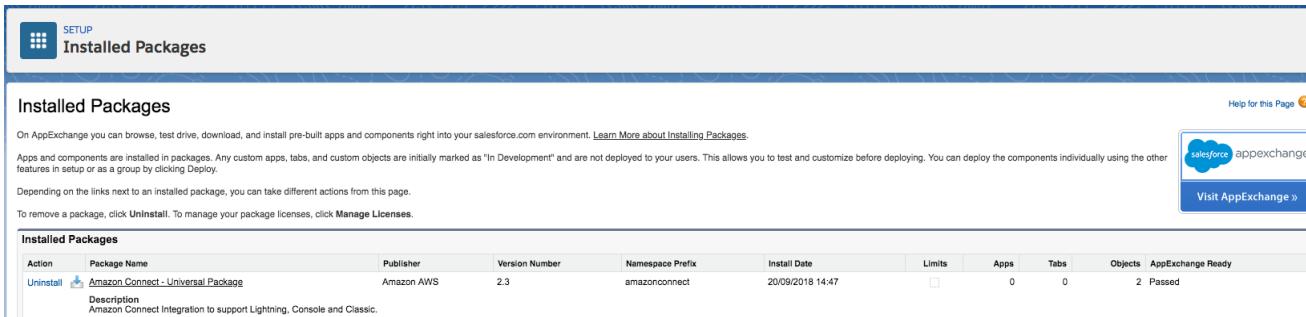
[Additional Details](#)

[View Components](#)



The screenshot shows the 'Install Amazon Connect - Universal Package' page from the AppExchange. At the top left is a green download icon. The title 'Install Amazon Connect - Universal Package' is displayed in large bold text, followed by 'By Amazon AWS'. Below the title, there's a message box with an information icon containing the text 'Installation Complete!'. It says, 'Please review the instructions below to properly configure this app.' and provides a link 'View in another browser'. A large empty area follows, and at the bottom right is a 'Done' button.

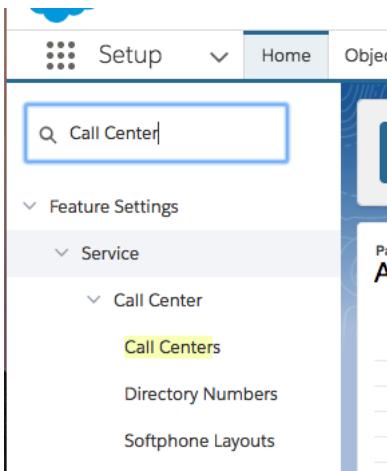
3. Choose **Done**. The **Installed Packages** page opens.



The screenshot shows the 'Installed Packages' page in the Salesforce setup. The header includes a 'SETUP' icon and the title 'Installed Packages'. On the right, there are links for 'Help for this Page' and 'Visit AppExchange ». The main content area is titled 'Installed Packages' and contains a table with one row. The table columns are: Action, Package Name, Publisher, Version Number, Namespace Prefix, Install Date, Limits, Apps, Tabs, Objects, and AppExchange Ready. The single row shows the package 'Amazon Connect - Universal Package' published by 'Amazon AWS' with version 2.3, namespace prefix 'amazonconnect', installed on '20/09/2018 14:47', and 2 objects passed.

Action	Package Name	Publisher	Version Number	Namespace Prefix	Install Date	Limits	Apps	Tabs	Objects	AppExchange Ready
Uninstall	 Amazon Connect - Universal Package	Amazon AWS	2.3	amazonconnect	20/09/2018 14:47	<input type="checkbox"/>	0	0	2	Passed

4. In the **Quick Find** box, type **Call Center**, then choose **Call Centers**.



The Call Centers page opens. You should see 3 Call Center configurations: Classic, Console and Lightning.

All Call Centers

A call center corresponds to a single computer-telephony integration (CTI) system already in place at your organization. Salesforce.com users must be assigned to a call center before they can use any Call Center features.

Action	Name	Version	Created Date	Last Modified Date
Edit Del	Amazon Connect CCP Adapter Classic	23	05/2018 13:27	23/05/2018 13:27
Edit Del	Amazon Connect CCP Adapter Console	23	05/2018 13:27	23/05/2018 13:27
Edit Del	Amazon Connect CCP Adapter Lightning	23	05/2018 13:27	23/05/2018 13:27

Create the Softphone Layout

Next, we need to create a softphone layout for the solution.

The screenshot shows the 'Softphone Layouts' page under the 'Setup' section. The sidebar includes 'Feature Settings', 'Service', 'Call Center', and 'Softphone Layouts', with 'Softphone Layouts' currently selected. The main area displays a table with one record: 'No records to display.' A note at the bottom says 'A softphone is a customizable call control tool that appears in the sidebar of every salesforce.com page if a user is assigned to a call center and is working on a machine on which a CTI adapter has been installed. Similar custom softphone layouts and assign them to call center users based on their user profile.'

6. In the **Quick Find** box, type **Softphone Layouts**, then choose **Softphone Layouts**.

7. Choose **New**.

Softphone Layout Edit

Help for this Page

Each softphone layout allows you to customize the appearance of a softphone for inbound, outbound, and internal calls. Assign softphone layouts to user profiles by clicking Layout Assignment in the Softphone Layouts page.

The screenshot shows the 'Softphone Layout' edit screen. At the top, there are 'Save' and 'Cancel' buttons. Below them is a 'Name' input field containing 'AmazonConnectDefault' and an 'Is Default Layout' checkbox which is checked. A 'Select Call Type' dropdown is set to 'Inbound'. The main area is titled 'Softphone Layout' and contains sections for 'Display these call-related fields' (with 'Caller ID, Dialed Number' listed) and 'Display these salesforce.com objects' (with 'Account, Contact, Lead' listed). Below these are three expandable sections for 'Account', 'Contact', and 'Lead', each with detailed configuration options like 'If single Account found, display: Account Name' and 'Edit' buttons.

8. Enter a name for the layout, such as *AmazonConnectDefault*, then select the **Is Default Layout** checkbox.

Softphone Layout Edit

Each softphone layout allows you to customize the appearance of a softphone for inbound, outbo

The screenshot shows the 'Softphone Layout' edit screen with the 'Name' field set to 'AmazonConnectDefault' and the 'Is Default Layout' checkbox checked. The 'Select Call Type' dropdown is set to 'Inbound'.

9. Expand "Display these salesforce.com objects" and select objects that CTI Connector should be able to search, for a screen-pop query. In this example, besides default selection, I'm adding "Case", as I want to search and screen-pop by CaseID.

The screenshot shows the 'Display these salesforce.com objects' configuration screen. It has two columns: 'Available' and 'Selections'. Under 'Available', there is a list of objects: Campaign, Event, Opportunity, Task, User, Account, Contact, Lead, and Case. Under 'Selections', 'Account', 'Contact', 'Lead', and 'Case' are listed. Between the two columns are 'Add' and 'Remove' buttons, and 'Up' and 'Down' buttons for reordering.

10. If necessary, configure the search behavior in the case that one or multiple records are found upon CTI search.

The screenshot shows the search behavior configuration screen. It contains four expandable sections: 'If single Account found, display: Account Name', 'If single Contact found, display: Name', 'If single Lead found, display: Name', and 'If single Case found, display: Case Number'. Each section includes a detailed description of the behavior and an 'Edit' button.

11. In this example, keep the default configuration, then choose **Save**.

Softphone Layout Edit

Each softphone layout allows you to customize the appearance of a softphone for inbound, outbound, a

Name: AmazonConnectDefault
Is Default Layout:

Softphone Layouts

A softphone is a customizable call control tool that appears in the sidebar of every salesforce.com page if a user is assigned to a call center and is working on a machine on which a CTI adapter has been installed. Similar to page lay

Action	Name ↑	Default	Created By Alias	Created Date	Last Modified By Alias	Last Modified Date
Edit	AmazonConnectDefault	<input checked="" type="checkbox"/>	ASfdc	23/05/2018 13:48	ASfdc	23/05/2018 13:48

Set Access Permissions

All users must be assigned the required permission set to access the Salesforce metadata included in this package. The Amazon Connect CTI integration package comes with two Permission Sets, one for agents and one for managers, that grant the users all necessary access to use the softphone.

1. Log in into your Salesforce Org.
2. Navigate to **Setup > Manage Users > Permission Sets**.

Permission Sets

On this page you can create, view, and manage permission sets.

In addition, you can use the Salesforce mobile app to assign permission sets to a user. Download Salesforce from the App Store or Google Play: [iOS](#) | [Android](#)

Action	Permission Set Label	Description
<input type="checkbox"/>	Toolkit for Amazon Connect - Agent	Permissions to all components that an agent would need to use the toolkit.
<input type="checkbox"/>	Toolkit for Amazon Connect - Manager	Permissions required to access the toolkit reports.

2. Choose **AC_Manager**.

Assign Users

All Users

View: All Users [Edit](#) | [Create New View](#)

Assign Cancel

3. Choose **Manage Assignments**.
4. Choose **Add Assignments**.

5. Select the users to assign the permissions, then choose **Assign**. More information on assigning user permissions can be found at: https://help.salesforce.com/articleView?id=perm_sets_mass_assign.htm&type=5

AC_Administrator

Org Level Object Sharing Model	Object Access	Read	Create	Edit	Delete	View All	Modify All
Public	AC Agent Performance	✓	✓	✓	✓	✓	✓
Public	AC Contact Channel Analytics	✓	✓	✓	✓	✓	✓
Public	AC Contact Channels	✓	✓	✓	✓	✓	✓
Public	AC Contact Trace Records	✓	✓	✓	✓	✓	✓
Public	AC CTI Adapters	✓	✓	✓	✓	✓	✓
Public	AC CTI Attributes	✓	✓	✓	✓	✓	✓
Public	AC CTI Scripts	✓	✓	✓	✓	✓	✓
Public	AC Events	✓	✓	□	□	□	□
Public	AC Historical Queue Metrics	✓	✓	✓	✓	✓	✓
Public	AC Presence Sync Rules	✓	✓	✓	✓	✓	✓
Public	AC Queue Metric Events	✓	✓	□	□	□	□
Public	AC Real Time Queue Metrics	✓	✓	✓	✓	✓	✓
Private	AC Voicemail Drops	✓	✓	✓	✓	✓	✓
Public	Amazon Connect Call Campaigns	✓	✓	✓	✓	✓	✓

AC_Manager

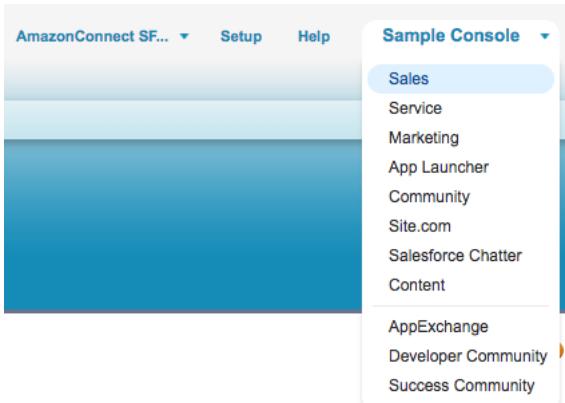
Org Level Object Sharing Model	Object Access	Read	Create	Edit	Delete	View All	Modify All
Public	AC Agent Performance	✓	□	□	□	✓	□
Public	AC Contact Channel Analytics	✓	□	□	□	✓	□
Public	AC Contact Channels	✓	✓	✓	□	✓	□
Public	AC Contact Trace Records	✓	□	✓	□	✓	□
Public	AC CTI Adapters	✓	□	□	□	□	□
Public	AC CTI Attributes	✓	□	□	□	□	□
Public	AC CTI Scripts	✓	□	□	□	□	□
Public	AC Events	✓	✓	□	□	□	□
Public	AC Historical Queue Metrics	✓	□	□	□	✓	□
Public	AC Presence Sync Rules	✓	□	□	□	✓	□
Public	AC Queue Metric Events	✓	✓	□	□	□	□
Public	AC Real Time Queue Metrics	✓	□	□	□	✓	□
Private	AC Voicemail Drops	✓	✓	✓	✓	✓	✓
Public	Amazon Connect Call Campaigns	✓	✓	✓	□	✓	□

AC_Agent

Org Level Object Sharing Model	Object Access	Read	Create	Edit	Delete	View All	Modify All
Public	AC Agent Performance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Public	AC Contact Channel Analytics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Public	AC Contact Channels	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Public	AC Contact Trace Records	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Public	AC CTI Adapters	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public	AC CTI Attributes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public	AC CTI Scripts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public	AC Events	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public	AC Historical Queue Metrics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Public	AC Presence Sync Rules	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Public	AC Queue Metric Events	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public	AC Real Time Queue Metrics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Private	AC Voicemail Drops	<input checked="" type="checkbox"/>					
Public	Amazon Connect Call Campaigns	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Configure Console Experience

For the Console experience, we are going to use Sample Console application, but the procedure is the same for other applications.



In the top navigation bar, select the "+" icon.



All Tabs

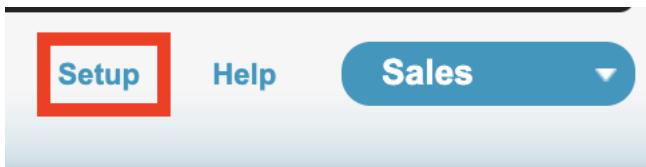
Use the links below to quickly navigate to a tab. Alternatively, you can [add a tab](#) to your display to better suit the way you work.

View: All Tabs ▾

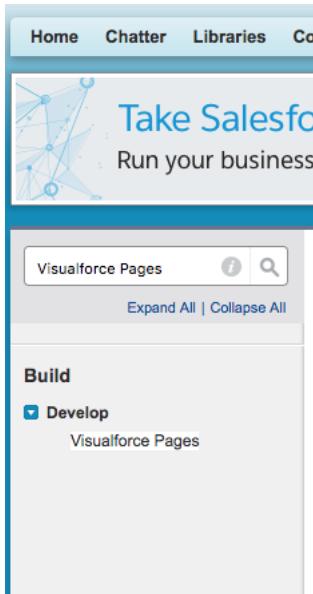
 AC Contact Channel Analytics	 Documents
 AC Contact Trace Records	 Duplicate Record Sets
 Accounts	 Engagement Channel Types
 AC CTI Adapters	 External Managed Accounts
 AC Real Time Queue Metrics	 Files
 AC Voicemail Drops	 Forecasts
 Analytics	 Groups
 App Launcher	 Home

Select "AC CTI Adapters"

Create a new adapter. Fill in the CTI Adapter Name, and Amazon Connect Instance Alias. For the Call Center Definition Name, type in ACCConsoleAdapter. Select Save.



In the Quick Find field, type Visualforce Pages and select Visual Force Pages:



The screenshot shows the Salesforce developer console interface. At the top, there's a navigation bar with Home, Chatter, Libraries, and other tabs. Below the navigation bar is a banner for "Take Salesfo" with the tagline "Run your business". In the main content area, there's a search bar labeled "Visualforce Pages" with a magnifying glass icon. Below the search bar are buttons for "Expand All" and "Collapse All". On the left side, there's a sidebar titled "Build" with a checkbox labeled "Develop" and a sub-item "Visualforce Pages".

Security   AC_RecordingViewer	AC_RecordingViewer	amazonconnect
Security   AC_CtiScriptEditor	AC_CtiScriptEditor	amazonconnect
Security   AC_LightningAdapter	AC_LightningAdapter	amazonconnect
Security   AC_LightningScriptIncludes	AC_LightningScriptIncludes	amazonconnect
Security   AC_RealTimeQueueMetrics	AC_RealTimeQueueMetrics	amazonconnect
Security   AC_ClassicScriptIncludes	AC_ClassicScriptIncludes	amazonconnect
Security   AC_ConsoleAdapter	AC_ConsoleAdapter	amazonconnect
Security   AC_ConsoleScriptIncludes	AC_ConsoleScriptIncludes	amazonconnect
Security   ACSFCCP_CallTask	ACSFCCP_CallTask	amazonconnect
Security   ACSFCCP_ObjectType	ACSFCCP_ObjectType	amazonconnect
Security   ACSFCCP_PostCallUpdateTask	ACSFCCP_PostCallUpdateTask	amazonconnect
Security   AC_ClassicAdapter	AC_ClassicAdapter	amazonconnect
Security   ACSFCCP_CallRecordingTask	ACSFCCP_CallRecordingTask	amazonconnect
Security   ACSFCCP_CallLogging_View	ACSFCCP_CallLogging_View	amazonconnect
Security   ACSFCCP_CallRecordingCase	ACSFCCP_CallRecordingCase	amazonconnect
Security   AC_HelperIncludes	AC_HelperIncludes	amazonconnect
Security   AC_HelperIncludesCcpV1	AC_HelperIncludesCcpV1	amazonconnect

As we are currently setting up the Console experience, click on AC_ConsoleAdapter page.

Visualforce Page amazonconnect__AC_ConsoleAdapter

Page Detail		Where is this used?	Preview	
Label	AC_ConsoleAdapter		Name	AC_ConsoleAdapter
Namespace Prefix	amazonconnect		Available for Lightning Experience, Lightning Communities, and the mobile app	<input type="checkbox"/>
Require CSRF protection on GET requests	<input type="checkbox"/>		Description	

Click on the **Preview** button. A new browser tab will open with the URL of this page. It's going to be in this format:

`https://sfdcInstance--amazonconnect.visualforce.com/apex/AC_ConsoleAd`

This is what we are going to use as "Origin URL" in our Amazon Connect configuration. From AWS Console, select Amazon Connect service and then select your Amazon Connect instance:

The screenshot shows the 'Overview' section of an Amazon Connect instance named 'test10'. The left sidebar lists navigation options: Overview, Telephony, Data storage, Data streaming, Application integration (which is selected), and Contact flows. The main content area displays the instance ARN (arn:aws:connect:us-east-1:...), the directory ('test10'), and the login URL (`https://test10.awsapps.com/connect/login`). A 'Login as administrator' button is also present.

Select "Application Integration" on the left-hand side:

The screenshot shows the 'Application integration' page for the same 'test10' instance. The left sidebar now shows 'Application integration' as the selected option. The main content area contains information about integrating with CRM and WFM products, a section for 'Approved origins' (with a note about adding origins), and a link to '+ Add origin'.

Click on "Add origin" link and enter the origin URL

The screenshot shows a modal dialog titled 'Add origin'. It has a text input field labeled 'Enter origin URL' containing the value '`https://[REDACTED].visual.force.com`'. At the bottom right are two buttons: 'Cancel' and 'Add', with 'Add' being highlighted in blue.

Click "Add" button

Application integration

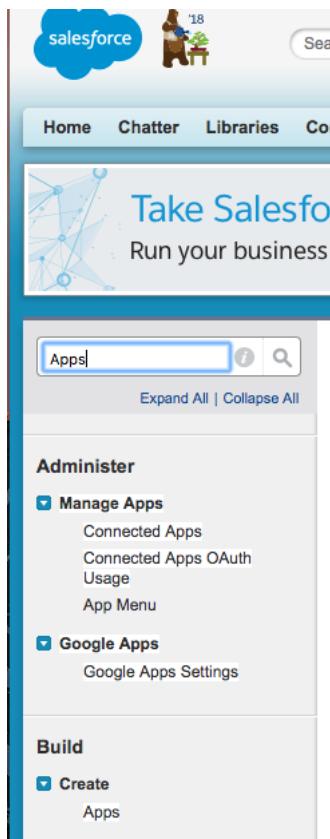
Amazon Connect can integrate with other products including Customer Relationship Management (CRM) and Workforce Management (WFM) products. Click on the link for details on how to set up integrations with Amazon Connect. [Learn more](#)

Approved origins

Once you integrated with a CRM product, add the origins (scheme + host + port) that Amazon Connect will need to have access to.

[https://\[REDACTED\].visual.force.com](https://[REDACTED].visual.force.com) [remove](#)
[+ Add origin](#)

From the Setup screen, type Apps in Quick Find field and select Build>Create>Apps:



The screenshot shows the Salesforce Setup interface. The left sidebar has sections for 'Administer' (Manage Apps, Google Apps) and 'Build' (Create). Under 'Create', the 'Apps' option is selected. The main area shows a search bar with 'Apps' typed in, and below it, a list of connected apps: App Launcher, Community, Content, Marketing, Platform, Sales, Salesforce Chatter, Sample Console, Service, and Site.com. Each item has an 'Edit' link and a checkbox column.

You will be able to see all applications that are available in your account.

Apps					Quick Start	New	Reorder
Action	App Label	Console	Custom	Description			
Edit	App Launcher	<input type="checkbox"/>	<input type="checkbox"/>	App Launcher tabs			
Edit	Community	<input type="checkbox"/>	<input type="checkbox"/>	Salesforce CRM Communities			
Edit	Content	<input type="checkbox"/>	<input type="checkbox"/>	Salesforce CRM Content			
Edit	Marketing	<input type="checkbox"/>	<input type="checkbox"/>	Best-in-class on-demand marketing automation			
Edit	Platform	<input type="checkbox"/>	<input type="checkbox"/>	The fundamental Lightning Platform			
Edit	Sales	<input type="checkbox"/>	<input type="checkbox"/>	The world's most popular sales force automation (SFA) solution			
Edit	Salesforce Chatter	<input type="checkbox"/>	<input type="checkbox"/>	The Salesforce Chatter social network, including profiles and feeds			
Edit	Sample Console	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(Salesforce Classic) Lets agents work with multiple records on one screen			
Edit	Service	<input type="checkbox"/>	<input type="checkbox"/>	Manage customer service with accounts, contacts, cases, and more			
Edit	Site.com	<input type="checkbox"/>	<input type="checkbox"/>	Build pixel-perfect, data-rich websites using the drag-and-drop Site.com application, and manage content and published sites.			

Click "Edit" next to the Sample Console application.

Scroll to the bottom of the page and "Assign to Profiles"

Profile	<input type="checkbox"/> Visible	<input type="checkbox"/> Default
Analytics Cloud Integration User	<input type="checkbox"/>	<input type="checkbox"/>
Analytics Cloud Security User	<input type="checkbox"/>	<input type="checkbox"/>
Contract Manager	<input type="checkbox"/>	<input type="checkbox"/>
Cross Org Data Proxy User	<input type="checkbox"/>	<input type="checkbox"/>
Custom: Marketing Profile	<input type="checkbox"/>	<input type="checkbox"/>
Custom: Sales Profile	<input type="checkbox"/>	<input type="checkbox"/>
Custom: Support Profile	<input type="checkbox"/>	<input type="checkbox"/>
Force.com - App Subscription User	<input type="checkbox"/>	<input type="checkbox"/>
Identity User	<input type="checkbox"/>	<input type="checkbox"/>
Marketing User	<input type="checkbox"/>	<input type="checkbox"/>
Partner App Subscription User	<input type="checkbox"/>	<input type="checkbox"/>
Read Only	<input type="checkbox"/>	<input type="checkbox"/>
Solution Manager	<input type="checkbox"/>	<input type="checkbox"/>
Standard Platform User	<input type="checkbox"/>	<input type="checkbox"/>
Standard User	<input type="checkbox"/>	<input type="checkbox"/>
System Administrator	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Buttons: Save | Save & New | Cancel

In this example, I'm assigning Sample console as Visible to System Administrator.

Choose **Save**.

From Setup, type Call Centers in the Quick Find field and select Call Centers.

The screenshot shows the Salesforce Setup interface. At the top, there's a navigation bar with links for Home, Chatter, Libraries, Content, and Subscriptions. Below this is a banner with the text "Take Salesforce with you" and "Run your business from any mobile device". On the left, there's a sidebar titled "Build" with checkboxes for "Customize" and "Call Center", and a link for "Call Centers". The main content area has a search bar with "Call Centers" typed in, and a "Getting Started" section featuring a pencil icon and the text "Build, generate or connect". At the bottom, there's a "Recent Items" section.

All Call Centers

A call center corresponds to a single computer-telephony integration (CTI) system already in place at your organization. Salesforce.com users must map the call center to their preferred CTI adapter.

Action	Name ↑	Import	Version
Edit Del	Amazon Connect CCP Adapter Classic		
Edit Del	Amazon Connect CCP Adapter Console		
Edit Del	Amazon Connect CCP Adapter Lightning		

Select "Amazon Connect CCP Adapter Console 3.9"

Call Center AC Console Adapter

All Call Centers » AC Console Adapter

Call Center Detail		Edit	Delete	Clone
General Information				
InternalName	ACConsoleAdapter			
Display Name	AC Console Adapter			
CTI Adapter URL	/apex/amazonconnect__AC_ConsoleAdapter?ccpVersion=2			
Softphone Height	544			
Softphone Width	325			
Use CTI API	true			
Salesforce Compatibility Mode	Classic			
Default CallCenter	true			
Package Namespace	amazonconnect			

If a CCP version 1 user interface is desired, remove the '?ccpVersion=2' from the CTI Adapter URL. Click on the Save button.

Click on the "Manage Call Center Users" button at the bottom of the page.

Call Center Users	Manage Call Center Users
Call Center Users by Profile	
Total	0

Call Center Amazon Connect CCP Adapter Console: Manage Users

All Call Centers » Amazon Connect CCP Adapter Console » Manage Users

View: All Create New View	Add More Users	Remove Users
Full Name ↑ No records to display.	Alias	Username

Call Center

Amazon Connect CCP Adapter Console: Search for New Users

All Call Centers » Amazon Connect CCP Adapter Console » Manage Users » Search for New Users

Set the search criteria below and then click Search to find salesforce.com users who should be enabled as :

--None--	↑	--None--	↑		AND
--None--	↓	--None--	↓		AND
--None--	↓	--None--	↓		AND
--None--	↓	--None--	↓		AND
--None--	↓	--None--	↓		

Filter By Additional Fields (Optional):

- You can use "or" filters by entering multiple items in the third column, separated by commas.
- For date fields, enter the value in following format: 23/05/2018
- For date/time fields, enter the value in following format: 23/05/2018 15:07

Set filters and click on the Find button. Select the checkbox next to the user and click "Add to Call Center" button.

Add to Call Center					
	Full Name	Alias	Username	Role	Profile
<input checked="" type="checkbox"/>	SFDCDryRun_AmazonConnect	ASFDC	acsfdcdryrun	System Administrator	
<input type="checkbox"/>	User_Integration	integ	integration@00d0n000001bsn5uua.com	Analytics Cloud Integration User	
<input type="checkbox"/>	User_Security	sec	insightssecurity@00d0n000001bsn5uua.com	Analytics Cloud Security User	

Repeat the steps to add more users.

Call Center

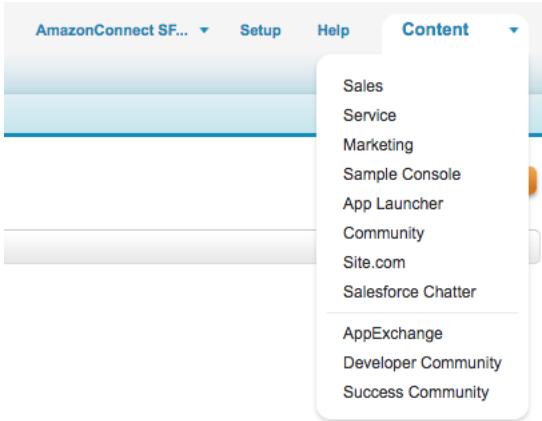
Amazon Connect CCP Adapter Console: Manage Users

All Call Centers » Amazon Connect CCP Adapter Console » Manage Users

View:

Add More Users			
Action	Full Name	Alias	Username
<input type="checkbox"/> Remove	SFDCDryRun_AmazonConnect	ASFDC	acsfdcdryrun

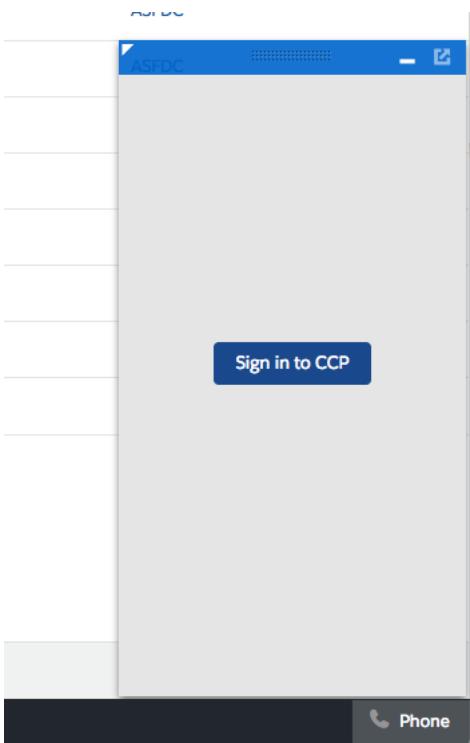
From the top-right corner, select Sample Console application.



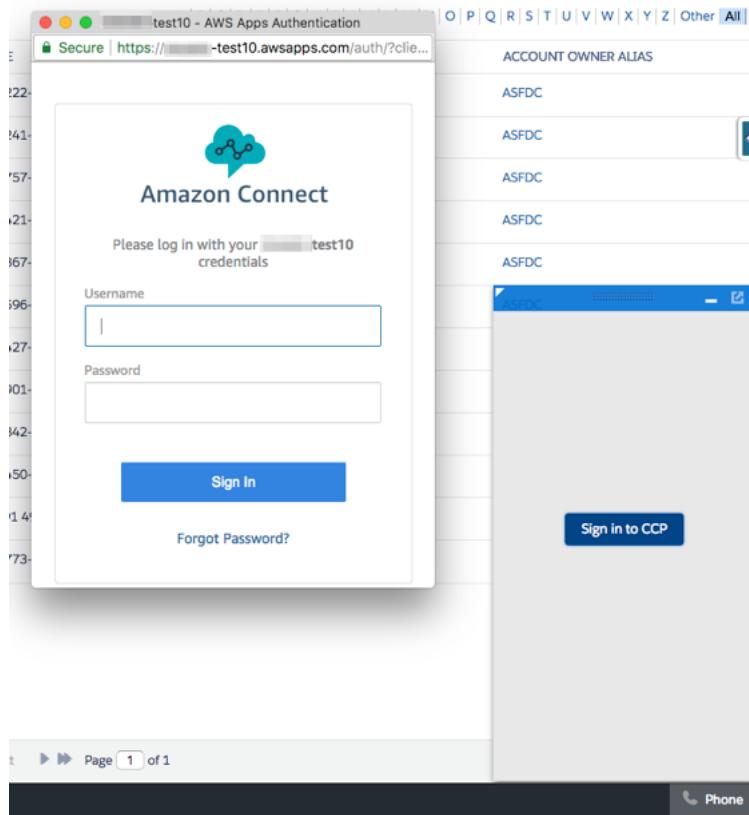
In the bottom-right corner, you will be able to see the Phone button.



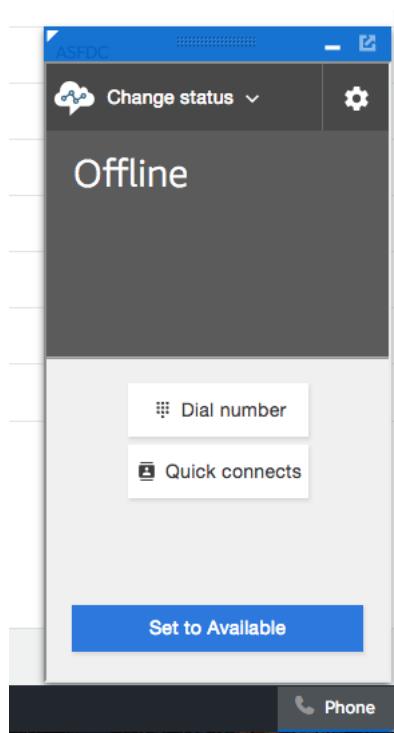
Click on the Phone button to open the softphone pop-up.



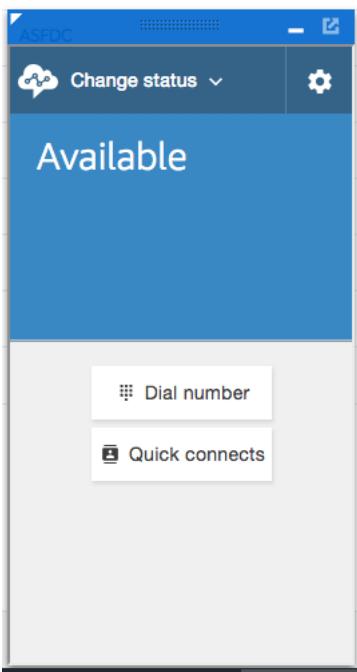
You will need to Sign in into your Amazon Connect CCP. Click on the Sign in to CCP button. A new modal pop-up will show, asking you to enter your credentials.



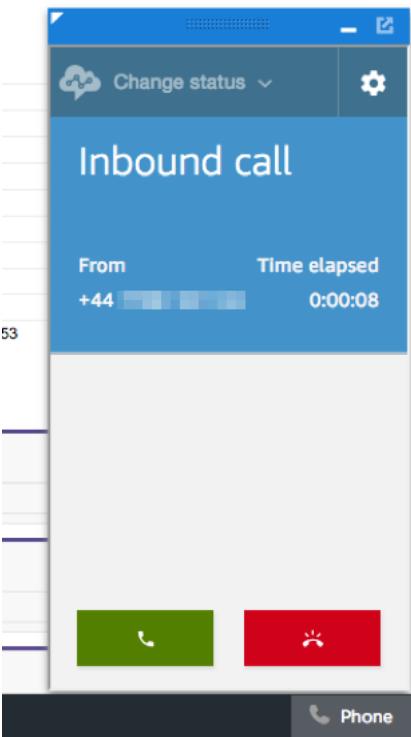
Enter your credentials and click Sign in. Allow Microphone access (if asked by browser). Once login is successful, the pop-up window will automatically close.

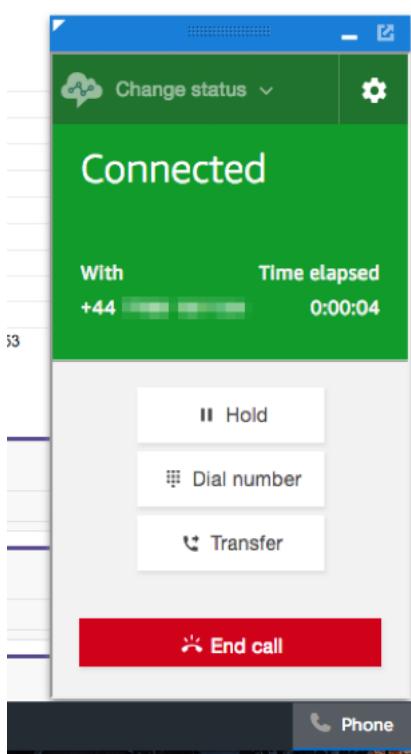


Select "Change status" and select "Available".



Make an inbound phone call to your Amazon Connect instance. The CCP is going to "ring" and you can answer the call.

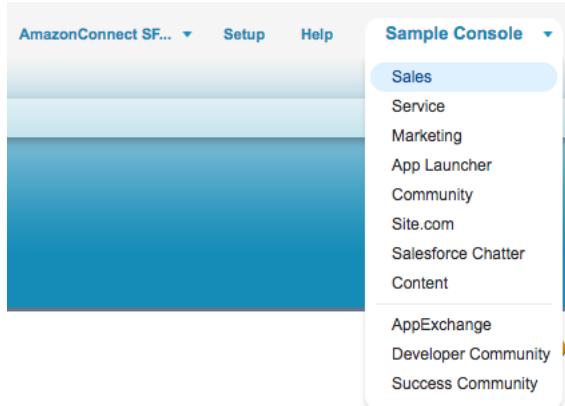




Configure Classic Experience

The Salesforce Classic is the easiest to configure, but it has some limitations. Most important limitation is that, with Classic layout, there are no tabs and modal containers, so each time new object is selected, a full page reload occurs. This full reload causes softphone to be reloaded too, which could cause an issue in the voice call audio stream. Because of that, in the Classic environment, we have to run a separate instance of softphone (CPP) which will carry the audio, while embedded instance of CCP can be used for call control and screen-pop functionality.

First, we have to configure Amazon Connect integration.



From the top right corner, select the Sales application.

In the top navigation bar, select the "+" icon.



All Tabs

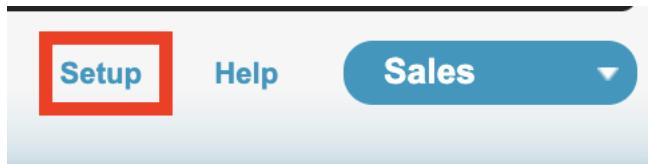
Use the links below to quickly navigate to a tab. Alternatively, you can add a tab to your display to better suit the way you work.

View: All Tabs ▾

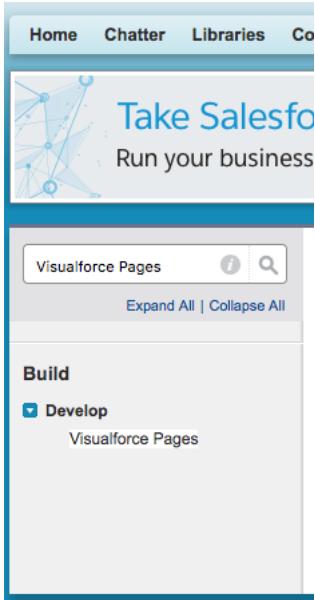
 AC Contact Channel Analytics	 Documents
 AC Contact Trace Records	 Duplicate Record Sets
 Accounts	 Engagement Channel Types
 AC CTI Adapters	 External Managed Accounts
 AC Real Time Queue Metrics	 Files
 AC Voicemail Drops	 Forecasts
 Analytics	 Groups
 App Launcher	 Home

Select "AC CTI Adapters"

Create a new adapter. Fill in the CTI Adapter Name, and Amazon Connect Instance Alias. For the Call Center Definition Name, type in ACClasicAdapter. Select Save.



In the Quick Find field, type Visualforce Pages and select Visual Force Pages:



Security   AC_RecordingViewer	AC_RecordingViewer	amazonconnect
Security   AC_CtiScriptEditor	AC_CtiScriptEditor	amazonconnect
Security   AC_LightningAdapter	AC_LightningAdapter	amazonconnect
Security   AC_LightningScriptIncludes	AC_LightningScriptIncludes	amazonconnect
Security   AC_RealTimeQueueMetrics	AC_RealTimeQueueMetrics	amazonconnect
Security   AC_ClassicScriptIncludes	AC_ClassicScriptIncludes	amazonconnect
Security   AC_ConsoleAdapter	AC_ConsoleAdapter	amazonconnect
Security   AC_ConsoleScriptIncludes	AC_ConsoleScriptIncludes	amazonconnect
Security   ACSFCCP_CallTask	ACSFCCP_CallTask	amazonconnect
Security   ACSFCCP_ObjectType	ACSFCCP_ObjectType	amazonconnect
Security   ACSFCCP_PostCallUpdateTask	ACSFCCP_PostCallUpdateTask	amazonconnect
Security   AC_ClassicAdapter	AC_ClassicAdapter	amazonconnect
Security   ACSFCCP_CallRecordingTask	ACSFCCP_CallRecordingTask	amazonconnect
Security   ACSFCCP_CallLogging_View	ACSFCCP_CallLogging_View	amazonconnect
Security   ACSFCCP_CallRecordingCase	ACSFCCP_CallRecordingCase	amazonconnect
Security   AC_HelperIncludes	AC_HelperIncludes	amazonconnect
Security   AC_HelperIncludesCcpV1	AC_HelperIncludesCcpV1	amazonconnect

As we are currently setting up the Classic experience, click on AC_ClassicAdapter page

Visualforce Page
[amazonconnect__AC_ClassicAdapter](#)

Page Detail		Where is this used?	Preview
Label	AC_ClassicAdapter	Name	AC_ClassicAdapter
Namespace Prefix	amazonconnect	Available for Lightning Experience, Lightning Communities, and the mobile app	<input type="checkbox"/>
Require CSRF protection on GET requests	<input type="checkbox"/>	Description	

Click on the Preview button. New browser tab will open with the URL of this page. It's going to be in this format:

`https://sfdcInstance--amazonconnect.visualforce.com/apex/AC_ClassicAd`

This is what we are going to use as "Origin URL" in our Amazon Connect configuration. From AWS Console, select Amazon Connect service and then select your Amazon Connect instance:

The screenshot shows the 'Overview' section of an Amazon Connect instance named 'test10'. The instance ARN is listed as 'arn:aws:connect:us-east-1:...:instance/193a3ba0-...'. The directory is 'test10'. The login URL is 'https://...-test10.awsapps.com/connect/login'. A 'Login as administrator' button is also visible.

Select "Application Integration" on the left-hand side:

The screenshot shows the 'Application integration' page. It includes a note about integrating with CRM and WFM products, a link to learn more, and a section for 'Approved origins'. A '+ Add origin' link is present. The 'Application integration' menu item is highlighted.

Click on "Add origin" link and enter the origin URL

The screenshot shows a modal dialog titled 'Add origin'. It has a text input field labeled 'Enter origin URL' containing the value 'https://...-test10.visual.force.com'. At the bottom are 'Cancel' and 'Add' buttons.

Click "Add" button

Application integration

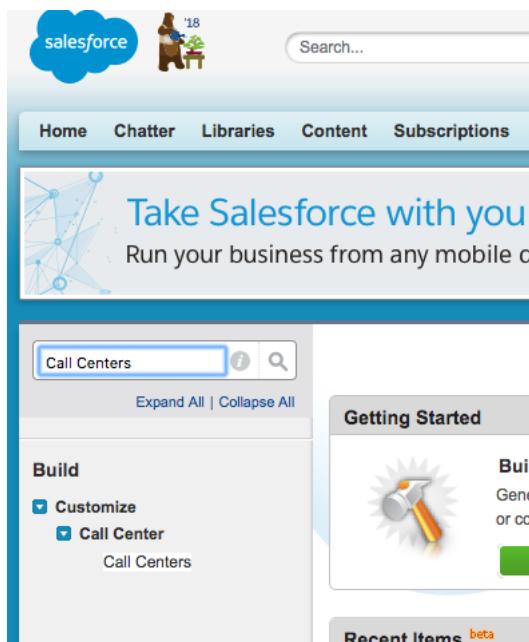
Amazon Connect can integrate with other products including Customer Relationship Management (CRM) and Workforce Management (WFM) products. Click on the link for details on how to set up integrations with Amazon Connect. [Learn more](#)

Approved origins

Once you integrated with a CRM product, add the origins (scheme + host + port) that Amazon Connect will need to have access to.

https://[REDACTED].visual.force.com [remove](#)
[+ Add origin](#)

From the Salesforce Classic layout, select Setup then type Call Centers in the Quick Find field and select Call Centers.



The screenshot shows the classic Salesforce interface. At the top, there's a navigation bar with links for Home, Chatter, Libraries, Content, and Subscriptions. A search bar is located at the top right. Below the header, a banner reads "Take Salesforce with you Run your business from any mobile d". The main content area has a sidebar on the left titled "Build" with checkboxes for "Customize" and "Call Center", and a link to "Call Centers". The main pane is titled "Getting Started" and features a "Build" button with a gear icon. At the bottom of the main pane, there's a "Recent Items" section with a "beta" label. The URL in the browser address bar is https://[REDACTED].visual.force.com.

All Call Centers

A call center corresponds to a single computer-telephony integration (CTI) system already in place at your organization. Salesforce.com users must have the appropriate permissions to view and manage call centers.

Action	Name	Import	Version
Edit Del	Amazon Connect CCP Adapter Classic		
Edit Del	Amazon Connect CCP Adapter Console		
Edit Del	Amazon Connect CCP Adapter Lightning		

Select "Amazon Connect CCP Adapter Classic 3.9"

Call Center Detail

[Edit](#) [Delete](#) [Clone](#)

General Information

InternalName	ACClassicAdapter
Display Name	AC Classic Adapter
CTI Adapter URL	/apex/amazonconnect__AC_ClassicAdapter?ccpVersion=2
Softphone Height	460
Softphone Width	200
Use CTI API	true
Salesforce Compatibility Mode	Classic
Default CallCenter	true
Package Namespace	amazonconnect

If a CCP version 1 user interface is desired, click on the Edit button and remove "?ccpVersion=2" from the url and click on the Save button.

Click on the "Manage Call Center Users" button at the bottom of the page.

The screenshot shows a table with two rows. The first row has a single column labeled 'Call Center Users'. The second row is highlighted in blue and has a single column labeled 'Call Center Users by Profile'. Below this row, there is a sub-table with a single row labeled 'Total 0'.

Call Center Amazon Connect CCP Adapter Classic: Manage Users

All Call Centers » Amazon Connect CCP Adapter Classic » Manage Users

View: [All](#) [Create New View](#)

The screenshot shows a table with three columns: 'Full Name ↑', 'Alias', and 'Username'. At the top right of the table are two buttons: 'Add More Users' and 'Remove Users'. Below the table, a message says 'No records to display.'

Click on the "Add More Users" button.

Call Center

Amazon Connect CCP Adapter Classic: Search for New Users

All Call Centers » Amazon Connect CCP Adapter Classic » Manage Users » Search for New Users

Set the search criteria below and then click Search to find salesforce.com users who should be enabled as

--None--	^	--None--	^		AND
--None--	^	--None--	^		AND
--None--	^	--None--	^		AND
--None--	^	--None--	^		AND
--None--	^	--None--	^		AND
Filter By Additional Fields (Optional):					
<ul style="list-style-type: none">You can use "or" filters by entering multiple items in the third column, separated by commas.For date fields, enter the value in following format: 23/05/2018For date/time fields, enter the value in following format: 23/05/2018 15:42					
<input type="button" value="Find"/>					

Set filters and click on the Find button. Select the checkbox next to the user and click "Add to Call Center" button.

						Add to Call Center	Cancel
	Full Name	Alias	Username	Role	Profile		
<input type="checkbox"/>	SFCDryRun_AmazonConnect	ASFDC	acsfdcdryrun			System Administrator	
<input type="checkbox"/>	User_Integration	integ	integration@00d0n000001bsn5uaa.com			Analytics Cloud Integration User	
<input type="checkbox"/>	User_Security	sec	insightssecurity@00d0n000001bsn5uaa.com			Analytics Cloud Security User	

Repeat the steps to add more users.

Call Center

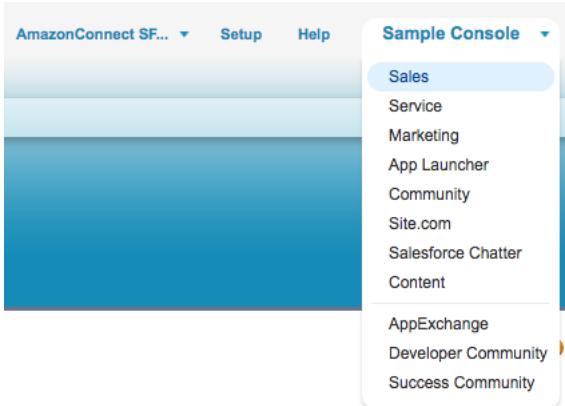
Amazon Connect CCP Adapter Classic: Manage Users

All Call Centers » Amazon Connect CCP Adapter Classic » Manage Users

View:

				Add More Users	Remove Users
Action	Full Name	Alias	Username		
<input type="checkbox"/> Remove	SFCDryRun_AmazonConnect	ASFDC	acsfdcdryrun		

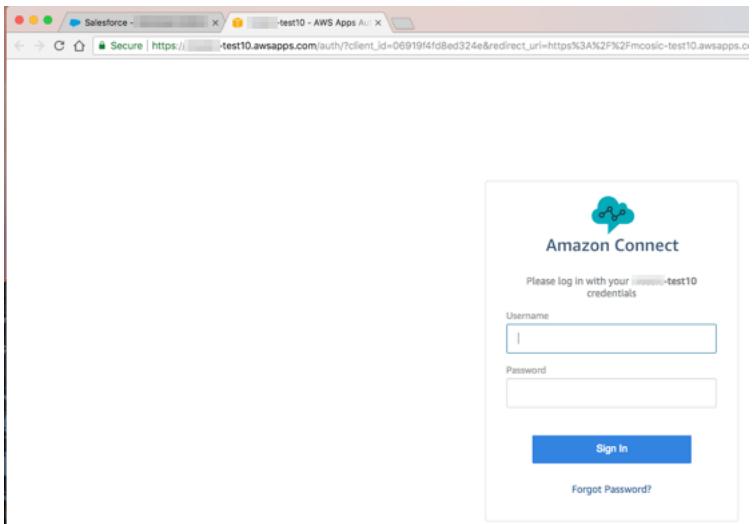
From the top-right corner, select Sales application.



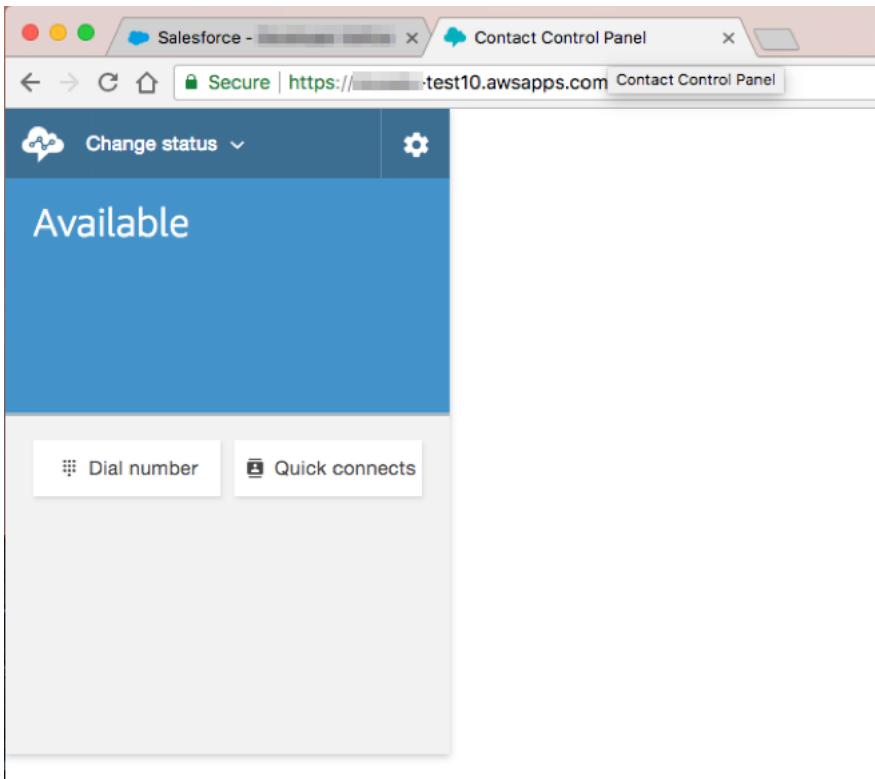
On the left-hand side, you will be able to see the Phone container.

A screenshot of the Salesforce Chatter feed and Calendar. The Chatter feed shows a post from 'AmazonConnect SFDCDryRun' dated Wednesday 23 May 2018. The post content is 'Share an update, @mention someone...'. There are buttons for 'Post', 'File', 'New Event', and 'More'. Below the feed is a search bar and a 'Sort By Latest Posts' dropdown. A 'Sign in to CCP' button is visible on the left. The Calendar section shows 'Today 23/05/2018' and a message stating 'You have no events scheduled for the next 7 days.' A 'Create New...' button is at the bottom left.

You will need to Sign in into your Amazon Connect CCP. Click on the Sign in to CCP button. A new browser tab will open, asking you to enter your credentials.



Enter your credentials and click Sign in. Allow Microphone access (if asked by browser). Once Login is successful, the new tab with CCP will stay open, as this tab is going to carry the audio for voice calls.



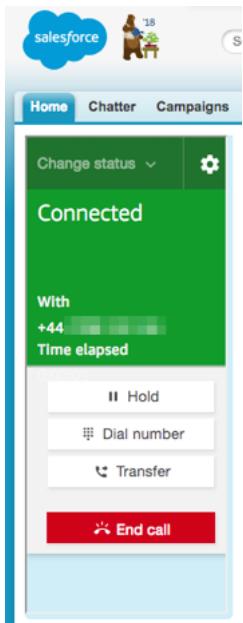
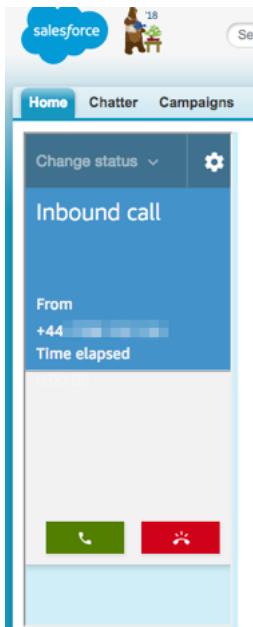
Switch back to Salesforce tab in your browser.

The screenshot shows the Salesforce Contact Control Panel. On the left, there's a sidebar with a "Change status" dropdown set to "Offline", a "Dial number" button, and a "Quick connects" button. Below these are "Set to Available" and "Available" buttons. The main area has a "Chatter" feed titled "AmazonConnect SFDCDryRun" from Wednesday 23 May 2018. It includes a "Post" button, a "File" button, a "New Event" button, and a "Share" button. A text input field says "Share an update, @mention someone...". Below the feed, it says "There are no updates." To the right is a "Calendar" section for "Today 23/05/2018" which states "You have no events scheduled for the next 7 days." The top navigation bar includes Home, Chatter, Campaigns, Leads, Accounts, Contacts, Opportunities, Forecasts, Contracts, Orders, Cases, and a gear icon.

Select "Change status" and select "Available".

This screenshot is identical to the one above, but the "Change status" dropdown now shows "Available" instead of "Offline". The rest of the interface remains the same, including the Chatter feed and the empty calendar.

Make an inbound phone call to your Amazon Connect instance. The CCP is going to "ring" and you can answer the call.



Some CTI Flow features will reload the page the agent is currently on. The page is fully reloaded, but the softphone preserved the audio stream, as another instance of CCP was running in the 2nd tab. If the 2nd tab is closed, the audio will be lost. The 2nd CCP instance can also run in a separate browser window, if preferred.

Go to Salesforce Setup page and type Call Centers in Quick Find, then select Call Centers.

All Call Centers

A call center corresponds to a single computer-telephony integration (CTI) system already in place at your organization. Salesforce.com users must have access to the CTI system to use it.

Action	Name ↑	Import	Version
Edit Del	Amazon Connect CCP Adapter Classic		
Edit Del	Amazon Connect CCP Adapter Console		
Edit Del	Amazon Connect CCP Adapter Lightning		

Select "Amazon Connect CCP Classic"

Call Center

Amazon Connect CCP Adapter Classic

All Call Centers » Amazon Connect CCP Adapter Classic

Call Center Detail

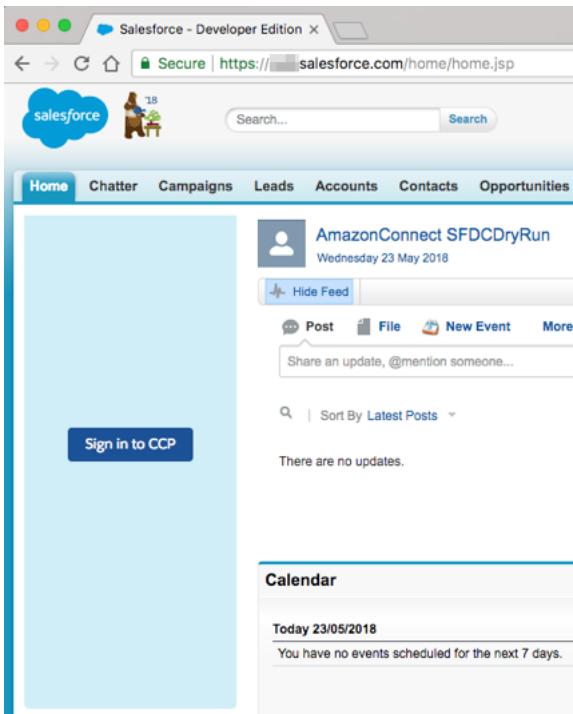
[Edit](#) [Delete](#) [Clone](#)

Amazon Connect Salesforce CCP Adapter

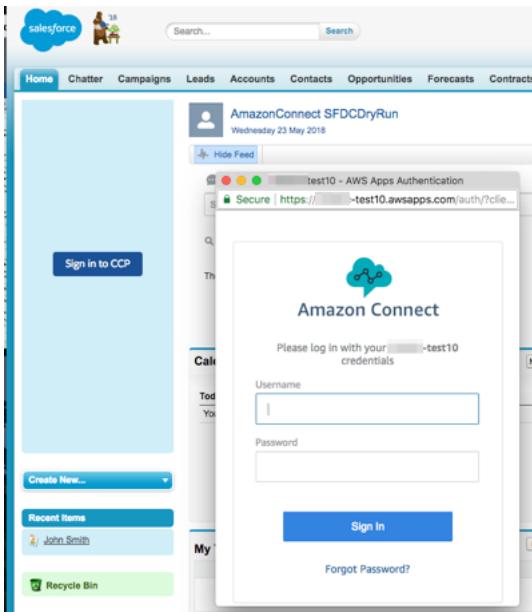
Internal Name	AmazonConnectSFCCPAdapterClassic
Display Name	Amazon Connect CCP Adapter Classic
Description	Amazon Connect Call Center
CTI Adapter URL	/apex/ACSFCCP_Classic
Use CTI API	true
Softphone Height	400
Softphone Width	250
Salesforce Compatibility Mode	Classic

Click on the Edit button and find the "Amazon Connect CCP Login Popup" field. By default, this field is set to "false", which means that Login Popup will be opened in a 2nd tab. If we change this value to "true", then Login Popup will be opened in a new browser window.

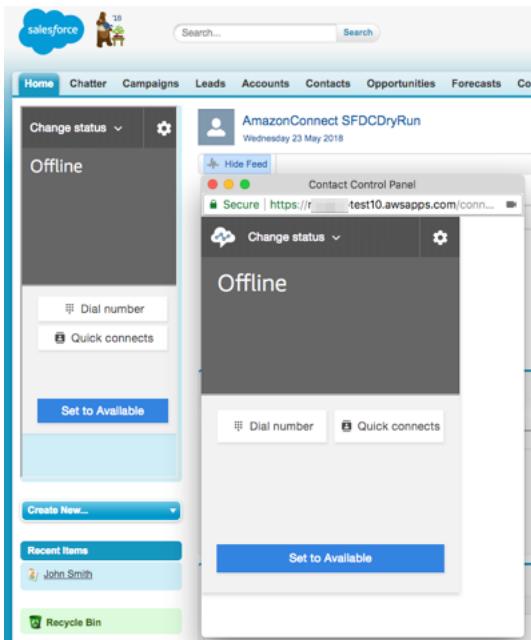
You may also notice that "Amazon Connect CCP Medialess" field is set to "true". This basically means that embedded CCP instance will not carry any media. Set the value to "true" and click on the Save button. Go back to Sales application. If CCP is already logged in, please log out.



Click on the "Sign in to CCP" button and new browser window will open, asking you for credentials.



Enter your credentials and click Sign In. The CCP application will login, but popup window will stay open and it will host the 2nd CCP which will carry the audio stream. This window can be minimized or moved to 2nd screen.

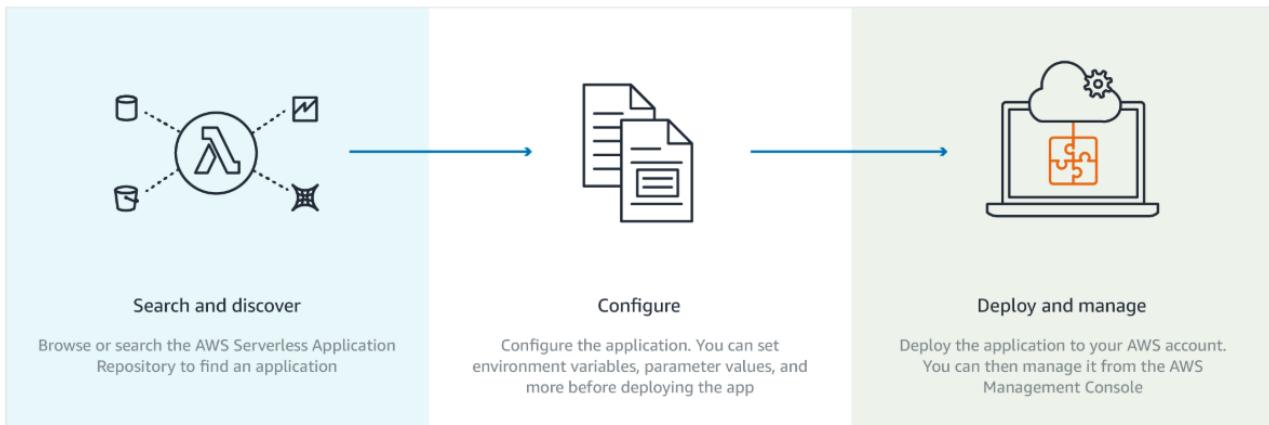


Installing the Amazon Connect Salesforce Lambda Package

This section will guide you through the installation process of Amazon Connect Salesforce Lambda package, which is hosted in AWS Serverless Application Repository.

The AWS Serverless Application Repository enables you to quickly deploy code samples, components, and complete applications. Each application is packaged with an AWS Serverless Application Model (SAM) template that defines the AWS resources used. There is no additional charge to use the Serverless Application Repository - you only pay for the AWS resources used in the applications you deploy.

How it works: Deploying applications



Salesforce Lambda Prerequisites

Consider the following prerequisites before you install the Lambda package.

Determine your production Environment

In your installation notes, enter the value for "Production Environment" as "true" or "false", depending on whether the Salesforce environment that you are deploying the package into is a production or a sandbox. For Production, enter "true". For Sandbox enter "false".

Determine your Consumer Key and Secret

To leverage the full potential of the integration, Salesforce data needs to be accessed from AWS environment. The AWS Serverless package comes with a set of pre-built queries to lookup, update and create Salesforce objects within Amazon Connect Contact Flows, in form of AWS Lambda functions.

The Lambda function access Salesforce using the Salesforce REST API. To get access to the environment, a Connected App must be configured with OAuth settings enabled.

1. Log in to Salesforce
2. Navigate to Setup > Create > Apps

The screenshot shows the Salesforce Setup interface with the following sections visible:

- Apps**: A table listing various Salesforce applications. The columns are Action, App Label, Console, Custom, and Description. The "Console" column contains checkboxes, and the "Custom" column contains checkboxes. The "Description" column provides a brief overview of each app.

Action	App Label	Console	Custom	Description
Edit	App Launcher	<input type="checkbox"/>	<input type="checkbox"/>	App Launcher tabs
Edit	Community	<input type="checkbox"/>	<input type="checkbox"/>	Salesforce CRM Communities
Edit	Content	<input type="checkbox"/>	<input type="checkbox"/>	Salesforce CRM Content
Edit	Marketing	<input type="checkbox"/>	<input type="checkbox"/>	Best-in-class on-demand marketing automation
Edit	Platform	<input type="checkbox"/>	<input type="checkbox"/>	The fundamental Lightning Platform
Edit	Sales	<input type="checkbox"/>	<input type="checkbox"/>	The world's most popular sales force automation (SFA) solution
Edit	Salesforce Chatter	<input type="checkbox"/>	<input type="checkbox"/>	The Salesforce Chatter social network, including profiles and feeds
Edit	Sample Console	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(Salesforce Classic) Lets agents work with multiple records on one screen
Edit	Service	<input type="checkbox"/>	<input type="checkbox"/>	Manage customer service with accounts, contacts, cases, and more
Edit	Site.com	<input type="checkbox"/>	<input type="checkbox"/>	Build pixel-perfect, data-rich websites using the drag-and-drop Site.com application, and manage content and published sites.
- Subtab Apps**: A table listing subtab apps. The columns are Action, App Label, and Description. The "Action" column contains checkboxes.

Action	App Label	Description
Edit	Profile (Others)	The tabs displayed when users view someone else's profile
Edit	Profile (Self)	The tabs displayed when users view their own profile
- Connected Apps**: A table for creating new connected apps. The columns are Action, Connected App Name, Description, and Version. The "Action" column contains checkboxes.

Action	Connected App Name	Description	Version
New			

3. Click on the "New" button for the Connected Apps at the bottom of the page
4. In the following form, fill out the Connected App Name, API Name and Contact Email with values of your choice. We recommend "Amazon Connect Integration" as the Connected App Name and the default value for the API name.

New Connected App

Save Cancel

Basic Information

Connected App Name	Amazon Connect Integration
API Name	Amazon_Connect_Integration
Contact Email	

5. Select the checkbox next to "Enable OAuth Settings" as shown below.

▼ API (Enable OAuth Settings)

Enable OAuth Settings

6. Ensure the Callback URL is set to <https://www.salesforce.com>

API (Enable OAuth Settings)

Enable OAuth Settings

Enable for Device Flow

Callback URL <https://www.salesforce.com>

7. Ensure Selected OAuth Scopes has the following values selected:

- Access and manage your data (api)
- Access your basic information (id, profile, email, address, phone)

Selected OAuth Scopes	Available OAuth Scopes	Selected OAuth Scopes
	<input type="checkbox"/> Access and manage your Chatter data (chatter_api) <input type="checkbox"/> Access and manage your Eclair data (eclair_api) <input type="checkbox"/> Access and manage your Wave data (wave_api) <input type="checkbox"/> Access custom permissions (custom_permissions) <input type="checkbox"/> Allow access to your unique identifier (openid) <input type="checkbox"/> Full access (full) <input type="checkbox"/> Perform requests on your behalf at any time (refresh_token, offline_access) <input type="checkbox"/> Provide access to custom applications (visualforce) <input type="checkbox"/> Provide access to your data via the Web (web)	<input type="checkbox"/> Access and manage your data (api) <input checked="" type="checkbox"/> Access your basic information (id, profile, email, address, phone)
	<input type="button" value="Add"/> <input type="button" value="Remove"/>	

8. Select the checkbox "Require Secret for Web Server Flow"

Require Secret for Web Server Flow

9. Click "Save" at the bottom of the screen.

10. Click "Continue" on the next screen

New Connected App

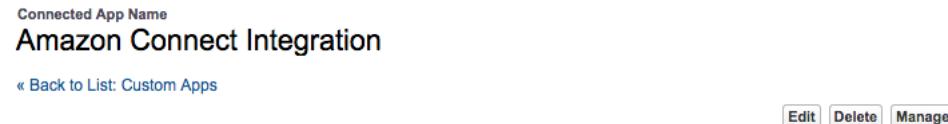
Allow from 2-10 minutes for your changes to take effect on the server before using the connected app.

Continue Cancel

- Once the app has been created, on the app's detail screen, please copy the "Consumer Key" value to your installation notes



- Select "Click to reveal" next to Consumer Secret and record this value to "Consumer Secret" in your installation notes.
- Click "Manage" at the top of the page



- On the page that appears, click "Edit Policies"
- Set "Permitted Users" to "Admin approved users are pre-authorized"



- Click "OK" on the pop-up dialog:



- Set "IP Relaxation" to "Relax IP restrictions"



- Click "Save"

Determine your Username, Password and Security Token

The authentication of the Lambda Functions requires valid user credentials. It is a common practice to create an API user account for this purpose.

- Log in to Salesforce
- Navigate to Setup > Manage Users > Profiles
- Click "New Profile"
- Enter the Profile Name (i.e. "API Only")

- Select the existing profile to clone (The integration user's access to just those objects required for the integration)

Enter the name of the new profile.

You must select an existing profile to clone from.

Existing Profile	System Administrator
User License	Salesforce
Profile Name	API Only

Save **Cancel**

NOTE: You're advised to use a full Salesforce License for the user to be able to set the below permissions and have full access to avoid any other errors.

- Click "Save". A New Profile is created:

Profile
API Only
[Back to List: Profiles](#)

Users with this profile have the permissions and page layouts listed below. Administrators can change a user's profile by editing that user's personal information.

If your organization uses Record Types, use the Edit links in the Record Type Settings section below to make one or more record types available to users with this profile.

[Login IP Ranges](#) [Enabled Apex Class Access](#) [Enabled Visualforce Page Access](#) [Enabled External Data Source Access](#) [Enabled Named Credential Access](#) [Enabled Service Presence Status Access](#) [Enabled Custom Permissions](#)

Profile Detail

Name	API Only
User License	Salesforce
Description	

Edit **Clone** **Delete** **View Users**

Custom Profile

- Scroll down to "Password Policies" and click Edit:

Password Policies

User passwords expire in	90 days
Enforce password history	3 passwords remembered
Minimum password length	8
Password complexity requirement	Must mix alpha and numeric characters
Password question requirement	Cannot contain password
Maximum invalid login attempts	10
Lockout effective period	15 minutes
Obscure secret answer for password resets	<input type="checkbox"/>
Require a minimum 1 day password lifetime	<input type="checkbox"/>
Don't immediately expire links in forgot password emails	<input type="checkbox"/>

Edit **Clone** **Delete** **View Users**

- Set User password expire in "Never expires". Failure to this may lead to production outages.

Password Policies

User passwords expire in	Never expires
Enforce password history	No passwords remembered
Minimum password length	8
Password complexity requirement	Must mix alpha and numeric characters
Password question requirement	Cannot contain password
Maximum invalid login attempts	10
Lockout effective period	15 minutes
Obscure secret answer for password resets	<input type="checkbox"/>
Require a minimum 1 day password lifetime	<input type="checkbox"/>
Don't immediately expire links in forgot password emails	<input type="checkbox"/> i

9. Under Administrative Permissions, please make sure "Lightning Experience User" is unchecked

10. Click "Save"

11. Navigate to Setup > Manage Apps > Connected Apps

12. Select the app you have created in the previous step (i.e. Amazon Connect Integration)

Connected Apps

Manage access to apps that connect to this Salesforce organization.

App Access Settings		Edit
<input checked="" type="checkbox"/> Allow users to install canvas personal apps		
View: All Create New View		
Action	Master Label	
Edit	Amazon Connect Integration	

13. Click "Manage Profiles"

Profiles		Manage Profiles
No profiles associated with this app.		

14. Ensure the "API Only" profile is selected:

Application Profile Assignment

[« Back to Connected App Detail](#)

Select the appropriate profiles to choose which users have access to this application.

Select	Profiles
<input type="checkbox"/>	Analytics Cloud Integration User
<input type="checkbox"/>	Analytics Cloud Security User
<input checked="" type="checkbox"/>	API Only

15. Click "Save" at the bottom of the page

16. Navigate to Setup > Manage Users > Users

17. Click "New User"

All Users

On this page you can create, view, and manage users.

In addition, download SalesforceA to view and edit user details, reset passwords, and perform other administrative tasks from your mobile devices: [iOS](#) | [Android](#)

View: [All Users](#) [Edit](#) | [Create New View](#)

			New User	Reset Password(s)	Add Multiple Users
<input type="checkbox"/> Action	Full Name	+	Alias	Username	

18. Set necessary fields: Last Name, Alias, Email, Username, Nickname

New User

User Edit

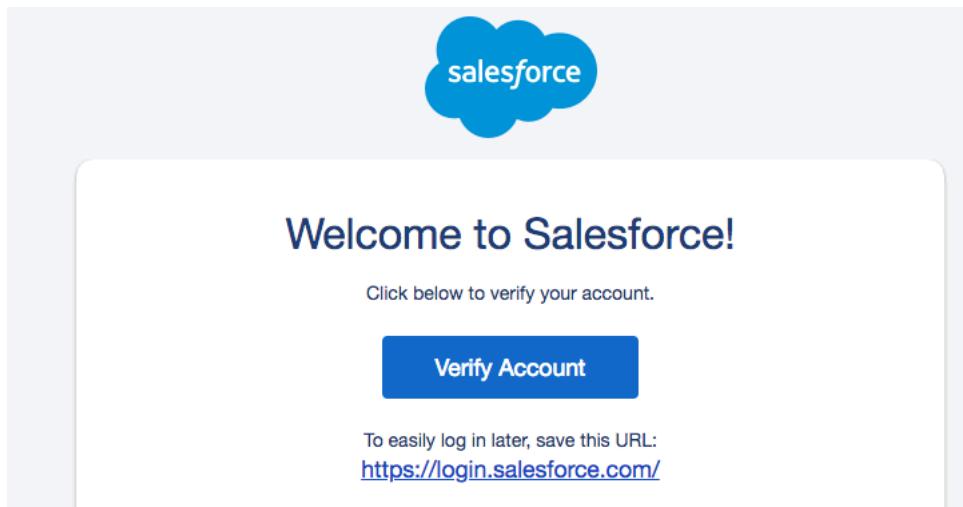
General Information

First Name	<input type="text"/>
Last Name	<input type="text" value="APIUser"/>
Alias	<input type="text" value="apiuser"/>
Email	<input type="text"/>
Username	<input type="text" value="apiuser"/>
Nickname	<input type="text" value="apiuser"/> i
Title	<input type="text"/>
Company	<input type="text"/>
Department	<input type="text"/>
Division	<input type="text"/>

19. On the right-hand side, set the User License and Profile

Role	<input type="text" value="<None Specified>"/> i
User License	<input type="text" value="Salesforce"/> i
Profile	<input type="text" value="API Only"/> i

20. Click "Save"
21. A confirmation email will be sent, with an activation link. Click the link to activate your user.



Change (set) a password for apiuser (Considered a strong that contains at least 20 random characters):



Change Your Password

Enter a new password for apiuser@acsfdcdrvrun.com.
Your password must have at least:

8 characters
 1 letter
 1 number

* New Password

* Confirm New Password

Security Question

* Answer

Change Password

Password was last changed on 18/09/2018 17:29.

22. Click "Change Password"

23. Access the apiuser personal settings by selecting the username in the top right corner, then "My Settings".



24. Type "Security Token" in the Quick Find box and click "Reset My Security Token".

Reset My Security Token

When you access Salesforce from an IP address that isn't trusted for your company, and you use a desktop client.



Reset Security Token

25. Your security token will be emailed to you

Reset My Security Token Check Your Email

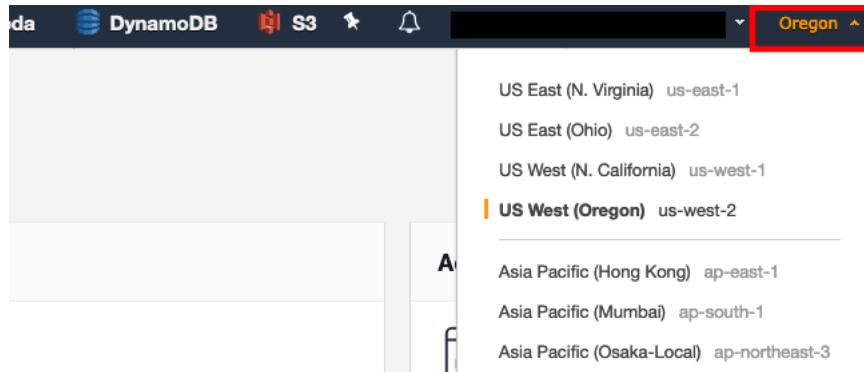


26. Copy the security token from the email in to your installation notes for the "Access Token" value.

Store Salesforce credentials in AWS Secrets Manager

To ensure that your Salesforce credentials are secure, the Lambdas require that the credentials are stored in AWS Secrets Manager. AWS Secrets Manager is a highly secure service that helps you store and retrieve secrets.

1. In a new browser tab, login to the AWS console
2. Make sure you are in the same region as your Amazon Connect instance. You can set the region by expanding the region selector in the upper right and choosing the region



3. Navigate to the [Secrets Manager console](#)

4. Select **Secrets**

5. Select **Store a new secret**

6. Select **Other types of secrets**

7. Make sure **Secret key/value** is selected
8. Enter key value pairs that match the following:
 - a. **Key:** Password, **Value:** the password for the API user that you configured in the previous section
 - b. **Key:** ConsumerKey, **Value:** the Consumer Key for the Connected App you created in the previous section
 - c. **Key:** ConsumerSecret, **Value:** the Consumer Secret for the Connected App you created in the previous section
 - d. **Key:** AccessToken, **Value:** this is the access token for the API user that you configured in the previous section
9. For the encryption key, click "Add new key"
10. Select **Create Key**
11. Make sure key type is set to **symmetric**
12. Give your key an **alias**, like *SalesforceCredentialsSecretsManagerKey*
13. Click Next
14. Select administrators you want to have access permission to change the key policy.
Make sure you are being as restrictive as possible
15. Click Next
16. Select the users and roles you want to have access to the Salesforce credentials in Secrets Manager. Make sure you are being as restrictive as possible
17. Click Next
18. Click Finish
19. Navigate back to the Secrets Manager setup tab
20. Select the key you just created

Specify the key/value pairs to be stored in this secret [Info](#)

Secret key/value

Plaintext

Password

Password

Remove

ConsumerKey

ConsumerKey

Remove

ConsumerSecret

ConsumerSecret

Remove

AccessToken

AccessToken

Remove

[+ Add row](#)

Select the encryption key [Info](#)

Select the AWS KMS key to use to encrypt your secret information. You can encrypt using the default service encryption key that AWS Secrets Manager creates on your behalf or a customer master key (CMK) that you have stored in AWS KMS.

SalesforceCredentialsSecretsManagerKey



[Add new key](#)

Cancel

Next

21. Click Next

22. Give your secret a name, like *SalesforceCredentials*

23. Click Next

24. Make sure **Disable automatic rotation** is disabled

25. Click Next

26. Click Store

27. Select the secret you just created, and copy the Secret ARN

SalesforceCredentials

Secret details

Actions ▾

Encryption key
SalesforceCredentialsSecretsManagerKey

Secret name
SalesforceCredentials

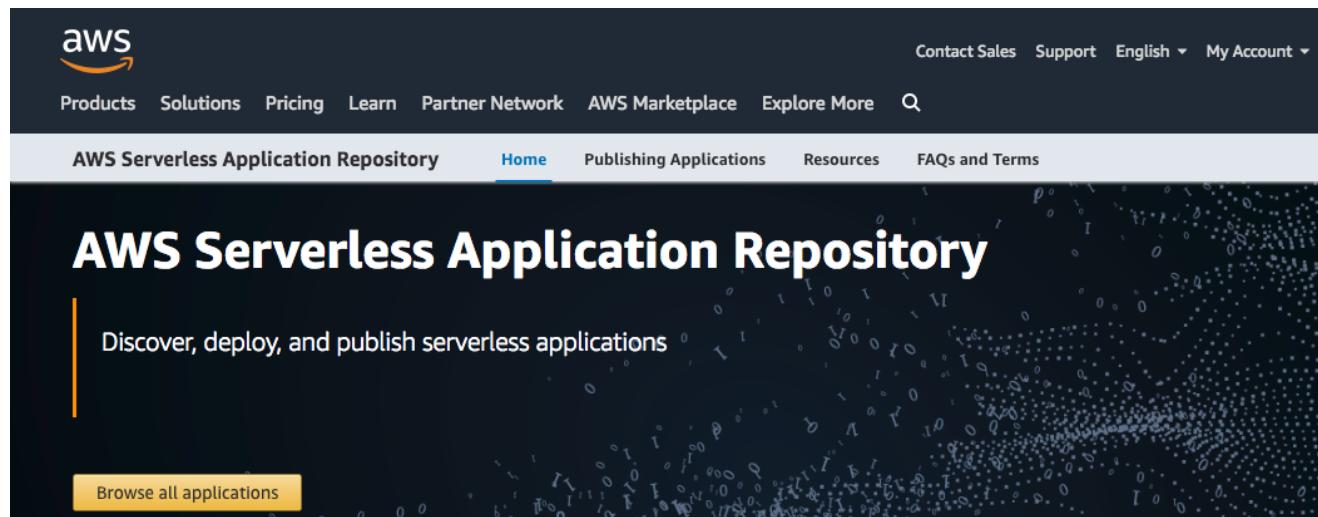
Secret ARN

Secret description
-

28. You should now have all of the information you need to install the package

Install the Amazon Connect Salesforce Lambda package

1. Login into your AWS Account
2. Navigate AWS Serverless Application Repository (<https://aws.amazon.com/serverless/serverlessrepo/>)



3. Click on the Search (magnifying glass) and type in Amazon Connect Salesforce.



4. Select AmazonConnectSalesForceLambdas and click "Deploy"

The screenshot shows the AWS Lambda Functions interface. The top navigation bar includes 'Lambda > Functions > Create function > Review, configure and deploy'. On the left, there's a sidebar with 'AWS Lambda' and a close button ('X'), and a 'Functions' section. The main content area is titled 'AmazonConnectSalesForceLambdas — Version' and contains the sub-instruction 'Review details and configure parameters below to deploy the application'.

5. Fill in all Salesforce related fields in "Configure application parameters".
All values should be available in your installation notes:

This screenshot displays the 'Configure application parameters' section of the AWS Lambda function creation process. It lists several configuration parameters with their descriptions and input fields:

- Application name**: The stack name of this application created via AWS CloudFormation. The value 'AmazonConnectSalesForceLambdas' is entered.
- SalesforceAccessToken**: The security token of the Salesforce API user account used above. The field is empty.
- SalesforceConsumerKey**: Your Salesforce consumer key. The field is empty.
- SalesforceConsumerSecret**: Your Salesforce consumer secret is available in Salesforce immediately to the right of your Salesforce Consumer Key. The field is empty.
- SalesforceHost**: Your Salesforce Host. The field is empty.
- SalesforcePassword**: The password of a valid Salesforce API account for your environment. This account must be the same one as entered in the "Salesforce API Configuration Username" parameter above. The field is empty.
- SalesforceProduction**: True for Production Environment, False for Sandbox. The value 'true' is entered.

SalesforceUsername
The username of a valid Salesforce API account for your environment. For example, user@domain.com

Salesforce API Username

SalesforceVersion
To find the Salesforce Edition and API Version please visit <https://help.salesforce.com/articleView?id=000199268&type=1>

v42.0

Cancel Previous Deploy

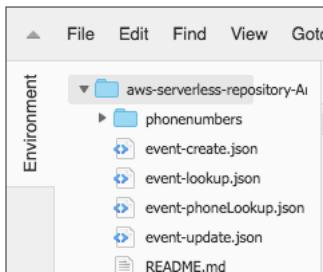
6. The Lambda package includes additional features which can be enabled or disabled, based on particular use-case:
 - a. *PostcallCTRImportEnabled* -- if set to true, the package will include a feature to import Amazon Connect CTRs into your Salesforce Org. Once enabled, you can decide which CTR records should be imported, by setting a custom attribute (*postcallCTRImportEnabled*) in your Contact Flow. This feature requires you to provide *CTRKinesisARN*.
 - b. *PostcallRecordingImportEnabled* -- if set to true, the package will include a feature to import Amazon Connect Call Recording (wav) files into your Salesforce Org. This feature is not required if you only need a call recording link in your Salesforce Org. Once enabled, you can decide which Call Recordings should be imported, by setting a custom attribute (*postcallRecordingImportEnabled*) in your Contact Flow. This feature requires you to provide: *CTRKinesisARN*, *ConnectRecordingS3BucketName* and *TranscribeOutputS3BucketName*
 - c. *PostcallTranscribeEnabled* -- if set to true, the package will include a feature to transcribe Amazon Connect Call Recordings, using Amazon Transcribe, and provide Speech Analytics, using Amazon Comprehend, then import results into your Salesforce Org. Once enabled, you can decide which Call Recordings should be transcribed and analyzed, by setting custom attributes (*postcallTranscribeEnabled*, *postcallTranscribeLanguage* and *postcallTranscribeComprehendAnalysis*) in your Contact Flow. This feature requires you to provide: *CTRKinesisARN*, *ConnectRecordingS3BucketName* and *TranscribeOutputS3BucketName*
 - d. *RealtimeReportImportEnabled* -- if set to true, the package will include a feature to publish Amazon Connect Queue Metrics into your Salesforce Org. This feature requires you to provide *AmazonConnectInstanceId*
 - e. *HistoricalReportingImportEnabled* -- if set to true, the package will include a feature to import Amazon Connect Queue and Agent Historical Metrics into your Salesforce Org. This feature requires you to provide *ConnectReportingS3BucketName*
 - f. *CTRKinesisARN* -- please set Amazon Kinesis Stream ARN that is attached to your Amazon Connect instance as Contact Trace Records destination. Amazon Kinesis Firehose is not supported. This parameter is mandatory for certain features, please see above.

- g. *ConnectRecordingS3BucketName* -- this is the S3 bucket where Amazon Connect stores call recordings. This parameter is mandatory for certain features, please see above.
- h. *ConnectReportingS3BucketName* -- this is the S3 bucket name where Amazon Connect stores schedule reports. This parameter is mandatory for Historical Reporting Import.
- i. *AmazonConnectInstanceId* -- this parameter is mandatory for Realtime Reporting Import
- j. *TranscribeOutputS3BucketName* -- this is the S3 bucket where Amazon Transcribe stores the output. You can use an existing bucket, or create a new one, as the installation process doesn't create one for you. This parameter is mandatory for certain features, please see above.

7. Once completed, click "Deploy" function:

The screenshot shows the AWS Lambda console interface. In the top left, it says 'Lambda > Functions'. Below that, there's a search bar with 'keyword : aws-serv' and a clear button. A table follows, with columns for 'Function name', 'Description', and 'Runtime'. One row is visible, showing 'aws-serverless-repository-AmazonConnec-sfInvokeAPI-2R3T34AMGSWS' and 'Python 3.6'.

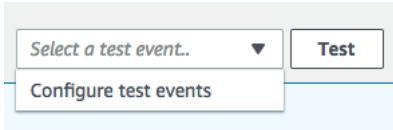
8. The package provides a single Lambda function (sfInvokeAPI) that supports multiple operations, like lookup, create and update. For the initial validation, sample events are provided within the function. Click on the function name and check the list of files in the editor.



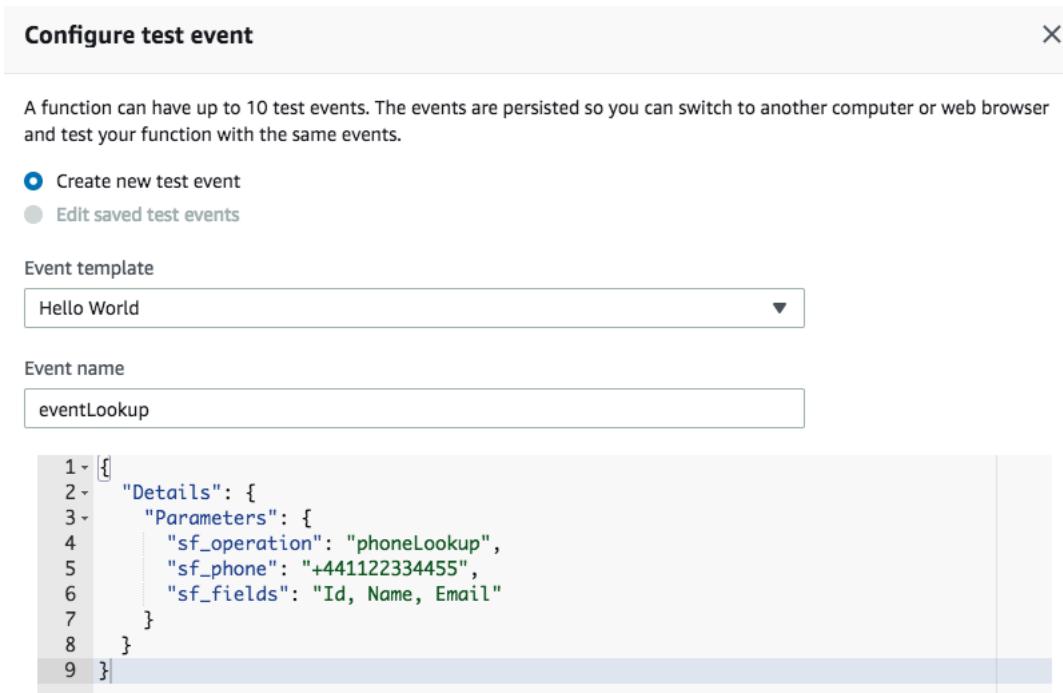
9. To validate a phone number lookup, double-click on event-phoneLookup.json file and copy the text in your clipboard.

```
1 {  
2     "Details": {  
3         "Parameters": {  
4             "sf_operation": "phoneLookup",  
5             "sf_phone": "+441122334455",  
6             "sf_fields": "Id, Name, Email"  
7         }  
8     }  
9 }
```

10. In the top-right corner, click the drop-down arrow next to the "Test" button and select "Configure test events"



11. Select "Create new test event", set Event name (i.e. phoneLookup) and paste the JSON payload you've copied in the previous step.



12. Click "Create" button

13. From the drop-down list, select your "eventLookup" and click "Test" button



14. If successful, the result will contain fields defined in "sf_fields" parameter in the invocation event

Execution result: succeeded ([logs](#))

▼ Details

The area below shows the result returned by your function execution.

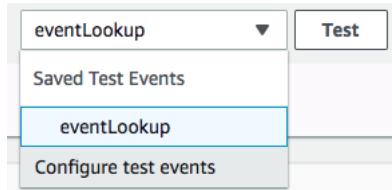
```
{
  "Id": "0031r000026MVPAA4",
  "Name": "Milos Cosic",
  "Email": "mcosic@amazon.com",
  "sf_count": 1
}
```

- As a next step, we are going to use the ContactId provided and create a Case in Salesforce. Double-click on "event-create.json" file and set the ContactId value from the previous step. Copy the JSON text into your clipboard.

```

1 {
2   "Details": {
3     "Parameters": {
4       "sf_operation" : "create",
5       "sf_object": "Case",
6       "Origin": "Phone",
7       "Status": "New",
8       "ContactId": "0031r000026MVPAA4",
9       "Subject": "Amazon Connect Case",
.0     "Priority": "Low"
.1   }
.2 }
.3 }
```

- In the top-right corner, click the drop-down arrow next to the "Test" button and select "Configure test events"



- Select "Create new test event", set Event name (i.e. createCase) and paste the JSON payload you've copied in the previous step.

Configure test event

A function can have up to 10 test events. The events are persisted so you can switch to another computer or web browser and test your function with the same events.

Create new test event
 Edit saved test events

Saved Test Event

createCase

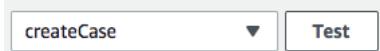
```

1 [
2   "Details": {
3     "Parameters": {
4       "sf_operation": "create",
5       "sf_object": "Case",
6       "Origin": "Phone",
7       "Status": "New",
8       "ContactId": "0031r000026MVPIAA4",
9       "Subject": "Amazon Connect Case",
10      "Priority": "Low"
11    }
12  }
13 ]

```

18. Click "Create" button

19. From the drop-down list, select your "createCase" and click "Test" button



20. If successful, the result will contain a Case Id for newly created case:

Execution result: succeeded (logs)

▼ Details

The area below shows the result returned by your function execution.

```
{
  "Id": "5001r000023QcAcAAK"
}
```

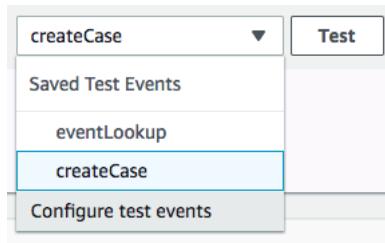
21. As defined in the event payload, Status is "New" and Priority is "Low". We are going to use the update operation to close the case. Copy the Case Id provided in the previous step, then double-click on "event-update.json" file and paste the Case Id in "sf_id" parameter:

```

1 {
2   "Details": {
3     "Parameters": {
4       "sf_operation": "update",
5       "sf_object": "Case",
6       "sf_id": "5001r000023QcAcAAK",
7       "Status": "Closed"
8     }
9   }
10 }

```

22. In the top-right corner, click the drop-down arrow next to the "Test" button and select "Configure test events"



23. Select "Create new test event", set Event name (i.e. closeCase) and paste the JSON payload you've copied in the previous step.

Configure test event

A function can have up to 10 test events. The events are persisted so you can switch to another computer or web browser and test your function with the same events.

Create new test event
 Edit saved test events

Saved Test Event

closeCase

```

1 - [
2 -   "Details": {
3 -     "Parameters": {
4 -       "sf_operation": "update",
5 -       "sf_object": "Case",
6 -       "sf_id": "5001r000023QcAcAAK",
7 -       "Status": "Closed"
8 -     }
9 -   }
10 - ]

```

24. Click "Create" button

25. From the drop-down list, select your "closeCase" and click "Test" button



26. If successful, the result will be HTTP code 204 ("No Content" success code):

Execution result: succeeded ([logs](#))

Details

The area below shows the result returned by your function execution.

204

27. Login in to Salesforce and search for Case and it's details. The Case status should be "Closed".

Upgrading from an Earlier Version

If you are upgrading from an earlier version of CTI Adapter, there are a few additional things you need to do.

1. Go to the **Setup** section and search for **Object Manager**.
2. In Object Manager section, search for "AC CTI"

The screenshot shows the Salesforce Object Manager page under the Setup section. A search bar at the top right contains the text "ac ct". The results table has columns: Label, API Name, Description, Last Modified, and DEP. Three items are listed:

Label	API Name	Description	Last Modified	DEP
AC CTI Adapter	amazonconnect__AC_CtiAdapter__c		8/6/2020	✓
AC CTI Attribute	amazonconnect__AC_CtiAttribute__c		8/6/2020	✓
AC CTI Flow	amazonconnect__AC_CtiScript__c		8/6/2020	✓

3. Open up **AC CTI Adapter**
4. On the left sidebar, click on **Page Layouts**
5. Click on **Page Layout Assignment**
6. On the next page, click on **Edit Assignments**
7. Click on the grey bar at the top of the table to select all rows.

The screenshot shows the "Edit Page Layout Assignment" page for the AC CTI Adapter object. The left sidebar lists various setup categories. The main area shows a table for assigning page layouts to profiles. A red arrow points to the top-left corner of the table, indicating where to click to select all rows.

Profiles	Page Layout
Analytics Cloud Integration User	AC CTI Adapter Layout
Analytics Cloud Security User	AC CTI Adapter Layout
Chatter External User	AC CTI Adapter Layout
Chatter Free User	AC CTI Adapter Layout
Chatter Moderator User	AC CTI Adapter Layout
Contract Manager	AC CTI Adapter Layout
Cross Org Data Proxy User	AC CTI Adapter Layout
Custom: Marketing Profile	AC CTI Adapter Layout
Custom: Sales Profile	AC CTI Adapter Layout
Custom: Support Profile	AC CTI Adapter Layout
Force.com - App Subscription User	AC CTI Adapter Layout
Force.com - Free User	AC CTI Adapter Layout
Gold Partner User	AC CTI Adapter Layout
Identity User	AC CTI Adapter Layout
Marketing User	AC CTI Adapter Layout
Minimum Access - Salesforce	AC CTI Adapter Layout
Partner App Subscription User	AC CTI Adapter Layout

SETUP > OBJECT MANAGER
AC CTI Adapter

Details	Edit Page Layout Assignment AC CTI Adapter	Help for this Page 																										
Fields & Relationships	The table below shows the page layout assignments for different profiles. Use SHIFT + click or click and drag to select a range of adjacent cells. Use CTRL + click to select multiple cells that are not adjacent. Then choose a new page layout from the drop-down.																											
Page Layouts	<div style="text-align: right;"> <input type="button" value="Save"/> <input type="button" value="Cancel"/> </div> <p>Page Layout To Use: -- Select Page Layout -- 26 Selected 0 Changed</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Profiles</th> <th>Page Layout</th> </tr> </thead> <tbody> <tr><td>Analytics Cloud Integration User</td><td>AC CTI Adapter Layout</td></tr> <tr><td>Analytics Cloud Security User</td><td>AC CTI Adapter Layout</td></tr> <tr><td>Chatter External User</td><td>AC CTI Adapter Layout</td></tr> <tr><td>Chatter Free User</td><td>AC CTI Adapter Layout</td></tr> <tr><td>Chatter Moderator User</td><td>AC CTI Adapter Layout</td></tr> <tr><td>Contract Manager</td><td>AC CTI Adapter Layout</td></tr> <tr><td>Cross Org Data Proxy User</td><td>AC CTI Adapter Layout</td></tr> <tr><td>Custom: Marketing Profile</td><td>AC CTI Adapter Layout</td></tr> <tr><td>Custom: Sales Profile</td><td>AC CTI Adapter Layout</td></tr> <tr><td>Custom: Support Profile</td><td>AC CTI Adapter Layout</td></tr> <tr><td>Force.com - App Subscription User</td><td>AC CTI Adapter Layout</td></tr> <tr><td>Force.com - Free User</td><td>AC CTI Adapter Layout</td></tr> </tbody> </table>		Profiles	Page Layout	Analytics Cloud Integration User	AC CTI Adapter Layout	Analytics Cloud Security User	AC CTI Adapter Layout	Chatter External User	AC CTI Adapter Layout	Chatter Free User	AC CTI Adapter Layout	Chatter Moderator User	AC CTI Adapter Layout	Contract Manager	AC CTI Adapter Layout	Cross Org Data Proxy User	AC CTI Adapter Layout	Custom: Marketing Profile	AC CTI Adapter Layout	Custom: Sales Profile	AC CTI Adapter Layout	Custom: Support Profile	AC CTI Adapter Layout	Force.com - App Subscription User	AC CTI Adapter Layout	Force.com - Free User	AC CTI Adapter Layout
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Force.com - Free User	AC CTI Adapter Layout																											
Lightning Record Pages																												
Buttons, Links, and Actions																												
Compact Layouts																												
Field Sets																												
Object Limits																												
Record Types																												
Related Lookup Filters																												
Search Layouts																												

8. Open the **Page Layout to Use** dropdown and select **AC CTI Adapter Layout -- August 2020**.
9. Click **Save** and go back to **Page Layouts**.
10. Click on the dropdown next to the item labelled **AC CTI Adapter Layout** and click **Delete**.
11. Confirm **Yes** in the next dialogue where you will be asked "Are you sure?"
12. If you see a screen titled **Deletion Problems**, find and click **Delete**.

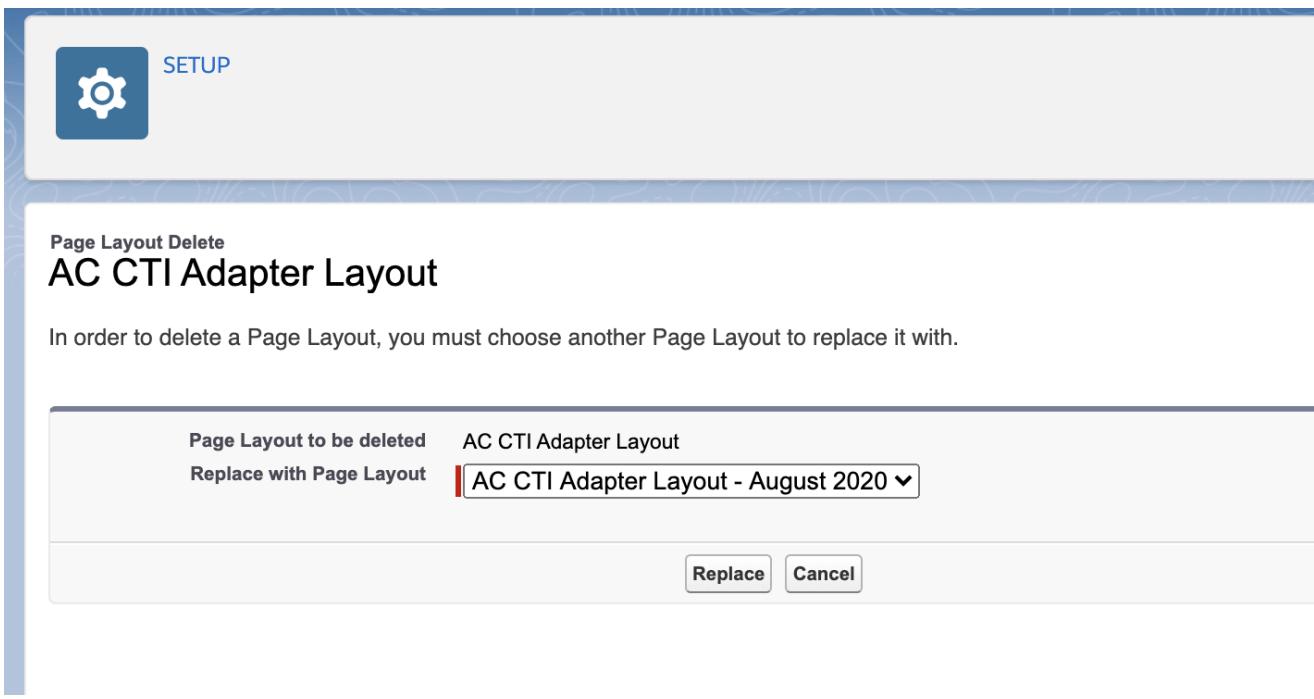
 Deletion problems

[Back to Previous Page](#)

 The attempted delete was invalid for your session. Please refresh your page and try again.

[Delete](#)

13. You will be asked which layout you want to replace it with. Select **AC CTI Adapter Layout -- August 2020** and click **Replace**.



Now we are going to do the same thing for **AC CTI Script Layout**.

1. Open up **AC CTI Script Layout**
2. On the left sidebar, click on **Page Layouts**
3. Click on **Page Layout Assignment**
4. On the next page, click on **Edit Assignments**
5. Click on the grey bar at the top of the table to select all rows.

The screenshot shows the 'Edit Page Layout Assignment' page for the 'AC CTI Flow' object. The top navigation bar includes 'SETUP > OBJECT MANAGER' and the object name 'AC CTI Flow'. The left sidebar has a 'Page Layouts' section selected. The main content area is titled 'Edit Page Layout Assignment AC CTI Flow'. It contains a table with two columns: 'Profiles' and 'Page Layout'. The 'Profiles' column lists user profiles, and the 'Page Layout' column shows that 'AC CTI Script Layout' is assigned to all of them. A red arrow points from the 'Profiles' column towards the 'Page Layout' column. A note at the top of the table says: 'The table below shows the page layout assignments for different profiles. Use SHIFT + click or click and drag to select a range of adjacent cells. Use CTRL + click to select multiple cells that are not adjacent. Then choose a new page layout from the drop-down.'

SETUP > OBJECT MANAGER
AC CTI Flow

Details	Edit Page Layout Assignment AC CTI Flow	Help for this Page 																		
Fields & Relationships	The table below shows the page layout assignments for different profiles. Use SHIFT + click or click and drag to select a range of adjacent cells. Use CTRL + click to select multiple cells that are not adjacent. Then choose a new page layout from the drop-down.																			
Page Layouts	<div style="text-align: right;"> <input type="button" value="Save"/> <input type="button" value="Cancel"/> </div> <p>Page Layout To Use: -- Select Page Layout -- 26 Selected 0 Changed</p> <table border="1"> <thead> <tr> <th>Profiles</th> <th>Page Layout</th> </tr> </thead> <tbody> <tr><td>Analytics Cloud Integration User</td><td>AC CTI Script Layout</td></tr> <tr><td>Analytics Cloud Security User</td><td>AC CTI Script Layout</td></tr> <tr><td>Chatter External User</td><td>AC CTI Script Layout</td></tr> <tr><td>Chatter Free User</td><td>AC CTI Script Layout</td></tr> <tr><td>Chatter Moderator User</td><td>AC CTI Script Layout</td></tr> <tr><td>Contract Manager</td><td>AC CTI Script Layout</td></tr> <tr><td>Cross Org Data Proxy User</td><td>AC CTI Script Layout</td></tr> <tr><td>Custom: Marketing Profile</td><td>AC CTI Script Layout</td></tr> </tbody> </table>		Profiles	Page Layout	Analytics Cloud Integration User	AC CTI Script Layout	Analytics Cloud Security User	AC CTI Script Layout	Chatter External User	AC CTI Script Layout	Chatter Free User	AC CTI Script Layout	Chatter Moderator User	AC CTI Script Layout	Contract Manager	AC CTI Script Layout	Cross Org Data Proxy User	AC CTI Script Layout	Custom: Marketing Profile	AC CTI Script Layout
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Custom: Marketing Profile	AC CTI Script Layout																			
Lightning Record Pages																				
Buttons, Links, and Actions																				
Compact Layouts																				
Field Sets																				
Object Limits																				
Record Types																				

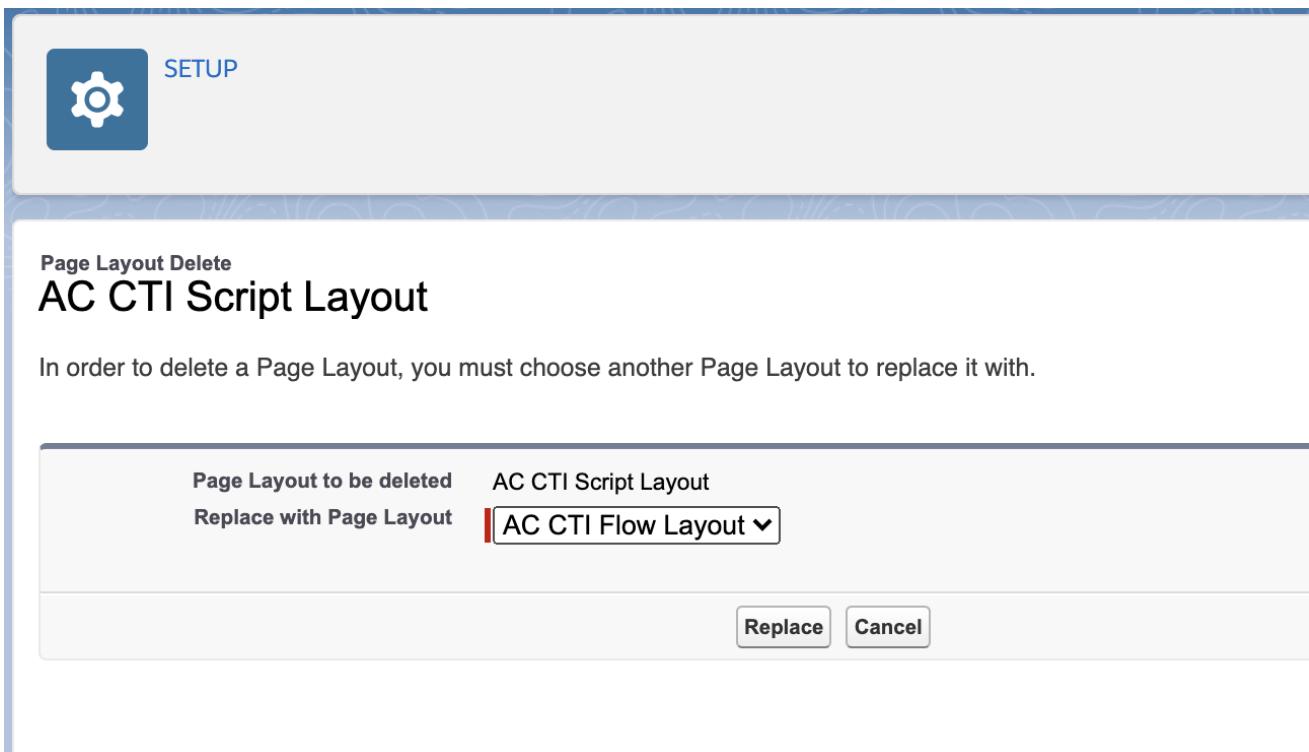
6. Open the **Page Layout to Use** dropdown and select **AC CTI Flow Layout**.
7. Click **Save** and go back to **Page Layouts**.
8. Click on the dropdown next to the item labelled **AC CTI Script Layout** and click **Delete**.
9. Confirm **Yes** in the next dialogue where you will be asked "Are you sure?"
10. If you see a screen titled **Deletion Problems**, find and click **Delete**.

 Deletion problems

[Back to Previous Page](#)

 The attempted delete was invalid for your session. Please refresh your page and try again.
[Delete](#)

11. You will be asked which layout you want to replace it with. Select **AC CTI Flow Layout** and click **Replace**.



12. Go to your **CTI Adapter**.
13. Click on any of the CTI Flows and scroll down to the section labeled **CTI Flow**. You should see something like this:

Invalid Script

Please note that starting from version 4.6, your scripts will need to be migrated to our new CTI Flows.

You can download your current script below



When you are ready to try out the CTI Flow editor, click Continue.

[Continue →](#)

14. Click **Download** and save your script before clicking **Continue**.
15. Use the CTI Block primitives in the editor to re-create your script as a CTI Flow.
16. Refer to the Sample Flows in the Appendix of this manual.

CTI Adapter Configuration

The CTI Adapter installed by the managed package provides a number of features that change or enhance the functionality of the integration. By default, many of these features have been configured during install with a default setting. This section will detail the options available.

Details	
CTI Adapter Name	ACLightningAdapter
Amazon Connect Instance Alias	sf43adAPTERtest
Custom Ringtone	
Softphone Popout Enabled	<input checked="" type="checkbox"/>
Medialess	<input type="checkbox"/>
Owner	Amazon Connect - Universal Package
Amazon Connect Instance Region	us-east-1
Call Center Definition Name	ACLightningAdapter
Debug Level	Off
Presence Sync Enabled	<input checked="" type="checkbox"/>

CTI Adapter Details

- 1. CTI Adapter Name:** provide a unique name for this CTI adapter definition
- 2. Amazon Connect Instance Alias:** This was configured in a previous section. This is the instance alias for your Amazon Connect instance.
- 3. Amazon Connect Instance Region:** This is the code for the region that you have deployed your Amazon Connect instance to. This is required for the Amazon Connect chat APIs to work correctly. If you do not use the chat feature of Amazon Connect, this field is not necessary
- 4. Custom Ringtone:** This allows for overriding the built-in ringtone with any browser-supported audio file accessible by the user.
- 5. Call Center Definition Name:** This was configured in a previous section. This is the internal name of the Call Center configured in Salesforce setup. This value links the CTI Adapter to the Call Center, and ultimately to the agents.
- 6. Softphone Popout Enabled:** Salesforce supports softphone pop out in Console and Lightning Experience modes. When the softphone is popped out, it opens in a new browser window external to the Salesforce UI. This is helpful in use cases where the call controls are regularly needed but the agent also needs full access to the entire console.
- 7. Debug Level:** For future use
- 8. Medialess:** Amazon Connect supports running in VDI environments, however best practice is to send the actual audio stream via a separate CCP. Selecting the medialess option will configure the Salesforce CCP to run in medialess mode, which provides the data that Salesforce needs for screenpop while the audio is streamed to a local CCP.
- 9. Presence Sync Enabled:** This setting allows the adapter to use the presence rules to sync state from Amazon Connect to Salesforce Omni-Channel.

Single Sign On Settings

The Amazon Connect CTI Adapter supports single sign on(SSO) via SAML integration. This allows customers that use a SAML provider for authentication into Amazon Connect. You will need the SSO URL for your provider and the Relay State settings for your Amazon Connect instance.

For general information on configuring SAML for Amazon Connect, please refer to: [Amazon Connect Administrator Guide: Configure SAML for Identity Management in Amazon Connect](#).

If you wish to use **Salesforce** as your identity provider for Single Sign On, please follow the setup instructions in [Appendix B - Configuring Salesforce as Your Identity Provider](#).

For information about configuring specific SAML providers to work with Amazon Connect:

- [AWS Single Sign-On](#)
- [Okta](#)

Once you have your SAML integration working with Amazon Connect, you will need to create the Amazon Connect Single Sign On URL and validate that it works correctly, then configure the Lightning CTI adapter and login the agent.

Identify the SSO URL components

In order to authenticate with Amazon Connect, you need your IdP login URL from your SAML provider and a relay state URL that will redirect the authenticated user to your Amazon Connect instance.

Your IdP Login URL will resemble the following (Salesforce is shown):</p>

`https://mXXXXXXXXrun-dev-ed.my.salesforce.com/idp/login?app=0sp0N000000`

The 'RelayState' will be in the following format:

`https://console.aws.amazon.com/connect/federate/{InstanceId}?destinat`

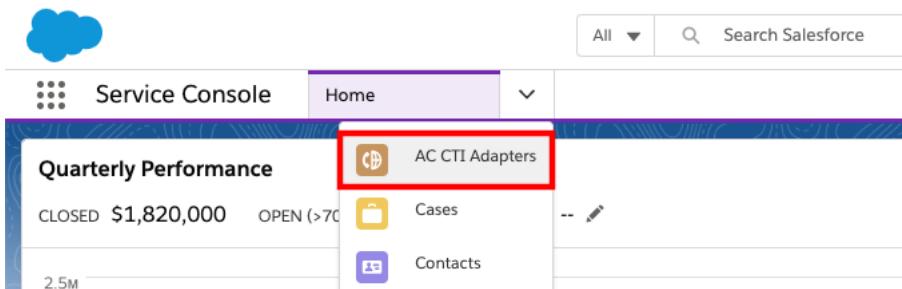
Please note that "console.aws.amazon.com" refers to US-East-1 region (N. Virginia). If your Amazon Connect instance is in a different region, please use the region Console URL. For example:

`https://us-west-2.console.aws.amazon.com/connect/federate/{InstanceId}`

Configure the CTI Lightning Adapter in Salesforce

Now we are ready to complete the last step in the configuration process: Adding the SSO settings to the Lightning Adapter. This will configure the adapter to authenticate via SSO and redirect to the Amazon Connect Contact Control Panel once authentication completes.

1. Log in into your Salesforce org and go to the **Service Console**
2. Expand the **navigation menu** by selecting the down arrow and choose **AC CTI Adapters**.



3. Select **ACLightningAdapter**
4. Scroll down to the Single SignOn (SSO) section and choose the pencil icon of either field to edit

A screenshot of the Single SignOn (SSO) configuration page. It shows two fields: 'SSO Url' and 'SSO Relay State'. The 'SSO Url' field has a red box around its edit icon (a pencil icon).

5. For the SSO Url, paste your IdP login URL up to the first question mark (if one exists). A couple of examples are provided:

Salesforce:

`https://mXXXXXXXXrun-dev-ed.my.salesforce.com/idp/login?app=0sp0N000`

Microsoft ADFS:

`https://sts.yourcorp.com/adfs/ls/idpinitiatedsignon.aspx`

6. Paste this portion of the URL into the **SSO Url** field

A screenshot of the Single SignOn (SSO) configuration page. The 'SSO Url' field is highlighted with a yellow background. The URL 'https://sample-dev-ed.my.salesforce.com/idp/login' is entered into the field.

7. For the SSO Relay State:

IF you had a question mark in your login URL, paste everything AFTER the question mark into the SSO Relay state field, then add &RelayState= to the end, and append your relay state URL.

For example:

app=0sp0N00000Caid&RelayState=https://console.aws.amazon.com/conn

IF you did not have a Question Mark, then enter &RelayState= into the SSO Relay State field and append your relay statue URL to it.

For example:

&RelayState=https://console.aws.amazon.com/connect/federate/instan

8. Example of a completed SSO section (Salesforce is shown)</p>

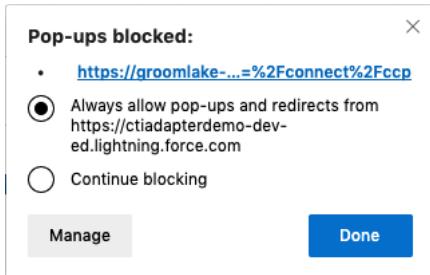
▼ Single SignOn (SSO)

SSO Url	https://sample-dev-ed.my.salesforce.com/idp/login
SSO Relay State	app=0sp6g00000XZyd&RelayState=https://us-west-2.console.aws.amazon.com/connect/federate/YOUR-INSTANCE-ID?destination=%2Fconnect%2Fccp

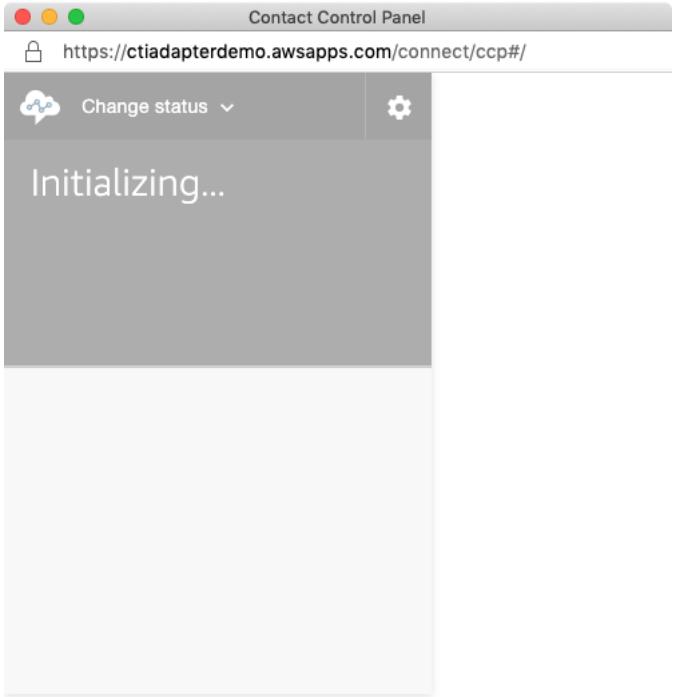
9. Choose Save

10. Refresh your browser to make the changes take effect

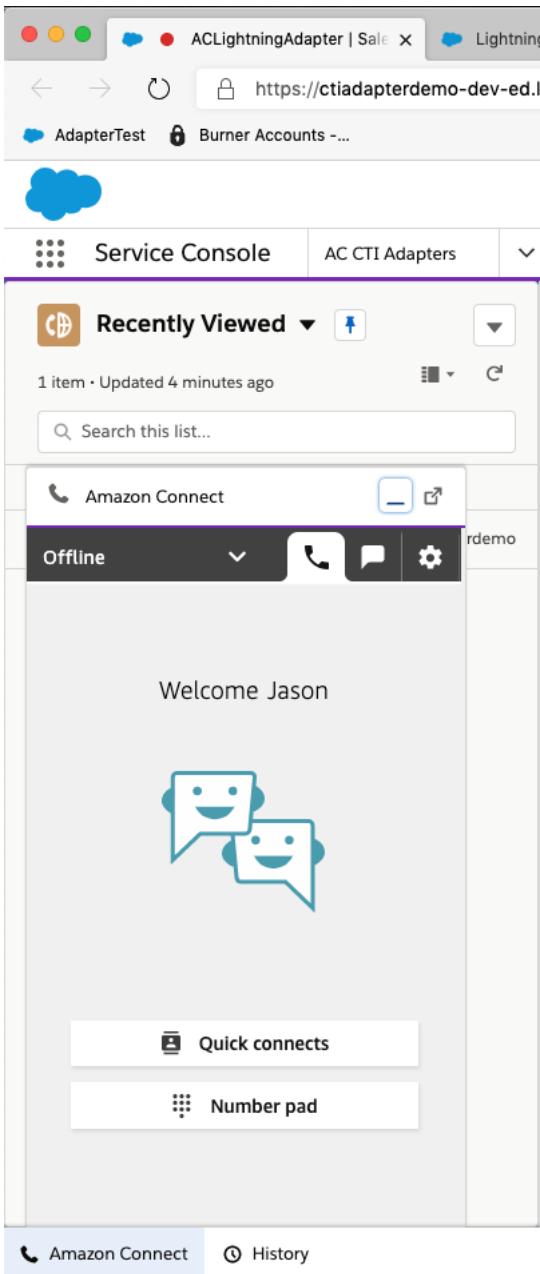
a. **NOTE:** If you receive a blocked popup warning, select the warning and change the setting to always allow popups from your Salesforce org, then refresh the browser again</p>



11. After a few seconds, a new window should pop up for a moment. This window is performing the authentication and setting your session cookie. Once it does this, it will close automatically.



12. Once the authentication window closes, select the **phone icon** in the console toolbar to open the CCP Note: You may also receive popups to allow notifications and microphone access. Please accept both.
13. You should now see the authenticated and logged in CCP



SSO Configuration is complete

Omnipresence Agent State Sync

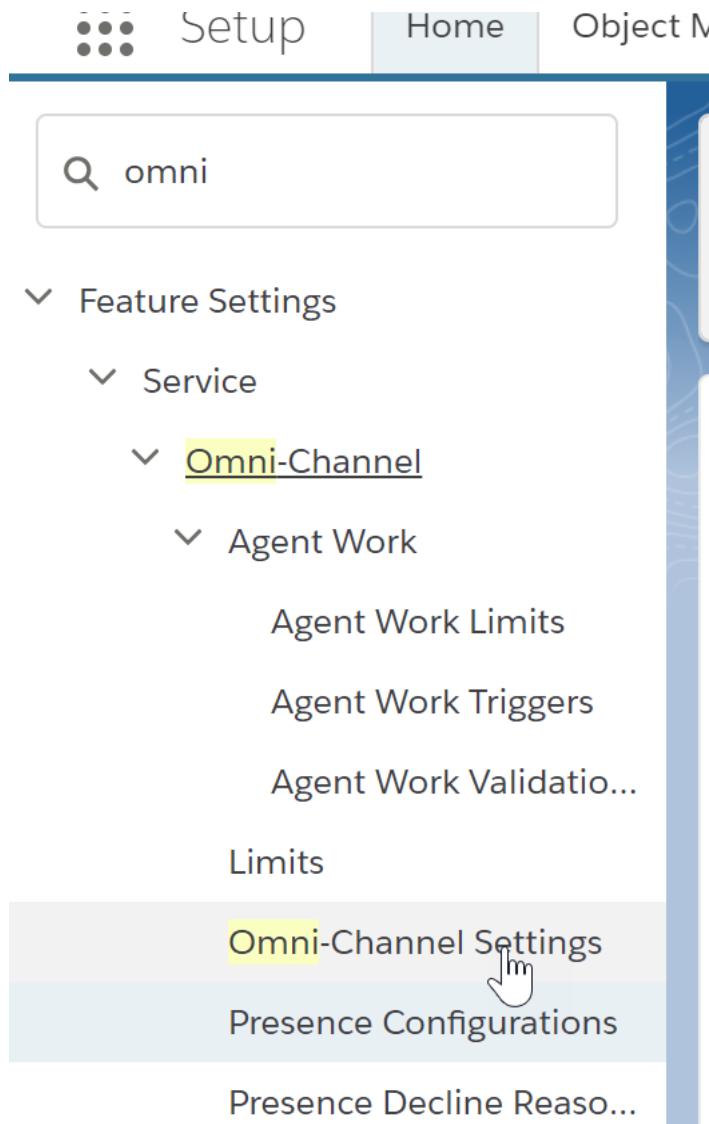
Amazon Connect CTI Connector supports the bidirectional synchronization of Amazon Connect agent states with Salesforce omnichannel presence states.

Omnipresence Agent State Sync Enabled true

Enable Omnichannel

In order to sync your Connect User status with your Omni-Channel agent status, you must configure Omni-Channel Presence Syncing. This will make your Omni-Channel presence status match your Amazon Connect Agent Status and vice versa.

First, we must enable omni-channel. To do this, navigate to "Setup" and type "omni" into the Quick Find box, then select "Omni-Channel Settings" from the menu.



Place a check in the checkbox for "Enable Omni-Channel".

Omni-Channel Settings

Welcome to Omni-Channel!

Omni-Channel is a comprehensive customer service solution that lets contact centers push work to Omni-Channel lets you create work items from your Salesforce records—including cases, chats, leads, objects—and route them to the most qualified, available agents in your organization, all in real time. integrates seamlessly into the Salesforce console, so it's easy for your support agents to use.

With Omni-Channel, you can manage the priority of work items to make sure that critical assignments quickly. You can manage your agents' capacity and availability for work to ensure that they're given assignments that they can handle. You can also define which agents can work on different types of Omni-Channel routes all of these assignments to the correct agents automatically. Agents no longer work items manually from a queue, and managers no longer have to triage or dispatch work to agents most qualified available agent in real time!

Show diagram ▾

First, you need to enable Omni-Channel. Then, [create Service Channels](#).

Enable Omni-Channel This must be checked

Use Skills-Based Routing

Save **Cancel**

Create Presence Statuses

In this step, we need to add and map Presence Statuses to what is defined in Amazon Connect under Users -> Agent Status.



Manage agent status

Create new agent status, and drag table
To maintain integrity of historical metri

Status name	Description
Available	Avai
Wrap Up	Upd
Day Dreaming	Don
Break	Taki
Lunch	Gon
Offline	Offli

Open the Setup in your Salesforce Org and type "presence", then select "Presence Statuses" from the menu. Click the "New" button and add statuses to match what is defined in Amazon Connect.

Presence Statuses

Let agents indicate when they're online and available to receive work items from a

View: All ▾ Create New View

Action	Status Name	New
Edit	<u>Available</u>	
Edit	<u>Break</u>	
Edit	<u>Day_Dreaming</u>	
Edit	<u>Lunch</u>	
Edit	<u>Offline</u>	
Edit	<u>Wrap Up</u>	

Each status is flagged as either Online or Busy. For each status that is marked as Online, you will need to specify a service channel to associate the presence status.

Presence Statuses

Let agents indicate when they're online and available to receive work items from a specific serv

The screenshot shows the 'Basic Information' section with 'Status Name' set to 'Available' and 'Developer Name' also set to 'Available'. In the 'Status Options' section, 'Online' is selected. Under 'Service Channels', the 'Available Channels' list is empty, while the 'Selected Channels' list contains 'Live Agent' and 'Outbound Campaign Chan'. The interface includes 'Save' and 'Cancel' buttons at the top and bottom.

Basic Information

Status Name: Available

Developer Name: Available

▼ Status Options

Choose whether agents are online or busy when they use this status. Online statuses let items.

Online

Busy

▼ Service Channels

Select one or more service channels to assign to this presence status. Agents logged into

Available Channels	Selected Channels
[Empty list]	Live Agent Outbound Campaign Chan

Add Remove

Save Cancel

Configure Enabled Service Presences Status Access

Next, we need to assign access to these statuses by going to Profiles in Salesforce Setup, and ensure that the agent will be able to access the statuses that map to their Amazon Connect statuses.

In the Salesforce Setup, under Manage Users, select Profiles, then select the user profile to edit. Scroll down the page until you find the section labeled "Enabled Service Presence Status Access".

The screenshot shows the 'Profiles' setup screen under the 'SETUP' tab. It displays several sections:

- Enabled External Data Source Access**: Shows 'No External Data Sources enabled'.
- Enabled Named Credential Access**: Shows 'No Named Credential enabled'.
- Enabled Service Presence Status Access**: This section is highlighted with a red arrow pointing to its 'Edit' button. It includes:
 - Service Presence Status Name**: A list of statuses: Available, Day Dreaming, Offline, and On Break. The 'Day Dreaming' status is highlighted with a red box.
 - Matches Connect Statuses**: A note indicating the selected presence statuses will match specific connect statuses.
- Enabled Custom Permissions**: Shows 'No custom permissions enabled'.

Click the "Edit" button and on the next page, "Add" presence statuses you want to have enabled for the user.

Enable Service Presence Status Access

This dialog allows selecting presence statuses to enable for a user. It has two main sections:

- Available Service Presence Statuses**: A list containing '--None--'. Below it are 'Add' and 'Remove' buttons.
- Enabled Service Presence Statuses**: A list containing: Available, Break, Day Dreaming, Lunch, Offline, and Wrap Up.

At the top right are 'Save' and 'Cancel' buttons.

Configure Presence Status Synchronization Rules

The Amazon Connect Salesforce CTI Adapter provides a rules-based presence status synchronization system allowing for flexibility in mapping agent states between Amazon Connect and Salesforce Omnichannel.

Presence synchronization actions may be configured based upon manual agent state changes (agent goes on break), system agent state changes (answering a call), omnichannel agent work (agent accepts an email), and omnichannel workload changes (agent completes an email) as examples.

Presence Status Configuration Rules

Presence Sync Rules are evaluated based on specific events. The available events are:

- **Connect Agent State Change:** The Connect agent's state has changed.
- **Salesforce Agent State Change:** The Salesforce agent's state has changed.
- **Salesforce Agent Logout:** The Salesforce agent has logged out.
- **Salesforce Work Accepted:** The Salesforce agent has accepted work.
- **Salesforce Workload Changed:** The Salesforce agent's workload has changed.

Once the event is triggered, the CTI adapter will evaluate the provided criteria. The criteria is established by comparing Operand A, using standard comparator options, against Operand B. Possible options for Operand A and B are:

- **Connect Agent New State:** The Connect agent's new state value
- **Connect Agent Old State:** The Connect agent's old (previous) state value
- **Salesforce Agent New State:** The Salesforce agent's new state value
- **Salesforce Service Channel:** The service channel upon which the Salesforce agent has accepted work
- **Salesforce Previous Workload:** The Salesforce agent's previous workload
- **Salesforce Previous Workload Pct:** The Salesforce agent's previous workload expressed as a percent of configured capacity
- **Salesforce New Workload:** The Salesforce agent's new workload
- **Salesforce New Workload Pct:** The Salesforce agent's new workload expressed as a percent of configured capacity
- **Salesforce Configured Capacity:** The Salesforce agent's configured capacity
- **Static Value:** The user may provide a value. For example, a custom agent state name or other alphanumeric value. When Static Value is selected a "Value" field becomes

visible to accept the users static value input.

Available comparators are:

- **Equal to:** Are Operand A and Operand B equal
- **Not equal to:** Are Operand A and Operand B not equal
- **Greater than:** Is Operand A greater than Operand B
- **Greater than or equal to:** Is Operand A greater than or equal to Operand B
- **Less than:** Is Operand A less than Operand B
- **Less than or equal to:** Is Operand A less than or equal to Operand B

AC CTI Adapter
ACClassicAdapter

« Back to List: Call Centers

Attributes [0] | CTI Flows [0]

AC CTI Adapter Detail

CTI Adapter Name	ACClassicAdapter	Edit	Delete	Clone
Amazon Connect Instance Alias	testinglogin123			
Custom Ringtone				
Softphone Popout Enabled	<input checked="" type="checkbox"/>			
Medialess	<input type="checkbox"/>			

▼ Single SignOn (SSO)

SSO Url	
SSO Relay State	

▼ Customizations

User Defined		
Created By	Bomi Lee, 8/3/2020, 1:19 PM	
Edit	Delete	Clone

Attributes

No records to display

[New AC CTI Attribute](#)

CTI Flows

No records to display

[New AC CTI Flow](#)

Presence Sync Rules

No records to display

[New AC Presence Sync Rule](#)

The configuration setting illustrated in the previous example, are described below:

- source -- The triggered event. In this case, an Amazon Connect agent state change is the triggering event
- destination -- The target system on which to execute the action
- criteria -- The values and comparator that will be evaluated to determine whether or not to trigger the action

- operandA -- The left side of the criteria statement
- operandB -- The right side of the criteria statement
- comparator -- The comparison operator used to evaluate the criteria statement
- state -- The target agent state of the destination system

Example rule:

The screenshot shows the 'AC Presence Sync Rule Edit' interface. The rule name is 'Connect agent switches to Lunch'. The configuration details are as follows:

- Presence Sync Rule Name:** Connect agent switches to Lunch
- CTI Adapter:** ACClassicAdapter
- Source:** Connect Agent State Change
- Operand A:** Connect Agent New State
- Operand A Value:** (empty)
- Comparator:** Equal to
- Destination:** Salesforce Agent State
- Operand B:** Static Value
- Value:** Lunch

The 'Active' checkbox is checked. At the bottom, there are 'Save', 'Save & New', and 'Cancel' buttons.

Summary: This rule is triggered when the Connect agent's state is changed (Source). If their state is changed to the static value (Operand B) "Lunch" (Operand B Value), then the Salesforce Agent's state (Destination) is set to Lunch (Value).

Contact Attributes Display

Amazon Connect allows for user defined Contact Attributes to be attached to a phone call within Contact Flows. This can be used to track caller inputs, IVR selections, outcomes of an interaction with Amazon Lex, or data lookup from backend systems through Lambda. Some of those values can be useful to be displayed to the agent to speed up data input or skip processes such as authenticating the customer.

Amazon Connect allows data classifications for contact's attributes. The classification engines scans configured metadata and identifies text and links attributes to display in Attributes and Links sections respectively.

To configure a contact attribute for display within embedded CCP:

In the top navigation bar, select the "+" icon.

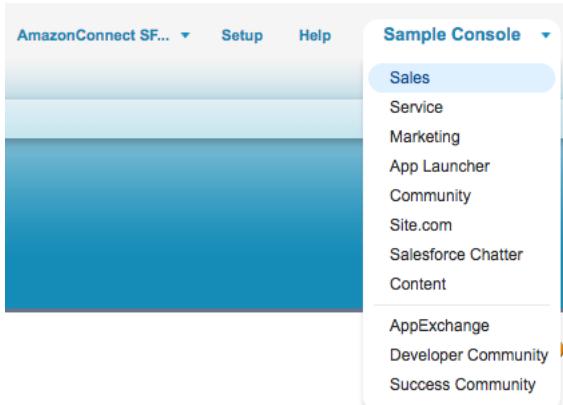


Select "AC CTI Adapters"

Create a new adapter. Fill in the CTI Adapter Name, and Amazon Connect Instance Alias. For the Call Center Definition Name, type in ACCConsoleAdapter. Select Save.

1. Log in to your Salesforce Org.

2. From the top right corner, select the **Sales** application.



All Tabs

Use the links below to quickly navigate to a tab. Alternatively, you can [add a tab](#) to your display to better suit the way you work.

A screenshot of the "All Tabs" view. On the left, there's a "View:" dropdown set to "All Tabs". Below it is a grid of tabs. The "AC CTI Adapters" tab is highlighted with a red box. Other tabs include AC Contact Channel Analytics, AC Contact Trace Records, Accounts, AC Real Time Queue Metrics, AC Voicemail Drops, Analytics, App Launcher, Documents, Duplicate Record Sets, Engagement Channel Types, External Managed Accounts, Files, Forecasts, Groups, and Home.

3. Select **AC CTI Adapters** and select your adapter

4. Scroll down to the attributes section and select **New AC CTI Attribute**

A screenshot of the "Attributes" section. At the top, there's a button labeled "New AC CTI Attribute" which is highlighted with a red box. Below this, a message says "No records to display".

5. Provide a **CTI Attribute Name**, for example: authenticated

6. Provide the **Label** name, for example:

7. Select the **Display** option, in this case: Key-Value

8. Select Text as the **Type**

9. For **Style**, enter the following: `color:red`

10. In the **Format** field, enter `{{phone_number}}` to reference the incoming contact attribute

11. Set **Default Value** to `unk`

12. Choose **Save**

The screenshot shows the 'AC CTI Attribute Edit' dialog box. At the top, there are three buttons: 'Save', 'Save & New', and 'Cancel'. Below this is a section titled 'Information' with a note that red fields are required. The configuration fields are as follows:

CTI Adapter	ACClassicAdapter
CTI Attribute Name	Authenticated
Label	Is Authenticated?
Type	Text
Format	<code>{{authenticated}}</code>
Default Value	unk
Display	Key-Value
Style	<code>color:red</code>
Active	<input checked="" type="checkbox"/>

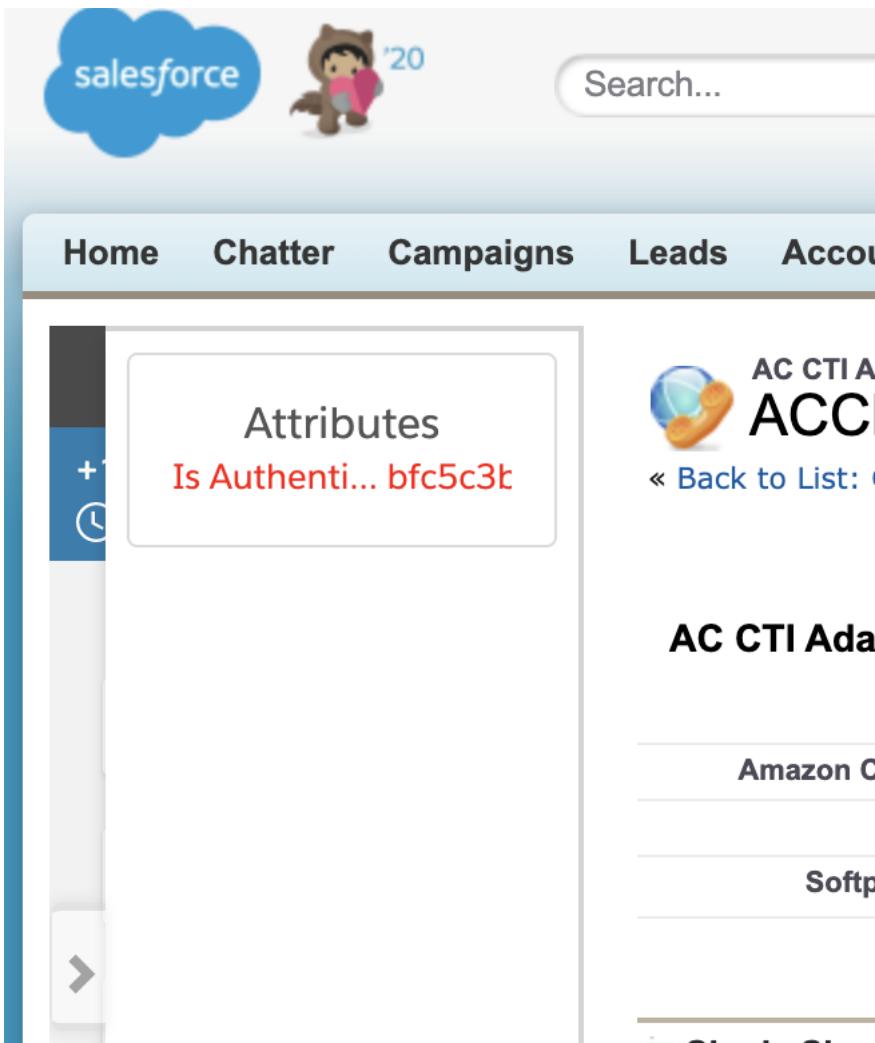
At the bottom of the dialog are three buttons: 'Save', 'Save & New', and 'Cancel'.

13. Open the Amazon Connect Contact Flow Designer and drop *Set > Set Contact Attributes* block to your Contact Flow. Set the attribute based on your business logic. For example:

The screenshot shows the 'Set contact attributes' block in the Contact Flow Designer. It has a header 'Set contact attributes' with a close button. Below it is a description: 'Stores key / value pairs as contact attributes.' A note states: 'Contact attributes are accessible by other areas of Amazon Connect, such as the Contact Control Panel (CCP) and Contact Trace Records (CTRs).'
The 'Attribute to save' section contains a configuration panel:

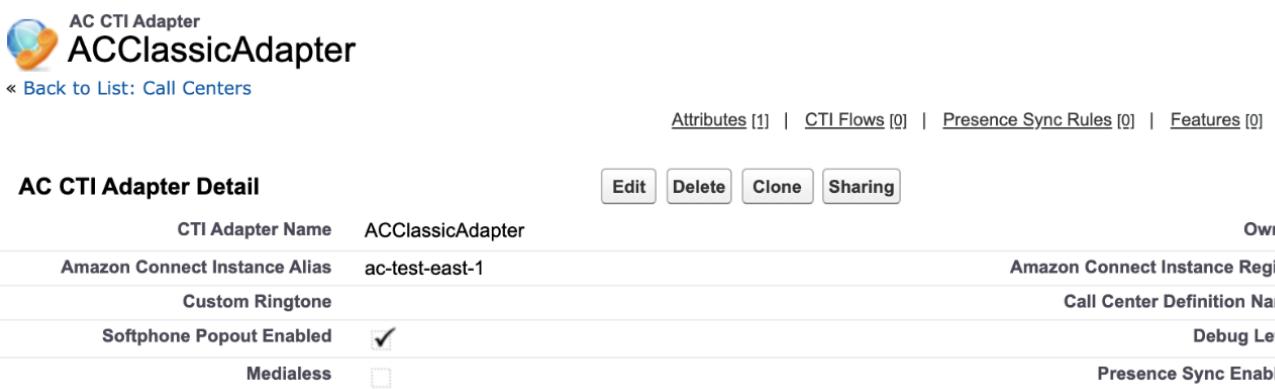
- Radio button selected: 'Use text'
- 'Destination key': 'authenticated'
- 'Value': 'true'

14. Place and inbound call and ask to speak with an agent. Accept the incoming call and check if Contact Attribute is displayed in the embedded CCP.



The screenshot shows the Salesforce home page. At the top left is the blue cloud logo with "salesforce" written on it. Next to it is a cartoon character holding a heart with the number "20" above it. To the right is a search bar with the placeholder "Search...". Below the header is a navigation bar with tabs: Home, Chatter, Campaigns, Leads, Accounts, and more. On the left side, there's a sidebar with icons for New, Recent, and a clock. The main content area has a card titled "Attributes" with the text "Is Authenti... bfc5c3t". To the right, there's a section for "AC CTI Adapter" with a logo, the name "AC CTI Adapter", and a link "« Back to List: Call Centers".

There are additional features that can be used to further customize CTI attributes.



The screenshot shows the "AC CTI Adapter Detail" page for the "ACClassicAdapter". At the top left is a logo for "AC CTI Adapter ACClassicAdapter". Below it is a link "« Back to List: Call Centers". At the top right are buttons for "Edit", "Delete", "Clone", and "Sharing". Below these are several configuration fields:

CTI Adapter Name	ACClassicAdapter	Owner
Amazon Connect Instance Alias	ac-test-east-1	Amazon Connect Instance Region
Custom Ringtone		Call Center Definition Name
Softphone Popout Enabled	<input checked="" type="checkbox"/>	Debug Level
Medialess	<input type="checkbox"/>	Presence Sync Enabled

At the bottom, there's a "Features" section with a button labeled "New AC Feature" which is highlighted with a red box.

1. In the Sales application, navigate to your CTI Adapter your CTI Adapter



The screenshot shows the "Features" page for the AC CTI Adapter. It has a table with one row. The first column is "Features" and the second column is "New AC Feature". A red box highlights the "New AC Feature" button.

2. Scroll down to the Features section. Select **New AC Feature**.
3. Set the AC Feature Name to **FEATURE_CTI_ATTRIBUTES**
4. Fill the value text box to contain the following settings:
 - a. **ShowAttributesIfEmpty** (Boolean, default true): show attributes text box when contact has no attributes
 - b. **ShowAllAttributes** (Boolean, default false): show all attributes, including attributes with no value

The screenshot shows the 'AC Feature Edit' interface. At the top right are three buttons: 'Save', 'Save & New', and 'Cancel'. Below this is a section titled 'Information'.

AC Feature Name	<input type="text" value="FEATURE_CTI_ATTRIB"/>
Value	<input type="text" value="ShowAttributesIfEmpty: true\nShowAllAttributes: true"/>
Active	<input checked="" type="checkbox"/>
CTI Adapter	<input type="text" value="ACClassicAdapter"/>

At the bottom right of the form are the same three buttons: 'Save', 'Save & New', and 'Cancel'.

5. Select **Save**

Call Recording Link for Task

The Adapter comes with a Visualforce component that provides users with the ability to download a call recording created within Amazon Connect from a Salesforce page.

The security profile assigned to Amazon Connect agents using the Call Recording Link for Task functionality must have "Access" enabled under "Metrics and Quality > Recorded conversations".

Security profile permissions											
Routing <small>1</small>											
Numbers and flows <small>1</small>											
Users and permissions <small>1</small>											
Contact Control Panel (CCP) <small>1</small>											
Metrics and Quality <small>1</small>											
Type	All	Access	View	Edit	Create	Enable/Disable	Enable download button	Delete	Publish	Schedule	
Access metrics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contact search	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contact attributes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Login/Logout report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manager monitor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recorded conversations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
Saved reports	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To configure Call Recording links:

1. Log in to your Salesforce Org
2. Navigate to **Setup** then in type *Custom Settings* in Quick Find

The screenshot shows the Salesforce Setup interface. At the top, there's a blue cloud icon, a 'Setup' button, and tabs for 'Home' and 'Object'. Below that is a search bar containing 'custom settings'. Under the search bar, a section titled 'Custom Code' is expanded, showing a single item: 'Custom Settings'.

3. Click on the "Manage" link next to the "Toolkit for Amazon Connect" custom setting

Custom Settings

Use custom settings to create and manage custom data at the organization, profile, and user levels. Custom settings data is stored efficiently, without the cost of repeated queries. Custom settings data can be used by formula fields, Visualforce, Apex

The screenshot shows the 'Custom Settings' list view. At the top, there are buttons for 'Get Usage', 'View: All', and 'Create New View'. Below is a navigation bar with letters A through N. The main table has columns: Action, Label, Visibility, Settings Type, Namespace Prefix, and Description. One row is highlighted, showing 'Manage' with a download icon, 'Toolkit for Amazon Connect' as the label, 'Public' visibility, 'Hierarchy' settings type, 'amazonconnect' namespace prefix, and a description: 'Configuration settings of the Toolkit for Amazon Connect.'

4. Next, click on the "New" button on the top of the page, which will create the Default Organization values.

Custom Setting Toolkit for Amazon Connect

If the custom setting is a list, click **New** to add a new set of data. For dialing code.

If the custom setting is a hierarchy, you can add data for the user, for a specific user is running the app, a specific profile, or just a general value.

New

▼ Default Organization Level Value

5. On the following page, provide the URL to your Amazon Connect instance without path information. The value of the URL field would be in the form of: <https://your-instance-alias.awsapps.com>

Toolkit for Amazon Connect Edit

Provide values for the fields you created. This data is cached with the application.

Edit Toolkit for Amazon Connect **Save** **Cancel**

Toolkit for Amazon Connect Information

Location

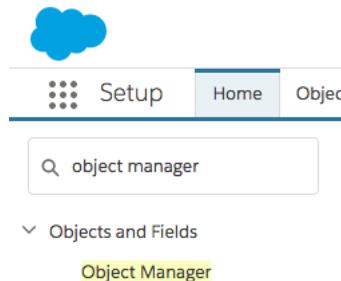
Url <https://yourinstancename.a>

The Adapter creates a Task in Salesforce for every phone interaction received by an agent. This Task will always be linked to the phone call via the Amazon Connect Contact ID. If Amazon Connect is configured to record the phone calls, the recording can be made available on the Task details page.

The Visualforce Page for the call recording is already added to this Layout. The recommended height is 70px.

To edit the sample Task Page Layout, please follow the steps:

1. Log in to your Salesforce Org
2. Navigate to **Setup** then in type *Object Manager* in Quick Find



3. Click on the "Task" object

The screenshot shows the Salesforce Object Manager interface. At the top, there are navigation links: 'Setup', 'Home', and 'Object Manager'. Below the header, a section titled 'Object Manager' displays one item: 'Task'. A table below lists the item with columns: 'LABEL', 'API NAME', and 'DESCRIPTION'. The 'LABEL' column shows 'Task', 'API NAME' shows 'Task', and 'DESCRIPTION' is blank.

4. Click on the "Page Layouts"

The screenshot shows the 'Task' object's page layout configuration. On the left, a sidebar lists 'Details', 'Fields & Relationships', 'Page Layouts' (which is selected and highlighted in blue), and 'Lightning Record Pages'. The main area is titled 'Page Layouts' and shows one item: 'Task Layout'. A dropdown menu labeled 'PAGE LAYOUT NAME' is open, with 'Task Layout' selected.

5. Click on the "*Task Layout*" and the layout designer will open

The screenshot shows the 'Task Layout' editor. The left sidebar includes 'Buttons', 'Quick Actions', 'Mobile & Lightning Actions', 'Expanded Lookups', 'Related Lists', 'Report Charts', and 'Visualforce Pages'. The main area contains a 'Quick Find' search bar and a list of components. One component, 'ACSFCCP_CallRecording...', is highlighted with a red rectangle.

6. Drag the "ACSFCCP_CallRecording" item to the desired are of the layout to have that information appear on the agent's screen. The following screenshot shows how the Call Details section could appear when placing the "ACSFCCP_CallRecording" item on the required Task layout.

The screenshot shows the 'Call Details' section of the Task layout. It includes fields for 'Call Type' (Inbound), 'Call Transcript', 'Call Object Identifier' (0316e333-d2d7-4142-9e36-0f13a0158d62), 'Call Duration' (21), 'Call Result' (NeedsFollowUp), and a '0:00' recording player. The recording player is circled with a red rectangle.

7. To have access to the recording, the user must have an active session with Amazon Connect. This can be achieved by either logging in to the CCP softphone, or by logging

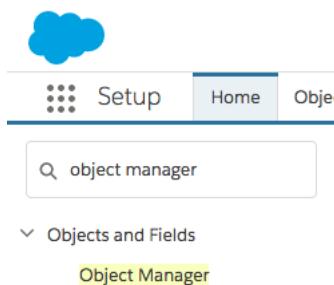
in to Amazon Connect outside of Salesforce. After the session is established, a page refresh should make the player appear.

Call Display on the Account Page

The Adapter comes with a Visualforce Page that displays all phone calls made using Amazon Connect for an Account. It differs from the standard Activity Related List because it filters all other activities out and focuses on the phone calls only.

To show the recent calls on the Account details page, add the "ACSFCCP_CallLogging_View" Visualforce Page to the Account Page layout. It is recommended to create a dedicated section with a 1-Column layout for this purpose, and to make the Visualforce Page scrollable.

1. Log in to your Salesforce Org
2. Navigate to **Setup** then in type *Object Manager* in Quick Find



3. Click on the "Account" object

LABEL	▲ API NAME	DESCRIPTION
Account	Account	

4. Click on the "Page Layouts"

SETUP > OBJECT MANAGER

Account

Details	Page Layouts
Fields & Relationships	4 Items, Sorted by Page Layout Name
Page Layouts	PAGE LAYOUT NAME
Lightning Record Pages	Account (Marketing) Layout
Buttons, Links, and Actions	Account (Sales) Layout
Compact Layouts	Account (Support) Layout
Object Limits	Account Layout
Record Types	

5. Click on the "Account layout" and the layout designer will open

Account Layout ▾

Save Quick Save Preview As... Cancel Undo Redo Layout Properties

Custom Console Components Mini Page Layout Mini Console View | Video Tutorial Help for this Page ?

Fields		Account Sample						
Buttons	Quick Find Field Name	Section	Account Owner	Annual Revenue	Customer Priority	D-U-N-S Number	Last Modified By	Ownership
Custom Links		Blank Space	Account Site	Billing Address	D&B Company	Employees	NAICS Code	Parent Ac
Quick Actions			Account Name	Clean Status	Data.com Key	Fax	NAICS Description	Phone
Mobile & Lightning Actions			Account Number	Active	Created By	Description	Industry	Number of Locations
Expanded Lookups								
Related Lists								
Report Charts								

6. From the left-hand side menu, select "Fields"

Save Quick Save Preview As... Cancel Undo Redo Layout Properties

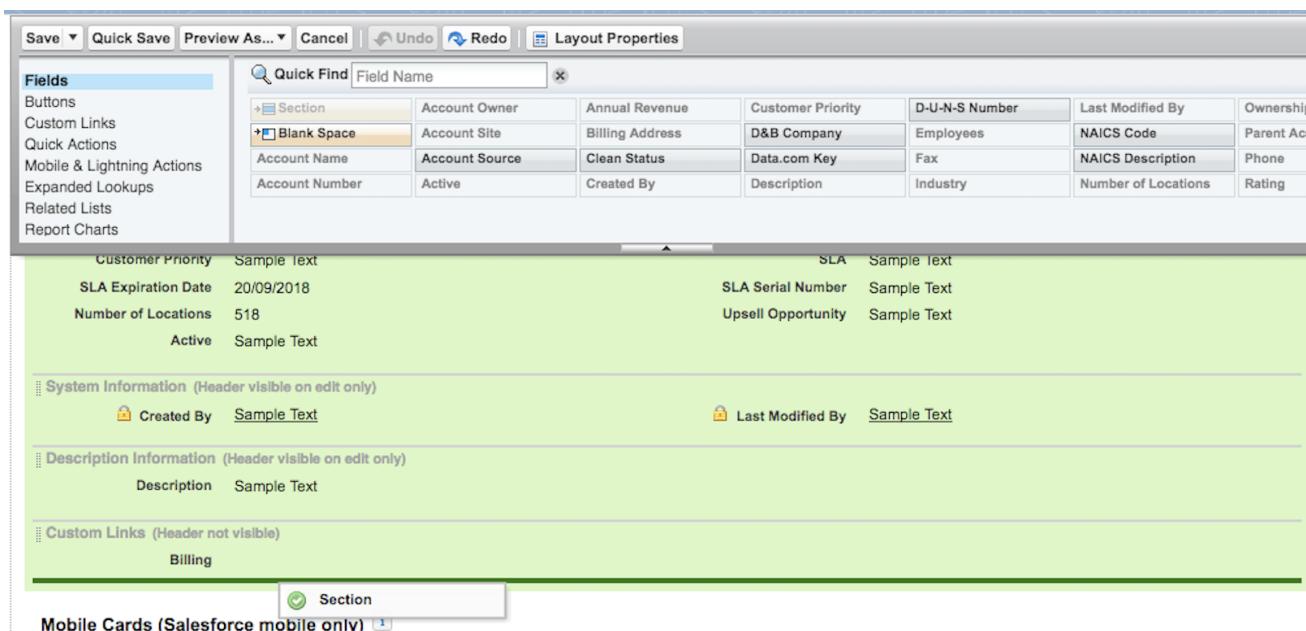
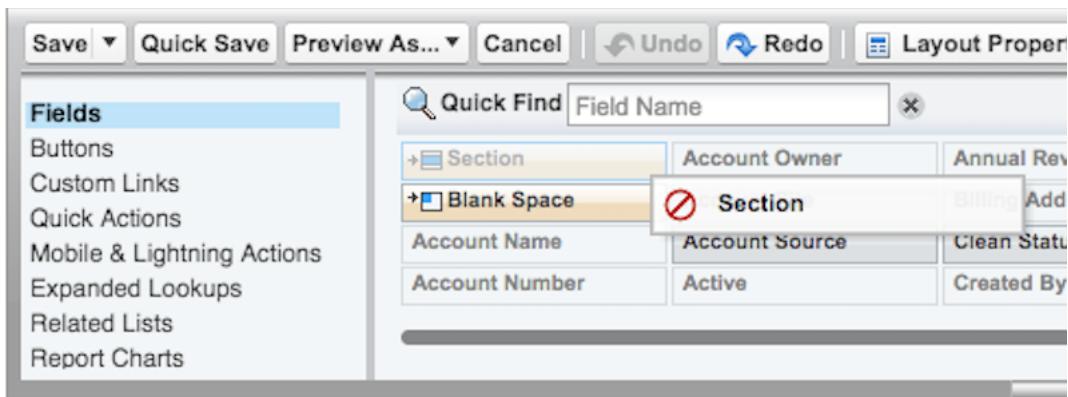
Fields

Buttons
Custom Links
Quick Actions
Mobile & Lightning Actions
Expanded Lookups
Related Lists
Report Charts

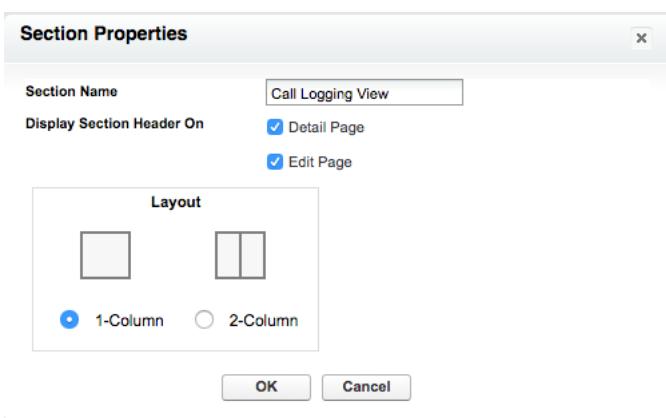
Quick Find Field Name

Section	Account Owner	Annual Revenue
Blank Space	Account Site	Billing Address
Account Name	Account Source	Clean Status
Account Number	Active	Created By

6. Drag and Drop "Section" item to add a new section on the layout



8. On the pop-up form, set Section Name ("Call Logging View") and 1-Column Layout



9. Click "OK"

The screenshot shows the Salesforce page editor interface. At the top, there are tabs for 'Description Information (Header visible on edit only)', 'Custom Links (Header not visible)', and 'Call Logging View'. Below these tabs, there is a 'Quick Find' bar with the placeholder 'Page Name'. A sidebar on the left lists various page components: Custom Links, Quick Actions, Mobile & Lightning Actions, Expanded Lookups, Related Lists, Report Charts, Components, and Visualforce Pages. The 'Visualforce Pages' item is currently selected. In the main content area, there is a 'Section' component and a 'Blank Space' component. The 'Call Logging View' section is visible at the bottom.

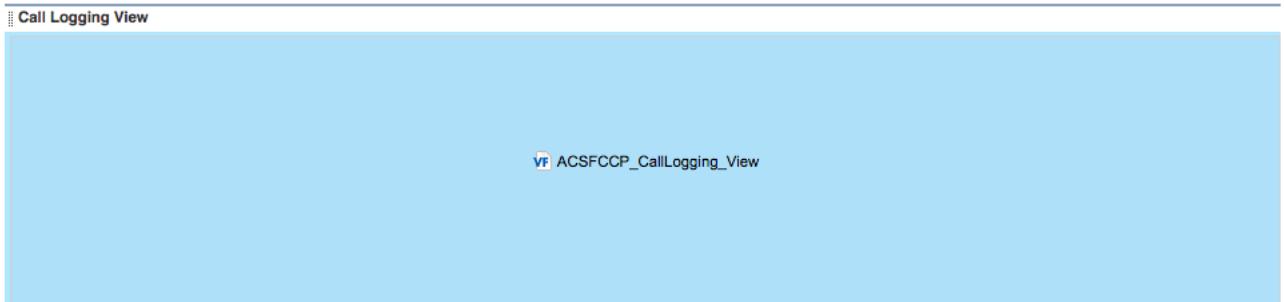
10. From the left-hand side menu, select Visualforce Pages:

This screenshot shows the same page editor interface as the previous one, but with a different focus. The 'Visualforce Pages' item in the sidebar is now highlighted with a blue selection bar. The rest of the interface remains the same, including the 'Quick Find' bar and the components listed in the main content area.

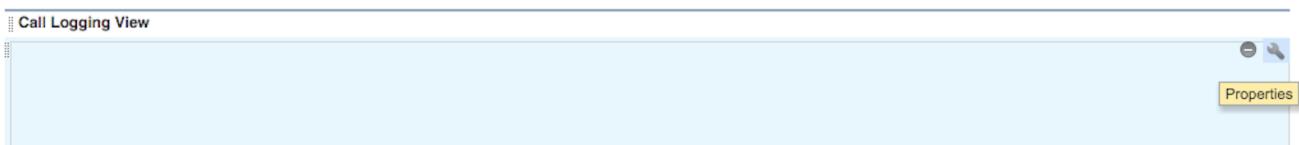
11. Drag and drop "ACSFCCP_CallLogging_View" item to the "Call Logging View" section

This screenshot shows the 'ACSFCCP_CallLogging_View' item being moved from the sidebar to the 'Call Logging View' section. A red circular icon with a slash is placed over the item, indicating it is being moved. The 'Call Logging View' section is highlighted with a green background. The 'Quick Find' bar and the sidebar are also visible.

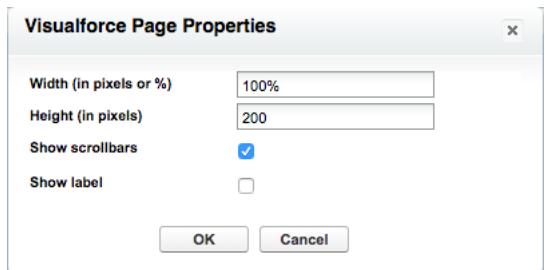
This screenshot shows the final state of the page editor. The 'ACSFCCP_CallLogging_View' item has been successfully placed into the 'Call Logging View' section. It is now a standard component within that section, indicated by a green checkmark icon. The 'Call Logging View' section is highlighted with a green background, and the 'Quick Find' bar and the sidebar are visible.



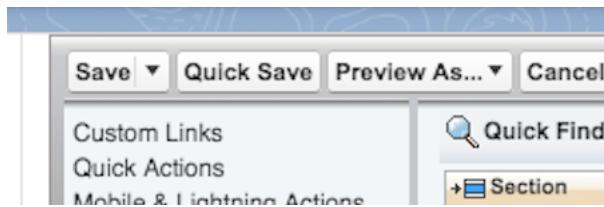
12. Hover the newly added component and click on the "Setting" icon



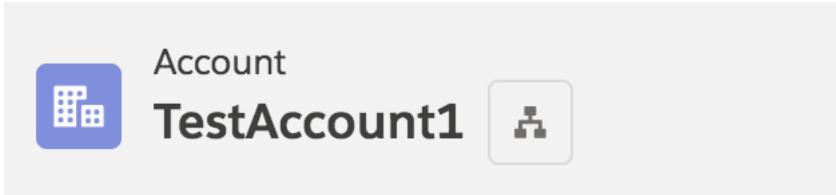
Check "Show scrollbars" and click "OK"



13. Click the "Save" button in the top-left corner



14. Make some phone calls, ask to speak with an agent. Open the Account, then select "Details" tab



Account
TestAccount1

Type Phone Website

RELATED DETAILS NEWS

15. Scroll down the Details page until you see the "Call Logging View" section

Call Logging View				
CALL DATE	PHONE NUMBER	CALL TYPE	PHONE CALL DURATION	CALL IDENTIFIER
Thu Jun 07 16:59:54 GMT 2018	+44 [REDACTED]	Inbound	0 min 31 sec	805f8089-3646-4f9b-ae73-be9236aa26a1
Thu Jun 07 08:17:07 GMT 2018	+44 [REDACTED]	Inbound	0 min 23 sec	a0a42712-6d3d-4700-b650-d6b8aae189cc
Thu May 17 06:55:21 GMT 2018	+44 [REDACTED]	Inbound	0 min 10 sec	37491b40-85a7-4feb-a388-fd2c69ea8eb2
Tue May 08 18:26:50 GMT 2018	+44 [REDACTED]	Inbound	0 min 38 sec	994fbea6-94a6-4cf1-a118-a7c31cc39099
Tue May 08 18:00:11 GMT 2018	+44 [REDACTED]	Outbound	0 min 4 sec	40c6ad53-429a-42a2-b4c0-d46b20c109b6

For more information on how to add a Visualforce Page to a Page layout, please visit:

https://trailhead.salesforce.com/en/modules/visualforce_mobile_salesforce1/units/visualforce

Outbound Campaign Calls

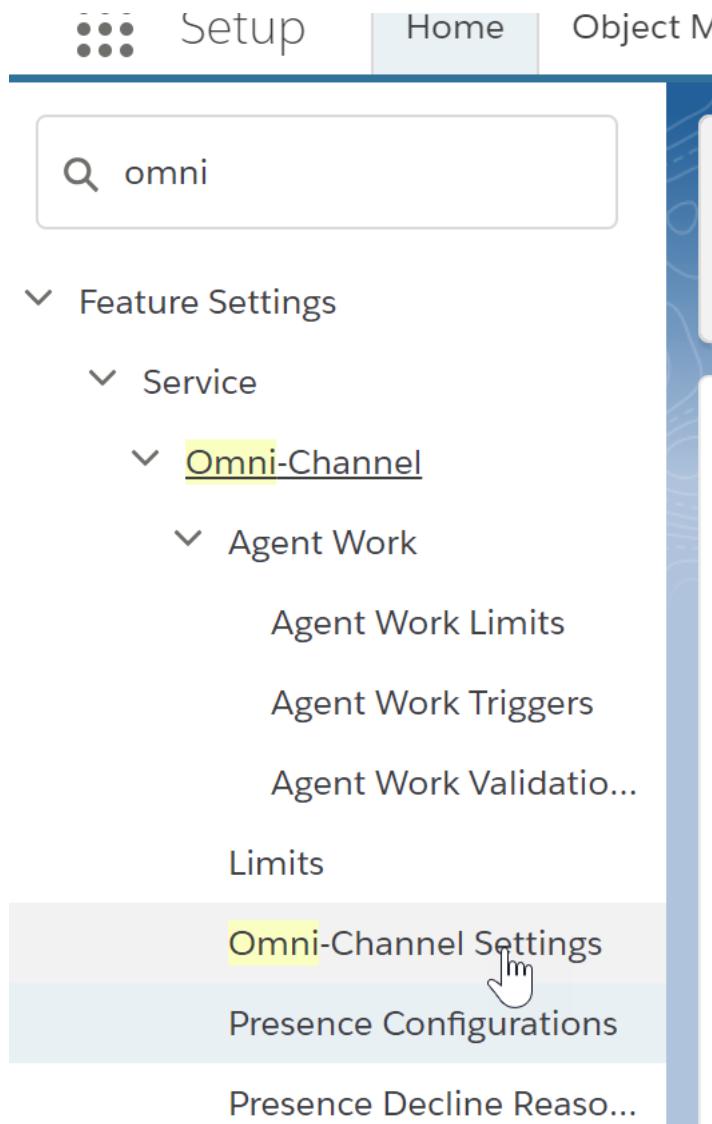
The package allows for running Outbound Call Campaigns using Salesforce Omni Channel routing and Amazon Connect. To enable outbound campaigns, the Custom Object called **Amazon Connect Call Campaign**, which comes bundled with the Adapter, must be configured to be routed by Salesforce Omni.

Outbound call campaigns are a feature of the package that utilizes Omni-Channel routing and Amazon Connect. To use the Call Campaigns, we must first configure the following items:

1. Create a Queue for users to manage a workload and configure it for the custom object.
2. Create a Service Channel and configure it for the custom object.

3. Create a Routing Configuration.
4. Associate the Routing Configuration with the Agents and the Queue.
5. Create a Presence Status and Configuration and assign it to the Users.

First, we must enable omni-channel. To do this, navigate to "Setup" and type "omni" into the Quick Find box, then select "Omni-Channel Settings" from the menu.



Place a check in the checkbox for "Enable Omni-Channel".

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 SETUP

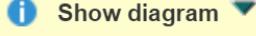
Omni-Channel Settings

Omni-Channel Settings

Welcome to Omni-Channel!

Omni-Channel is a comprehensive customer service solution that lets contact centers push work to Omni-Channel. Omni-Channel lets you create work items from your Salesforce records—including cases, chats, leads, objects—and route them to the most qualified, available agents in your organization, all in real time. It integrates seamlessly into the Salesforce console, so it's easy for your support agents to use.

With Omni-Channel, you can manage the priority of work items to make sure that critical assignments are handled quickly. You can manage your agents' capacity and availability for work to ensure that they're given assignments that they can handle. You can also define which agents can work on different types of work items. Omni-Channel routes all of these assignments to the correct agents automatically. Agents no longer have to work items manually from a queue, and managers no longer have to triage or dispatch work to the most qualified available agent in real time!



First, you need to enable Omni-Channel. Then, [create Service Channels](#).

Enable Omni-Channel | 

This must be checked

Use Skills-Based Routing | 

Create a Queue

Navigate to "Setup" and type "queue" into the Quick Find box, then select "Queues" from the menu.

The screenshot shows the Salesforce Setup interface. At the top, there is a blue cloud icon, a search bar with the placeholder "Search Setup", and a navigation bar with tabs: "Setup" (selected), "Home", and "Object Manager". Below the navigation bar, there is a search bar containing the text "queues". A sidebar on the left has a "Users" section and a "Queues" section, where "Queues" is highlighted with a yellow background and a mouse cursor icon. A message in the center says "Didn't find what you're looking for? Try using Global Search." The main content area is titled "Queues" and contains a brief description: "Queues allow groups of users to manage a shared workload more effectively". Below the description are buttons for "View: All ▾ Edit | Create New View".

You may see some entries if you are already using Omni-Channel for other things in your instance. We want to create a new queue for the purpose of handling these outbound call campaigns.

The screenshot shows the "Queues" screen in the Salesforce Setup interface. The top navigation bar includes a "SETUP" icon, the word "Queues", and a "Help for this Page" link. Below the navigation bar, there is a "View: All ▾ Edit | Create New View" button. The main content area is titled "Queues" and contains a brief description: "Queues allow groups of users to manage a shared workload more effectively. A queue is a location where records can be routed to await processing by a group member. The records remain in the queue until a user accepts them for processing or they are transferred to another queue. You can specify the set of objects that are supported by each queue, as well as the set of users that are allowed to retrieve records from the queue." At the bottom of the screen, there is a table with columns: "Action", "Label ↑", "Queue Name", "Queue Email", "Supported Objects", "Modified By", and "Last Modified". A red arrow points to the "New" button in the "Supported Objects" column. The table also lists various supported objects such as Amazon Connect Historical Report Data, Amazon Connect Call Campaign, Agent Work, Case, Goal, Knowledge Article Version, Lead, Live Agent Session, Live Chat Transcript, Macro, Metric, Order, Quick Text, Scorecard, User Provisioning Request, User Presence, Coaching, Feedback, Feedback Question, Feedback Question Set, Feedback Request, Feedback Template, and Performance Cycle. The last row shows an entry for "TestChatQueue" with a modified date of "15/09/2018".

On the Queues screen, click the "New" button. Fill-in the required fields and then scroll down the screen until you see "Supported Objects". Select the Amazon Connect Call Campaign object and click the "Add" button.

The screenshot shows the 'Queues' section of the AWS Lambda setup interface. At the top, there's a 'SETUP' button and a 'Queues' icon. Below this, a 'Supported Objects' section allows selecting objects to assign to the queue. A red arrow points from the 'Amazon Connect Call Campaign' item in the 'Available Objects' list to the 'Add' button (labeled '1'). A red circle highlights the 'Add' button, and the number '2' is placed next to it. The 'Selected Objects' list currently contains '--None--'. In the 'Queue Members' section, there's a search bar for 'Users' with a dropdown menu, a 'Find' button, and a 'Selected Members' list containing '--None--'. The 'Available Members' list shows four user entries, each starting with 'User:' followed by a redacted name.

Queues

Supported Objects

Select the objects you want to assign to this queue. Individual records for those objects can then be owned by this queue.

Available Objects	Selected Objects
Amazon Connect Historical Report Data	--None--
Agent Work	
Amazon Connect Call Campaign	1
Case	
Goal	
Knowledge Article Version	
Lead	
Live Agent Session	
Live Chat Transcript	
Macro	
Metric	
Order	
Quick Text	
Scorecard	

Add
Remove

Queue Members

To add members to this queue, select a type of member, then choose the group, role, or user from the "Available Members" list. If the Queue is Public Read/Write/Transfer, you do not need to assign users to the queue, as all users already have access.

Search: for: Find

Available Members	Selected Members
User: [REDACTED]	--None--
User: [REDACTED]	
User: [REDACTED]	
User: [REDACTED]	

Scroll down to the Queue members to select the members of the queue. You can assign the queue by Public Groups, Roles, Roles and Subordinates, or Users. If you need to wade through many users, groups, or roles, feel free to use the "Find" feature.

Once you have found the entity you'd like to add, select it and click Add, just like we did with the object in the previous step.

SETUP

Queues

- User Presence
- Coaching
- Feedback
- Feedback Question
- Feedback Question Set
- Feedback Request
- Feedback Template
- Performance Cycle

Remove

Queue Members

To add members to this queue, select a type of member, then choose the group, role, or user from the "Available Members" list. If the Queue is Public Read/Write/Transfer, you do not need to assign users to the queue, as all users already have access.

Search: for:

Available Members	Selected Members
User: User: User: User:	--None--

Add Remove

1

2

3

The screenshot shows the 'Queue Members' configuration screen. On the left, a list of available members is shown, with the first item ('User: [redacted]') selected and highlighted in blue. A red arrow labeled '1' points from this selection to the 'Add' button between the two lists. On the right, the 'Selected Members' list is empty, showing '--None--'. A red arrow labeled '2' points from the 'Add' button to the 'Selected Members' list. A third red arrow labeled '3' points from the bottom of the 'Selected Members' list area towards the 'Save' and 'Cancel' buttons at the bottom of the screen.

Now, our queue has been created and assigned to users.

The screenshot shows the 'Queues' section of the Service Channel setup. At the top, there's a navigation bar with a user icon, 'SETUP', and 'Queues'. Below it, a sub-header says 'Queues' with a 'Help for this Page' link. A descriptive text explains what queues are. A 'View' dropdown menu is open, showing 'All' selected. There are buttons for 'Edit' and 'Create New View'. A navigation bar at the top of the main content area includes letters from A to Z and an 'All' button. A table lists a single queue entry:

Action	Label ↑	Queue Name	Queue Email	Supported Objects	Modified By	Last Modified Date
Edit Del	Call Campaign	Call_Campaign		Amazon Connect Call Campaign	[REDACTED]	21/09/2018 04:07

Below the table, a note states: 'Amazon Connect Historical Report Data; Amazon Connect Call Campaign; Agent Work; Case; Goal;'

Create a Service Channel

Click into the Setup search box in the left navigation panel and type "Service Channel". Then click "Service Channels".

The screenshot shows the 'Service Channels' section of the Service Channel setup. On the left, a search bar contains 'service channel'. Below it, a tree view shows 'Feature Settings' expanded, with 'Service' and 'Omni-Channel' collapsed. A button labeled 'Service Channels' is highlighted with a yellow background and a hand cursor icon pointing at it.

On the right, a large blue sidebar header features a user icon, 'SETUP', and 'Queues'. The main content area has a title 'Queues' and a descriptive paragraph about queues. Below the paragraph is a table with one row:

Action	Label ↑
Edit Del	Call Campaign

Didn't find what you're looking for?
Try using Global Search.

Click "New" to create our new Service Channel.

SETUP

Service Channels

Service Channels

Service Channels let you turn any Salesforce object—such as a case, lead, SOS session, or even a custom object—into a work record. Omni-Channel then plucks these work items from their queues—like flowers from the garden of agent productivity—and routes them to your agents in real time.

Does your organization use Live Agent for chats or SOS for video calls? If so, you'll notice that Salesforce creates those Service Channels for you automatically, so you can get up and running using Live Agent and SOS with Omni-Channel right away.

Show diagram ▾

Let's get this party started and create a new Service Channel. After you create a Service Channel, [create a Routing Configuration](#) to determine how work items are pushed to your agents.

View: **All** **Create New View**



A | B | C | D | E | F | G | H | I | J | K | L | M | N | C

Action	Service Channel Name	Developer Name
Edit	Live Agent	[REDACTED]

SETUP

Service Channels

Service Channels

Service Channels let you turn any Salesforce object—such as a case, lead, SOS session, or even a custom object—into a work record. Omni-Channel then plucks these work items from their queues—like flowers from the garden of agent productivity—and routes them to your agents in real time.

Show me an example ▾

After you create a Service Channel, [create a Routing Configuration](#) to determine how work items are pushed to your agents.

We have resources that will help you up Omni-Channel for your organiz

Create Service Channels
Need help creating your first Service Salesforce help.

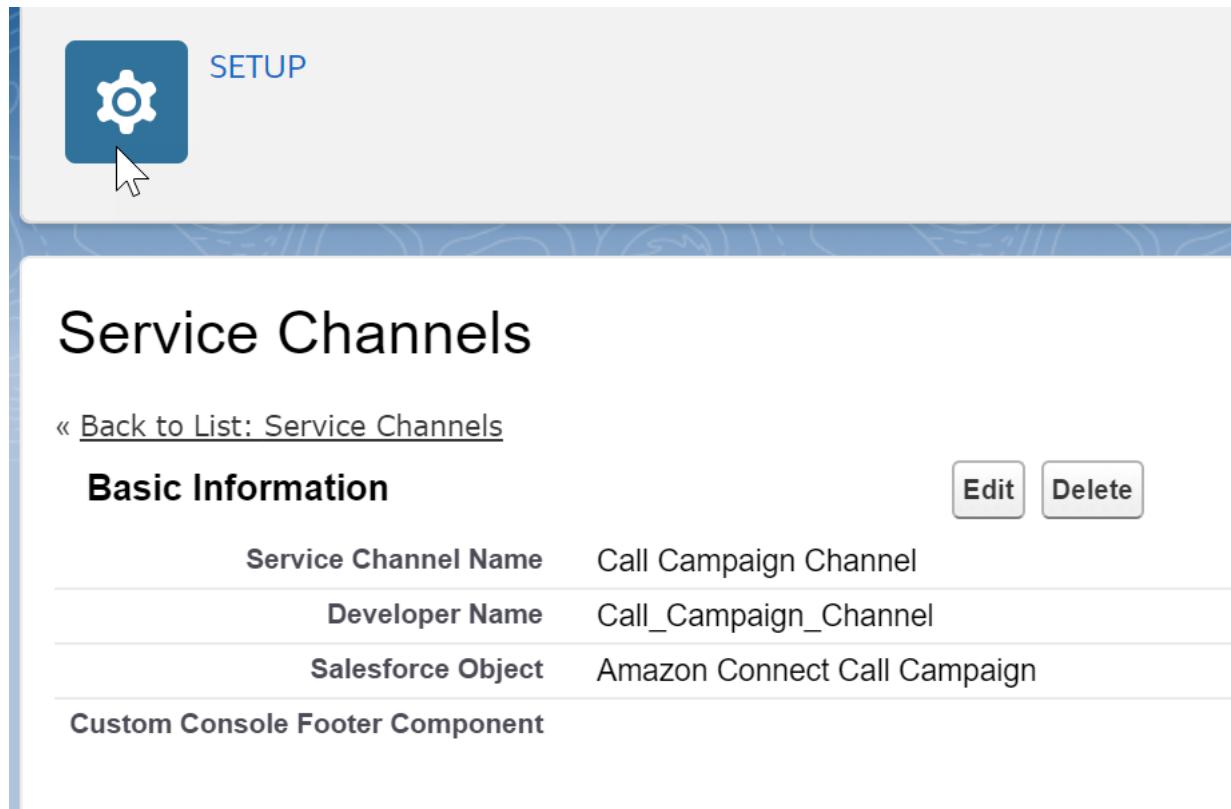
Service Channel Settings
Learn more about what individual se

Set Up Omni-Channel - implemen
Snuggle up with a cup of cocoa and end-to-end process of setting up On

Basic Information

	Save	Cancel
Service Channel Name	<input type="text" value="Call Campaign Channel"/> 1	
Developer Name	<input type="text" value="Call Campaign Channel"/>	
Salesforce Object	<input type="text" value="Amazon Connect Call Campaign"/> 2	
Custom Console Footer Component	<input type="text"/>	
	Save	Cancel

In the new Service Channel form, enter your desired Service Channel Name (step 1). The Developer Name field will auto-populate based on the Service Channel Name content. Then, select the [Amazon Connect Call Campaign]{.ul} object (step 2). Finally, save the new Service Channel (step 3).

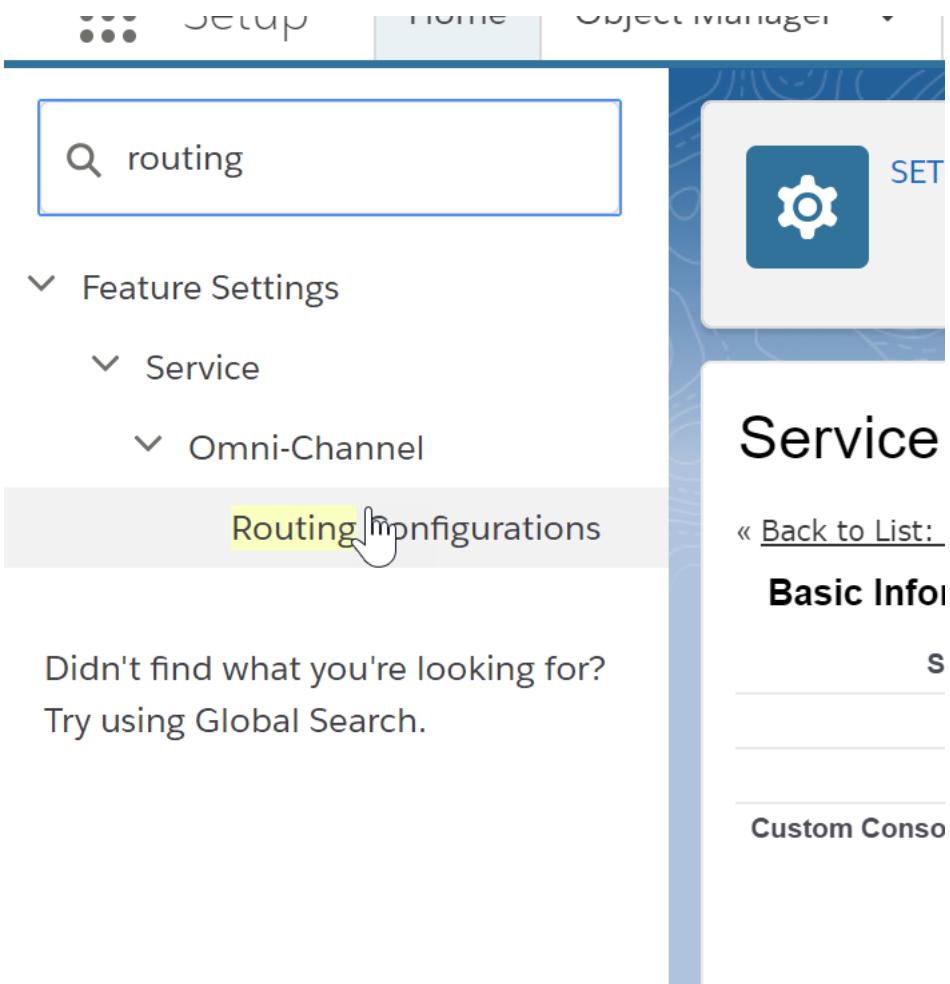


The screenshot shows a user interface for creating a service channel. At the top left is a blue button with a gear icon labeled "SETUP". To its right is a "Service Channels" header. Below the header is a link "« Back to List: Service Channels". Under the header, there's a section titled "Basic Information" with two buttons: "Edit" and "Delete". A table follows, listing three items: "Service Channel Name" (Call Campaign Channel), "Developer Name" (Call_Campaign_Channel), and "Salesforce Object" (Amazon Connect Call Campaign). At the bottom of this section is a link "Custom Console Footer Component".

Service Channel Name	Call Campaign Channel
Developer Name	Call_Campaign_Channel
Salesforce Object	Amazon Connect Call Campaign

Create a Routing Configuration

Now, we need to create a routing configuration. Enter "routing" into the search box in the left navigation and click "Routing Configurations".



1. On the Routing Configurations landing page, click "**New**".



SETUP
Routing Configurations

Routing Configurations

tions

g for?

Routing Configurations determine how work items are routed to agents. They let you prioritize the relative importance and size of work items across your Omni-Channel Queues. Since not all work items take the same amount of effort, Routing Configurations let you control the relative size of items in your Queues so agents can focus the right amount of attention on their work. That way, the most important work items are handled accordingly, and work is evenly distributed to your agents. After all, we want to make sure every agent gets to have an equal amount of fun, right?

 Show diagram ▾

After you create your Routing Configuration, you need to associate Routing Configurations with **Queues**. The items in that Queue are pushed to your agents based on the settings in your Routing Configuration. For routing to work correctly, make sure all of your agents are assigned to your Omni-Channel Queues.

View: [Create New View](#)

A | B | C | D | E | F | G | H | I | J

Action	Routing Configuration Name ↑	Developer Name	Routing Priority	Routing Model
Edit Del	TestRouting	TestRouting	1	Most Available

We have
up Omni

Create F
Need he
Salesfor

Set Up C
Snuggle
end-to-e



SETUP

Routing Configurations

Routing Configurations determine how work items are routed to agents. They let you prioritize the relative importance and size of work items across your Omni-Channel Queues. Since not all work items take the same amount of effort, Routing Configurations let you control the relative size of items in your Queues so agents can focus the right amount of attention on their work. That way, the most important work items are handled accordingly, and work is evenly distributed to your agents. After all, we want to make sure every agent gets to have an equal amount of fun, right?

Show diagram ▾

After you create your Routing Configuration, you need to associate Routing Configurations with [Queues](#). The items in that Queue are pushed to your agents based on the settings in your Routing Configuration. For routing to work correctly, make sure all of your agents are assigned to your Omni-Channel Queues.

We have resou
up Omni-Chan

[Create Routin](#)
Need help crea
Salesforce hel

[Routing Conf](#)
Learn more ab

[Set Up Omni-](#)
Snuggle up wit
end-to-end pro

Save Cancel

Basic Information

Routing Configuration Name 1

Developer Name

Overflow Assignee If you don't give the overflow assignee access to the object types in your queues and set an overfl assignments won't work.

User

Optional

Routing Settings

The routing priority determines the order in which work items across your Omni-Channel queues get pushed to your agents. Lower-priority iter

The routing model determines how to evenly distribute work items to your agents. It acts as a tiebreaker if two or more agents qualify to take c the fewest number of open work items. Most Available routes to the agent with the most open capacity in proportion to their set capacity.

Enter the Routing Configuration Name (step 1), and the Developer Name will auto-populate. If you'd like to set an Overflow Assignee, you can optionally do that at this point. The overflow assignee will receive work if your organization reaches its Omni-Channel limits. This setting has no effect until the limits are reached.

User ▾

Routing Settings

The routing priority determines the order in which work items across your Omni-Channel queues get pushed to your agents. Lower-priority items are pushed first.

The routing model determines how to evenly distribute work items to your agents. It acts as a tiebreaker if two or more agents qualify to take on the same work item. Least Active routes to the agent with the fewest number of open work items. Most Available routes to the agent with the most open capacity in proportion to their set capacity.

Routing Priority 1
 Routing Model 2
 Push Time-Out (seconds)

Work Item Size

Specify the size of the work items in the queues associated with this configuration. You can size items by number of units or percentage of the agent's capacity, but not both.

Units of Capacity 3
 Percentage of Capacity

4 → Save Cancel

Next, you must configure the Routing Settings.

First, (step 1) enter the priority of the work across the Omni-Channel queues. Second (step 2), select the model to use to act as the tie-breaker between agents. Third, (step 3) specify the units of capacity or percentage of capacity of the work items in the queue. Finally, (step 4), click "Save".



SETUP

Routing Configurations

[« Back to List: Routing Configurations](#)

Basic Information

[Edit](#)[Delete](#)**Routing Configuration Name** Call Campaign Routing Config**Developer Name** Call_Campaign_Routing_Config**Overflow Assignee**

▼ Routing Settings

Routing Priority 2**Routing Model** Most Available**Push Time-Out (seconds)****Units of Capacity** 5.00**Percentage of Capacity**

▼ Related Queues

Label	Queue Name

You have created your Routing Configuration.

Now, we need to assign the Routing Configuration to our queue. From the Quick Find in Setup, enter "queues" and then select "Queues" (step 1).

Queues

Queues allow groups of users to manage a shared workload more effectively. A queue is a location where records can be routed to await processing until a user accepts them for processing or they are transferred to another queue. You can specify the set of objects that are supported by the queue to retrieve records from the queue.

Action Label ↑ Queue Name Queue Email Supported Objects

Edit	Del	Call Campaign	Call Campaign	Amazon Connect Call Campaign
Edit	Del	TestChatQueue	TestChatQueue	Amazon Connect Historical Report Data; Amazon Connect Call Campaign; Agent Work Log; Knowledge Article Version; Lead; Live Agent Session; Live Chat Transcript; Macro; Message; M-Push; M-Text; Scorecard; User Provisioning Request; User Presence; Coaching; Feedback; Feedback Question Set; Feedback Request; Feedback Template; Performance Cycle

Click on the "Edit" link next in the row of the queue that was created earlier (step 2).

Enter the name of the queue and the email address to use when sending notifications (for example). When an object is assigned to a queue, only the queue members will be notified.

Label	<input type="text" value="Call Campaign"/>
Queue Name	<input type="text" value="Call_Campaign"/>
Queue Email	<input type="text"/>
Send Email to Members	<input type="checkbox"/>

Configuration with Omni-Channel Routing

If your organization uses Omni-Channel, you can link queues to a routing configuration. This section shows how to do that.

Routing Configuration



Supported Objects



Use the magnifying glass button to search for our new Routing Configuration created earlier.

Lookup

You can use "*" as a wildcard next to other characters to improve your search results.

Search Results

Routing Configuration Name	Developer Name	Routing Priority	Routing Model	Units of Capacity	Percentag
TestRouting	TestRouting	1	Most Available	5.00	
Call Campaign Routing Config	Call_Campaign_Routing_Config	2	Most Available	5.00	

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Select our Routing Configuration from the Lookup window.

 Queues

Edit Queue
Call Campaign

Queue Edit

Queue Name and Email Address

Enter the name of the queue and the email address to use when sending notifications (for example, when a contact is assigned to a queue). When an object is assigned to a queue, only the queue members will be notified.

Label	Call Campaign 
Queue Name	Call_Campaign 
Queue Email	<input type="text"/>
Send Email to Members	<input type="checkbox"/>

Configuration with Omni-Channel Routing

If your organization uses Omni-Channel, you can link queues to a routing configuration. This will push work from supported objects to queue members.

Routing Configuration [Campaign_Routing_Config](#) 

Supported Objects

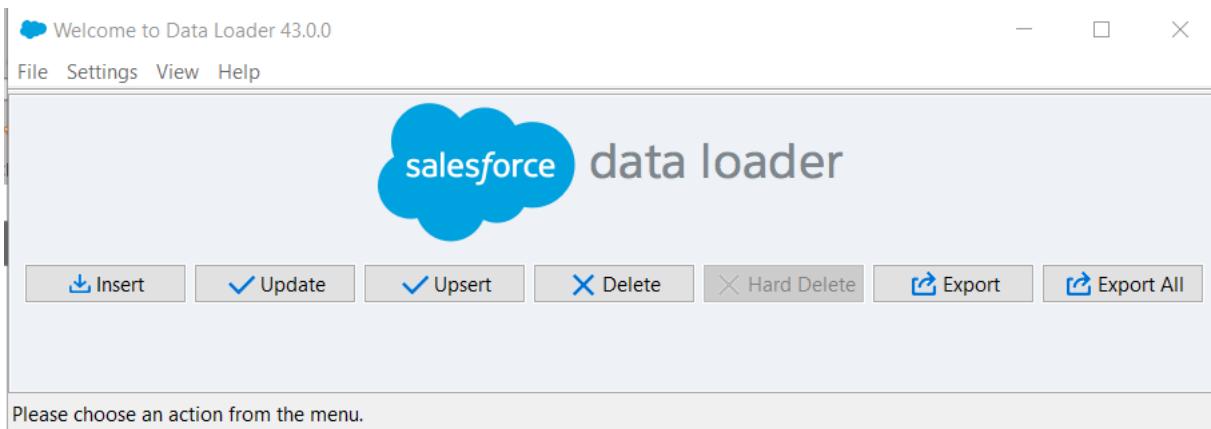


Click "Save" to store our changes.

The next steps are to create and configure the Presence Statuses.

Outbound Campaign Custom Object Using Salesforce Data Loader

The following is a description of the steps using the Salesforce Data Loader to insert outbound call campaign records. The Data Loader can be obtained from <https://data.loader.io/>



Start by exporting the call campaign custom object. From the Data Loader UI, click the "Export" button. You will be prompted to Login. Select OAuth as the method and then provide your Salesforce login credentials.

From the list of Salesforce objects select the **Amazon Connect Call Campaign** and export it to CSV file.

Step 2: Select Data Objects

Select your Salesforce object and your target file

Select Salesforce Object:

Show all Salesforce objects

- Account (Account)
- Amazon Connect Call Campaign (actoolkit_Call_Campaign_c)
- Amazon Connect Historical Report Data (actoolkit_ACT_HistoricalReportData_c)
- Case (Case)
- Contact (Contact)
- Event (Event)
- Lead (Lead)
- Opportunity (Opportunity)

Choose a target for extraction: C:\Users\miked\Documents\CHRYSLIS\PROJECTS\SF

< Back Finish Cancel

Next, we need the Object ID of the Queue that was created earlier. To obtain that, use the Data Loader to extract a listing of Queues. You will want to query for the QueueId.

The screenshot shows the 'Choose the query fields below' section with 'Id' and 'QueueId' selected. It also shows the 'Create the where clauses to your query below' section with an empty 'Fields' field, 'Operation' dropdown, and 'Value' field. Below these are 'Add condition' and 'Clear all conditions' buttons. At the bottom are 'Select all fields' and 'Clear all fields' buttons. A note says 'The generated query will appear below. You may edit it before finishing.' followed by the generated query: 'Select Id, QueueId FROM QueueObject'.

In this example, we want to pop Contact records when the outbound call is presented to the agent, so let's export a list of Contact to be called.

The screenshot shows the 'Select Salesforce Object:' section with 'Contact (Contact)' selected. There is a checkbox for 'Show all Salesforce objects' which is unchecked. Below the list are 'Event (Event)', 'Lead (Lead)', 'Opportunity (Opportunity)', and 'Price Book (Pricebook2)'. At the bottom, 'Choose a target for extraction:' is set to 'C:\Users\miked\Documents\CHRYSLIS\PROJECTS\SFI' with a 'Browse...' button. The footer has buttons for '< Back', 'Next >', 'Finish', and 'Cancel'.

Query for all or specific Contacts, based on pre-defined criteria. At a minimum, you will need to extract a list of the Id and Phone number of the Contact.

Choose the query fields below.

<input checked="" type="checkbox"/> Id	<	>
<input type="checkbox"/> IsDeleted		
<input type="checkbox"/> MasterRecordId		
<input type="checkbox"/> ...		

Create the where clauses to your query below.

Fields	Operation	Value

Add condition **Clear all conditions**

Select all fields **Clear all fields**

The generated query will appear below. You may edit it before finishing.

```
Select Id, Phone FROM Contact
```

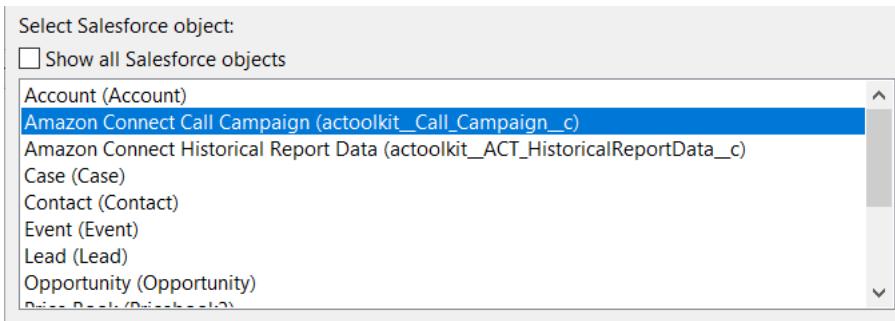
< Back **Next >** **Finish** **Cancel**

Using the data extracted in the Queue listing and the Contact listing files, construct the outbound campaign, by using the first file what was exported as a template. Open the exported "**Amazon Connect Call Campaign**" in a spreadsheet application, such as Microsoft Excel, and build a list of Contacts to be called.

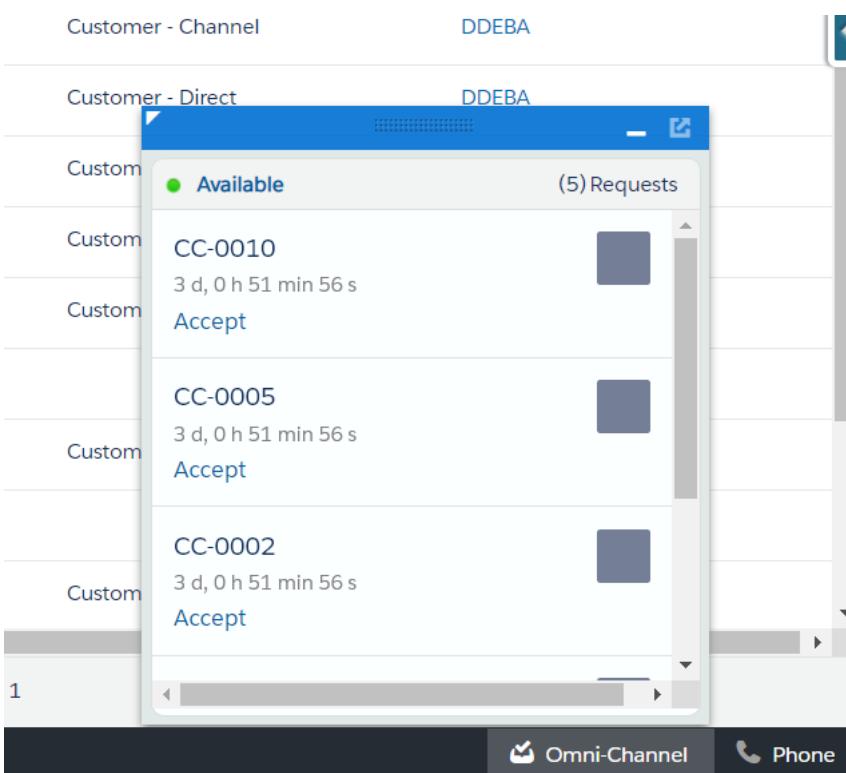
A	B	C	D	E	F	G
1 OWNERID	ACCOUNT__C	CASE__C	CONTACT__C	LEAD__C	OPPORTUNITY__C	PHONE_NUMBER__C
2 00G1U000000EIDcUAK			0031U000004WGR5QAO			(702) 555-0111
3 00G1U000000EIDcUAK			0031U000004WGR6QAO			(702) 555-0112
4 00G1U000000EIDcUAK			0031U000004WGR7QAO			(702) 555-0113
5 00G1U000000EIDcUAK			0031U000004WGR8QAO			(702) 555-0114
6 00G1U000000EIDcUAK			0031U000004WGR9QAO			(702) 555-0115
7 00G1U000000EIDcUAK			0031U000004WGRQAQ4			(702) 555-0116
8 00G1U000000EIDcUAK			0031U000004WGRBQAQ4			(702) 555-0117
9 00G1U000000EIDcUAK			0031U000004WGRCAQ4			(702) 555-0118

In the example above, the **OWNERID** column contains the QueueId obtained from the export of Queues. The **CONTACT__C** column contains the Id of the Contact we want presented to the agent, when the outbound call is initiated, and the **PHONE_NUMBER__C** field contains the phone number to be automatically dialed by Amazon Connect CCP.

Once you have built the campaign file, save it as a CSV file and then import it into Salesforce, using the Data Loader. Select "**Amazon Connect Call Campaign**" as the target of the upload.



Once the campaign has been uploaded, the campaign records will be added to the queue and the agents who are assigned to that queue should start receiving the outbound requests in their Omni-Channel widget.



Amazon Connect Reports in Salesforce

Out of the box, within Amazon Connect, you can generate a number of real-time and historical metric reports to monitor efficiency and utilization, agent performance, and other information about your contact center.

Real-time metrics reports show real-time or near-real time metrics information about activity in your contact center. Historical metrics reports include data about past, completed activity and performance in your contact center. You can customize the default report settings to get the view of the data that is most meaningful to you and your organization. You can change the time frame for the report, which metrics are included in the report, and how the data is grouped within the report.

Amazon Connect provides you the ability to export reports to the S3 bucket of your choice, in comma separated value (CSV) format. This enables broad compatibility across many analytics and WFM tools. Encryption is enabled by default for all saved reports, using S3 server-side encryption with KMS. Disabling encryption is not recommended. You can schedule reports run hourly, daily, and monthly. The output will be stored in the S3 bucket. Each report can have different name and prefix.

For the particular integration, at 30-minute intervals, Amazon Connect generates CSV reports which contain statistics for the last (30 minute) period. Two different reports are available to transport Agent and Queue interval data from Amazon Connect to Salesforce.

Each time a new report is exported, S3 is going to trigger a Lambda function from Amazon Connect Salesforce Lambda package (AWS Serverless Application Repository), which is going to import the date into your Salesforce instance.

Amazon Connect scheduled, Agent and Queue reports, are not automatically configured by the Amazon Connect Salesforce Lambda package, therefore the first step would be to create and schedule these reports.

In your Amazon Connect instance, navigate to Metrics and Quality > Historical metrics. By default, you will be able to see the two reports needed for this integration: "Contact metrics" and "Agent Performance".

The screenshot shows the 'Metrics and quality' section of the Amazon Connect console. Under 'Historical metrics', there are two items: 'Queues' and 'Agents'. Each item has a dropdown menu next to its name. The 'Queues' dropdown contains 'Contact metrics'. The 'Agents' dropdown contains 'Agent performance'. Both dropdowns have a grey gear icon at the end, indicating configuration options.

Click on the "Contact metrics" to open the report and then click on the grey gear icon on the right-hand side to configure it.

The screenshot shows the configuration screen for the 'Contact metrics' report. At the top, it says 'Historical metrics: Queues'. On the right, there are 'Save' and a dropdown menu buttons. Below this, there are three sections: 'Interval' (set to 'Total'), 'Time range' (set to 'Nov 16, 2018, 12:00 AM - Nov 23, 2018, 12:00 AM'), and 'Time Zone' (set to 'UTC'). A gear icon is located in the top right corner of this section.

Set the report configuration by following the screenshots below:

2

Table Settings

x

Interval & Time range

Groupings

Filters

Metrics

0

Interval

Time Zone

30 Minutes ▾

UTC ▾

07

Time range

Last 24 hours ▾

Table Settings



Interval & Time range

Groupings

Filters

Metrics

Select the values you'd like to group your metrics by, and add them to the right in the order you prefer.

Grouping options

Selected groupings(Maximum 5)

Agent



Agent Hierarchy Level One



2

Agent Hierarchy Level Two



3

Agent Hierarchy Level Three



4

Agent Hierarchy Level Four



5

Agent Hierarchy Level Five



Routing Profile



Phone Number



Optionally set the filters:

Table Settings X

Interval & Time range Groupings **Filters** Metrics

Queues that match these filters will be displayed on the table

0

Queue	Queue
Routing profile	Show metrics only for contacts handled in these queues:
Agent hierarchy	<input type="text"/> Search ▼
Phone number	

And most importantly, select the correct metrics in the last tab:

Table Settings



Interval & Time range

Groupings

Filters

Metrics

Metrics are displayed to the right of grouping columns.

Contact metrics

Agent metrics

Search

Metrics definitions

Agent Name

Agent First Name

Agent Last Name

After contact work time

Agent on contact time

Agent idle time

Non-Productive Time

Average queue abandon time

Average after contact work time

Average queue answer time

Average handle time

Average customer hold time

Average agent interaction and customer hold time

Average agent interaction time

Contacts abandoned

- | | |
|---|---|
| <input checked="" type="checkbox"/> Contacts abandoned in 15 seconds | <input checked="" type="checkbox"/> Contacts abandoned in 20 seconds |
| <input checked="" type="checkbox"/> Contacts abandoned in 25 seconds | <input checked="" type="checkbox"/> Contacts abandoned in 30 seconds |
| <input checked="" type="checkbox"/> Contacts abandoned in 45 seconds | <input checked="" type="checkbox"/> Contacts abandoned in 60 seconds |
| <input checked="" type="checkbox"/> Contacts abandoned in 90 seconds | <input checked="" type="checkbox"/> Contacts abandoned in 120 seconds |
| <input checked="" type="checkbox"/> Contacts abandoned in 180 seconds | <input checked="" type="checkbox"/> Contacts abandoned in 240 seconds |
| <input checked="" type="checkbox"/> Contacts abandoned in 300 seconds | <input checked="" type="checkbox"/> Contacts abandoned in 600 seconds |
| <input checked="" type="checkbox"/> Contacts agent hung up first | <input checked="" type="checkbox"/> Contacts consulted |
| <input checked="" type="checkbox"/> Contacts handled | <input checked="" type="checkbox"/> Contacts handled incoming |
| <input checked="" type="checkbox"/> Contacts handled outbound | <input type="checkbox"/> Callback contacts handled |
| <input type="checkbox"/> API contacts handled | <input checked="" type="checkbox"/> Contacts put on hold |
| <input checked="" type="checkbox"/> Contacts hold disconnect | <input checked="" type="checkbox"/> Contacts hold agent disconnect |

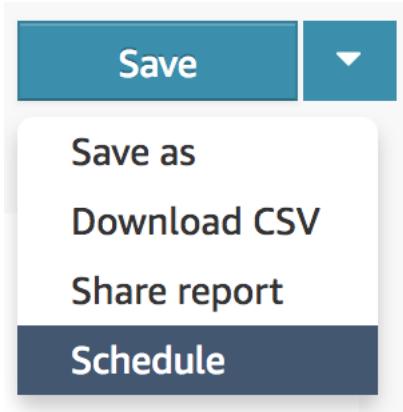
- | | |
|---|--|
| <input checked="" type="checkbox"/> Contacts hold customer disconnect | <input checked="" type="checkbox"/> Contacts incoming |
| <input type="checkbox"/> Callback Contacts | <input type="checkbox"/> API Contacts |
| <input checked="" type="checkbox"/> Contacts answered in 15 seconds | <input checked="" type="checkbox"/> Contacts answered in 20 seconds |
| <input type="checkbox"/> Contacts answered in 25 seconds | <input checked="" type="checkbox"/> Contacts answered in 30 seconds |
| <input checked="" type="checkbox"/> Contacts answered in 45 seconds | <input checked="" type="checkbox"/> Contacts answered in 60 seconds |
| <input checked="" type="checkbox"/> Contacts answered in 90 seconds | <input checked="" type="checkbox"/> Contacts answered in 120 seconds |
| <input checked="" type="checkbox"/> Contacts answered in 180 seconds | <input checked="" type="checkbox"/> Contacts answered in 240 seconds |
| <input checked="" type="checkbox"/> Contacts answered in 300 seconds | <input checked="" type="checkbox"/> Contacts answered in 600 seconds |
| <input checked="" type="checkbox"/> Contacts queued | <input checked="" type="checkbox"/> Contacts transferred in |
| <input checked="" type="checkbox"/> Contacts transferred out | <input type="checkbox"/> Contacts transferred out internal |
| <input type="checkbox"/> Contacts transferred out external | <input checked="" type="checkbox"/> Contacts transferred in from queue |
| <input checked="" type="checkbox"/> Contacts transferred out from queue | <input type="checkbox"/> Error status time  |

- | | |
|--|---|
| <input checked="" type="checkbox"/> Customer hold time | <input checked="" type="checkbox"/> Agent answer rate |
| <input checked="" type="checkbox"/> Maximum queued time | <input checked="" type="checkbox"/> Contacts missed |
| <input checked="" type="checkbox"/> Contact handle time | <input checked="" type="checkbox"/> Contact flow time |
| <input checked="" type="checkbox"/> Occupancy | <input checked="" type="checkbox"/> Service level 15 seconds |
| <input checked="" type="checkbox"/> Service level 20 seconds | <input checked="" type="checkbox"/> Service level 25 seconds |
| <input checked="" type="checkbox"/> Service level 30 seconds | <input checked="" type="checkbox"/> Service level 45 seconds |
| <input checked="" type="checkbox"/> Service level 60 seconds | <input checked="" type="checkbox"/> Service level 90 seconds |
| <input checked="" type="checkbox"/> Service level 120 seconds | <input checked="" type="checkbox"/> Service level 180 seconds |
| <input checked="" type="checkbox"/> Service level 240 seconds | <input checked="" type="checkbox"/> Service level 300 seconds |
| <input checked="" type="checkbox"/> Service level 600 seconds | <input type="checkbox"/> Online time ! |
| <input checked="" type="checkbox"/> Agent interaction and hold time | <input checked="" type="checkbox"/> Agent interaction time |
| <input checked="" type="checkbox"/> Agent interaction and hold time | <input checked="" type="checkbox"/> Average outbound agent interaction time |
| <input type="checkbox"/> Lunch time ! | <input type="checkbox"/> Break time ! |

Cancel

Apply

Once metrics are selected, click the Apply button. Next, click the drop-down arrow on the right-hand side and select Schedule.



Set the report name, for instance `sflIntervalQueue` and click Continue

Schedule report X

First, name your report.

Name `sflIntervalQueue`

Cancel

Continue

Schedule report

X

Note

Once you schedule a report, it will be published to your organization, and all individuals who have proper permissions will be able to access it.

Cancel

Continue

On the next screen, set Recurrence as:

Recurrence

Delivery Options

Generate this report

Hourly ▼ every 0.5 ▼ hour(s)

Starting at

Time zone

1 am ▼ UTC

For the previous

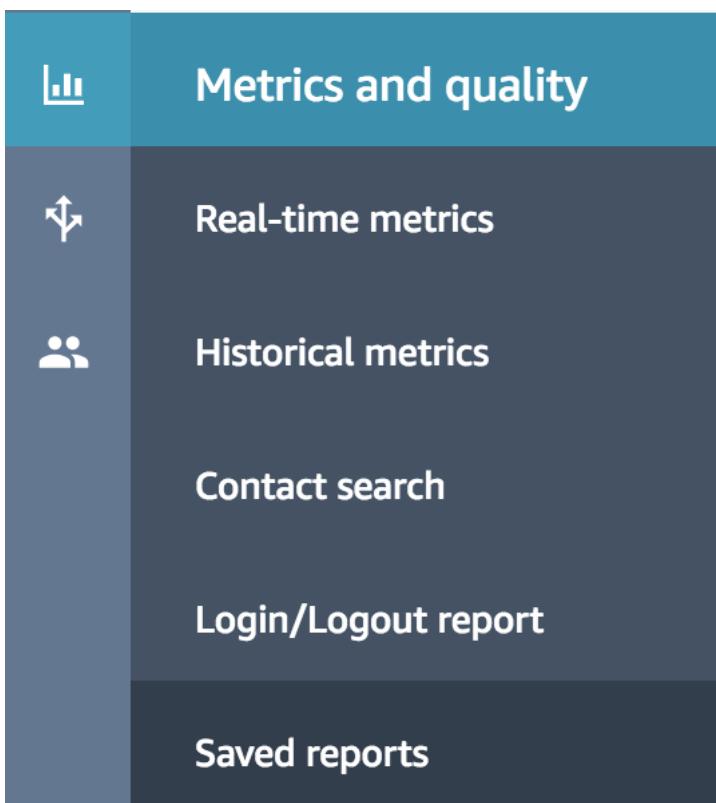
0.5 ▼ hour(s)

Switch to Delivery Options tab and set the Prefix as *SFDC/Queue*

Recurrence	Delivery Options
Default location connect-62 [REDACTED] d2/connect/[REDACTED]-test8/Reports	
Prefix	<input type="text" value="SFDC/Queue"/> i

*

*Click the Create button to create the Schedule for the report. The report can be found in Metrics and quality > Saved Reports > Historical metrics



[Dashboard](#)[Real-time metrics](#)[Historical metrics](#)[Login/Logout report](#)

Search by report name

Name

Schedule report

sfIntervalQueue



Click on the Clock (Schedule Report) icon to see the configuration. Please note the File name and the Path for the CSV file to be created.

Schedule 1

Repeats: HOURLY - runs every 0.5 hour(s), starting at 01:00 (UTC), for the previous 0.5 hour(s).

File name: connect-62[REDACTED]I2/connect/[REDACTED]-test8/Reports/SFDC/Queue/sfIntervalQueue-YYYY-MM-DDThh:mm:ssZ.csv

Next run: Friday, November 23, 2018 6:00:00 PM UTC

Last run: Friday, November 23, 2018 5:15:26 PM UTC

The Queue Interval report has been created and scheduled to export the data. After a while, you will be able to see CSV files in the S3 bucket.

Viewing 1 to 60			
Name	Last modified	Size	Storage class
sfIntervalQueue-2018-11-22T12:00:00Z.csv	Nov 22, 2018 12:15:27 PM GMT+0000	625.0 B	Standard
sfIntervalQueue-2018-11-22T12:30:00Z.csv	Nov 22, 2018 12:45:27 PM GMT+0000	512.0 B	Standard
sfIntervalQueue-2018-11-22T13:00:00Z.csv	Nov 22, 2018 1:15:27 PM GMT+0000	512.0 B	Standard

Repeat the steps for the Agent Interval report:

In your Amazon Connect instance, navigate to Metrics and Quality > Historical metrics.



The screenshot shows the 'Historical metrics' section of the Amazon Connect console. It includes two main sections: 'Queues' and 'Agents'. The 'Queues' section is currently active, displaying 'Contact metrics' data. The 'Agents' section is also present, displaying 'Agent performance' data. Each section has a dropdown arrow icon to its right, likely for filtering or viewing more detailed metrics.

Choose the "Agent Performance" metrics to open the report and then click on the grey gear icon on the right-hand side to configure it.

Historical metrics: Agents

Save | ▾

Interval: Total Time range: Nov 16, 2018, 12:00 AM - Nov 23, 2018, 12:00 AM Time Zone: UTC

Set the report configuration by following the screenshots below:

Table Settings

Interval & Time range Groupings Filters Metrics

Interval: 30 Minutes Time Zone: UTC

Time range: Last 24 hours

Table Settings



Interval & Time range

Groupings

Filters

Metrics

Select the values you'd like to group your metrics by, and add them to the right in the order you prefer.

Grouping options

Grouping options	Selected groupings (Maximum 5)
Agent Hierarchy Level One	Agent
Agent Hierarchy Level Two	2
Agent Hierarchy Level Three	3
Agent Hierarchy Level Four	4
Agent Hierarchy Level Five	5
Queue	
Routing Profile	
Phone Number	

Optionally set the filters:

Table Settings X

Interval & Time range Groupings **Filters** Metrics

Queues that match these filters will be displayed on the table

0

Queue	Queue
Routing profile	Show metrics only for contacts handled in these queues:
Agent hierarchy	<input type="text"/> Search ▼
Phone number	

And most importantly, select the correct metrics in the last tab:

Table Settings

X

Interval & Time range

Groupings

Filters

Metrics

Metrics are displayed to the right of grouping columns.

Contact metrics

Agent metrics

 Search

Metrics definitions 

Agent Name

Agent First Name

Agent Last Name

After contact work time

Agent on contact time

Agent idle time

Non-Productive Time

Average queue abandon time

Average after contact work time

Average queue answer time

Average handle time

Average customer hold time

Average agent interaction and customer hold time

Average agent interaction time

Contacts abandoned

- | | |
|---|--|
| <input type="checkbox"/> Contacts abandoned in 15 seconds | <input type="checkbox"/> Contacts abandoned in 20 seconds |
| <input type="checkbox"/> Contacts abandoned in 25 seconds | <input type="checkbox"/> Contacts abandoned in 30 seconds |
| <input type="checkbox"/> Contacts abandoned in 45 seconds | <input type="checkbox"/> Contacts abandoned in 60 seconds |
| <input type="checkbox"/> Contacts abandoned in 90 seconds | <input type="checkbox"/> Contacts abandoned in 120 seconds |
| <input type="checkbox"/> Contacts abandoned in 180 seconds | <input type="checkbox"/> Contacts abandoned in 240 seconds |
| <input type="checkbox"/> Contacts abandoned in 300 seconds | <input type="checkbox"/> Contacts abandoned in 600 seconds |
| <input checked="" type="checkbox"/> Contacts agent hung up first | <input checked="" type="checkbox"/> Contacts consulted |
| <input checked="" type="checkbox"/> Contacts handled | <input checked="" type="checkbox"/> Contacts handled incoming |
| <input checked="" type="checkbox"/> Contacts handled outbound | <input type="checkbox"/> Callback contacts handled |
| <input type="checkbox"/> API contacts handled | <input checked="" type="checkbox"/> Contacts put on hold |
| <input checked="" type="checkbox"/> Contacts hold disconnect | <input checked="" type="checkbox"/> Contacts hold agent disconnect |
| <input checked="" type="checkbox"/> Contacts hold customer disconnect | <input type="checkbox"/> Contacts incoming |

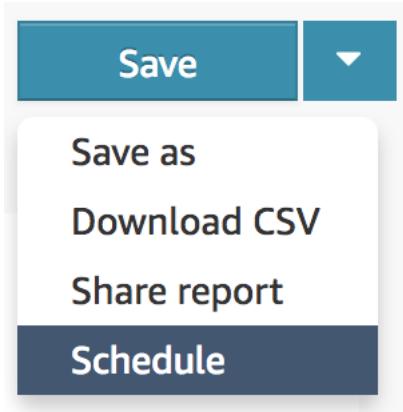
-
- | | |
|---|---|
| <input type="checkbox"/> Callback Contacts | <input type="checkbox"/> API Contacts |
| <input type="checkbox"/> Contacts answered in 15 seconds | <input type="checkbox"/> Contacts answered in 20 seconds |
| <input type="checkbox"/> Contacts answered in 25 seconds | <input type="checkbox"/> Contacts answered in 30 seconds |
| <input type="checkbox"/> Contacts answered in 45 seconds | <input type="checkbox"/> Contacts answered in 60 seconds |
| <input type="checkbox"/> Contacts answered in 90 seconds | <input type="checkbox"/> Contacts answered in 120 seconds |
| <input type="checkbox"/> Contacts answered in 180 seconds | <input type="checkbox"/> Contacts answered in 240 seconds |
| <input type="checkbox"/> Contacts answered in 300 seconds | <input type="checkbox"/> Contacts answered in 600 seconds |
| <input type="checkbox"/> Contacts queued | <input type="checkbox"/> Contacts transferred in |
| <input checked="" type="checkbox"/> Contacts transferred out | <input checked="" type="checkbox"/> Contacts transferred out internal |
| <input checked="" type="checkbox"/> Contacts transferred out external | <input type="checkbox"/> Contacts transferred in from queue |
| <input type="checkbox"/> Contacts transferred out from queue | <input checked="" type="checkbox"/> Error status time |

- | | |
|---|--|
| <input type="checkbox"/> Customer hold time | <input checked="" type="checkbox"/> Agent answer rate |
| <input type="checkbox"/> Maximum queued time | <input checked="" type="checkbox"/> Contacts missed |
| <input type="checkbox"/> Contact handle time | <input type="checkbox"/> Contact flow time |
| <input checked="" type="checkbox"/> Occupancy | <input type="checkbox"/> Service level 15 seconds |
| <input type="checkbox"/> Service level 20 seconds | <input type="checkbox"/> Service level 25 seconds |
| <input type="checkbox"/> Service level 30 seconds | <input type="checkbox"/> Service level 45 seconds |
| <input type="checkbox"/> Service level 60 seconds | <input type="checkbox"/> Service level 90 seconds |
| <input type="checkbox"/> Service level 120 seconds | <input type="checkbox"/> Service level 180 seconds |
| <input type="checkbox"/> Service level 240 seconds | <input type="checkbox"/> Service level 300 seconds |
| <input type="checkbox"/> Service level 600 seconds | <input checked="" type="checkbox"/> Online time |
| <input checked="" type="checkbox"/> Agent interaction and hold time | <input checked="" type="checkbox"/> Agent interaction time |
| <input checked="" type="checkbox"/> Average outbound agent interaction time | <input checked="" type="checkbox"/> Average outbound after contact work time |

[Cancel](#)

[Apply](#)

Once metrics are selected, click the Apply button. Next, click the drop-down arrow on the right-hand side and select Schedule.



Set the report name, for instance *sflIntervalAgent* and click Continue

Schedule report

X

First, name your report.

Name sflIntervalAgent

Cancel

Continue

Schedule report

X

Note

Once you schedule a report, it will be published to your organization, and all individuals who have proper permissions will be able to access it.

Cancel

Continue

On the next screen, set Recurrence as:

Recurrence	Delivery Options
Generate this report	
Hourly ▼	every 0.5 ▼ hour(s)
Starting at 1 am ▼	Time zone UTC
For the previous 0.5 ▼ hour(s)	

Switch to Delivery Options tab and set the Prefix as SFDC/Agent

The screenshot shows a user interface for setting delivery options. At the top, there are two tabs: "Recurrence" and "Delivery Options". The "Delivery Options" tab is active, indicated by a blue underline. Below the tabs, there is a section labeled "Default location" with a text input field containing the URL "connect-627...d2/connect/reports-test8/Reports". Underneath this, there is a "Prefix" section with a text input field containing "SFDC/Agent". To the right of this input field is a small circular icon with an information symbol (i).

Click the Create button to create the Schedule for the report. The report can be found in Metrics and quality > Saved Reports > Historical metrics

The screenshot shows a sidebar menu titled "Metrics and quality". The menu items listed are: "Real-time metrics", "Historical metrics", "Contact search", "Login/Logout report", and "Saved reports". Each menu item has a corresponding icon to its left.

[Dashboard](#)[Real-time metrics](#)[Historical metrics](#)[Login/Logout report](#)

Search by report name

Name

[sfIntervalQueue](#)[Schedule report](#)[SfIntervalAgent](#)

Click on the Clock (Schedule Report) icon to see the configuration. Please note the File name and the Path for the CSV file to be created.

Schedule 1

Repeats: HOURLY - runs every 0.5 hour(s), starting at 01:00 (UTC), for the previous 0.5 hour(s).

File name: connect-62[REDACTED]d2/connect/[REDACTED]-test8/Reports/SFDC/Agent/SfIntervalAgent-YYYY-MM-DDThh:mm:ssZ.csv

Next run: Friday, November 23, 2018 6:30:00 PM UTC

Last run: Friday, November 23, 2018 5:45:07 PM UTC

The Agent Interval report has been created and scheduled to export the data. After a while, you will be able to see CSV files in the S3 bucket.

Viewing 1 to 98			
<input type="checkbox"/> Name	Last modified	Size	Storage class
<input type="checkbox"/> SfIntervalAgent-2018-11-21T17:00:00Z.csv	Nov 21, 2018 5:15:08 PM GMT+0000	413.0 B	Standard
<input type="checkbox"/> SfIntervalAgent-2018-11-21T17:30:00Z.csv	Nov 21, 2018 5:45:07 PM GMT+0000	413.0 B	Standard
<input type="checkbox"/> SfIntervalAgent-2018-11-21T18:00:00Z.csv	Nov 21, 2018 6:15:11 PM GMT+0000	413.0 B	Standard

Amazon Connect Salesforce Lambda package (AWS Serverless Application Repository) deploys two Lambda functions to handle the reporting integration: *sfIntervalQueue* and *sfIntervalAgent*. In the next step, we are going to set Triggers for these functions.

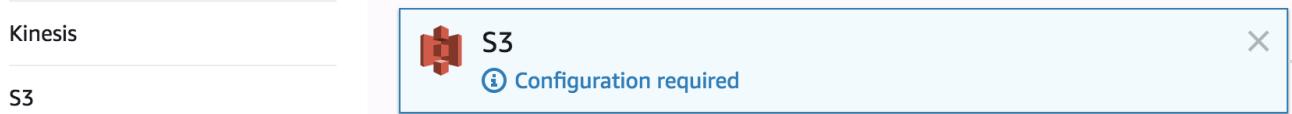
From the AWS Console, select Lambda service and choose *sfIntervalQueue* Lambda function. On the left-hand side, select S3 as a trigger.

Kinesis

S3

Add triggers from the list on the left

After the trigger is selected:



We need to set the trigger configuration. Select the Bucket where the CSV files are stored (from the Filename in previous steps). Set Event type to PUT and set Prefix to the Queue path (from the Filename in previous steps). Click the Add button and Save the function.

Configure triggers

Bucket
Please select the S3 bucket that serves as the event source. The bucket must be in the same region as the function.
connect-62 [redacted] d2

Event type
Select the events that you want to have trigger the Lambda function. You can optionally set up a prefix or suffix for an event. However, for each bucket, individual events cannot have multiple configurations with overlapping prefixes or suffixes that could match the same object key.

PUT

Prefix
Enter a single optional prefix to limit the notifications to objects with keys that start with matching characters.
connect/[redacted]-testB/Reports/SFDC/Queue/

Suffix
Enter a single optional suffix to limit the notifications to objects with keys that end with matching characters.
e.g. .jpg

Lambda will add the necessary permissions for Amazon S3 to invoke your Lambda function from this trigger. [Learn more](#) about the Lambda permissions model.

Enable trigger
Enable the trigger now, or create it in a disabled state for testing (recommended).

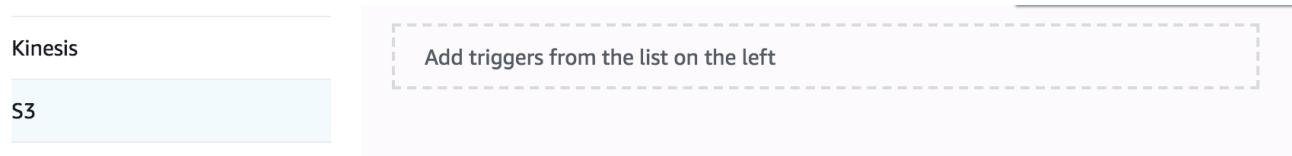
Add

The final configuration should look like this:

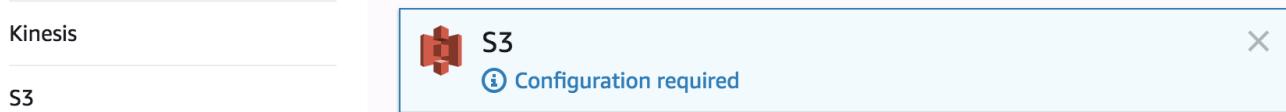


This Lambda function transfers the Queue reporting data to your SFDC instance. Next, we have to repeat steps for Agent reporting Lambda function.

From the AWS Console, select Lambda service and choose *sflIntervalAgent* Lambda function. On the left-hand side, select S3 as a trigger.



After the trigger is selected:



We need to set the trigger configuration. Select the Bucket where the CSV files are stored (from the Filename in previous steps). Set Event type to PUT and set Prefix to the Agent path (from the Filename in previous steps). Click the Add button and Save the function.

Configure triggers

Bucket
Please select the S3 bucket that serves as the event source. The bucket must be in the same region as the function.
connect-62[REDACTED]d2

Event type
Select the events that you want to have trigger the Lambda function. You can optionally set up a prefix or suffix for an event. However, for each bucket, individual events cannot have multiple configurations with overlapping prefixes or suffixes that could match the same object key.
PUT

Prefix
Enter a single optional prefix to limit the notifications to objects with keys that start with matching characters.
connect/[REDACTED]-test8/Reports/SFDC/Agent/

Suffix
Enter a single optional suffix to limit the notifications to objects with keys that end with matching characters.
e.g.: .jpg

Lambda will add the necessary permissions for Amazon S3 to invoke your Lambda function from this trigger. [Learn more](#) about the Lambda permissions model.

Enable trigger
Enable the trigger now, or create it in a disabled state for testing (recommended).

Cancel

The final configuration should look like this:



This Lambda function transfers the Agent reporting data to your SFDC instance.

The Amazon Connect CTI Adapter comes with a predefined set of reports, which can be customized or additional reports can be created by leveraging the imported data. To see the list of built-in reports, login into your SFDC instance and open the App Launcher, then choose Reports.

App Launcher

Search apps or items...

Visit AppExchange

 Service Manage customer service with accounts, contacts, cases, and more	 Marketing Best-in-class on-demand marketing automation	 Sample Console (Salesforce Classic) Lets agents work with multiple records ... ⓘ	 Community Salesforce CRM Communities
 Salesforce Chatter The Salesforce Chatter social network, including profiles and feeds	 Content Salesforce CRM Content	 Sales Console (Lightning Experience) Lets sales reps work with multiple rec... ⓘ	 Service Console (Lightning Experience) Lets support agents work with multiple... ⓘ
 Sales Manage your sales process with accounts, leads, opportunities, and more	 Lightning Usage App View Adoption and Usage Metrics for Lightning Experience	 Amazon Connect Toolkit Console Sample Salesforce Console application for the Amazon Connect ... ⓘ	

All Items

Accounts	App Launcher	Approval Requests	Assets	Calendar
Campaigns	Cases	Chatter	Contacts	Contracts
Dashboards	Duplicate Record Sets	Email Templates	Files	Forecasts
Groups	Home	Leads	Lightning Bolt Solutions	Lightning Usage
List Emails	Live Agent Sessions	Live Chat Transcripts	Live Chat Visitors	Macros
Omni Supervisor	Opportunities	Orders	People	Price Books
Products	Quick Text	Reports	Scorecards	Streaming Channels
Tasks	User Provisioning Requests			

All Amazon Connect built-in reports are deployed in Amazon Connect Reports folder:

Reports				
Recent				
14 items				
REPORTS	REPORT NAME	DESCRIPTION	FOLDER	
Recent	Agent All Interval 30 Today		Amazon Connect Reports	
Created by Me	Queue All Interval 30 Today		Amazon Connect Reports	
Private Reports	Contacts Agent Hung Up First This ...		Amazon Connect Reports	
Public Reports	Contacts Handled This Week		Amazon Connect Reports	
All Reports	Contacts Queued This Week		Amazon Connect Reports	
FOLDERS	Trend of Calls Abandoned This Week		Amazon Connect Reports	
All Folders	Agent Service Level 60 Today		Amazon Connect Reports	
Created by Me	Contacts Transferred In This Week		Amazon Connect Reports	
Shared with Me	Contacts Transferred Out This Week		Amazon Connect Reports	
Created by Me	Contacts Handled Outbound This W...		Amazon Connect Reports	
Shared with Me	Contacts Handled Incoming/Outgoi...		Amazon Connect Reports	
FAVORITES	Average Occupancy Today		Amazon Connect Reports	
All Favorites	Average Handle Time Today		Amazon Connect Reports	
	Agent Answer Rate This Week		Amazon Connect Reports	

To see the exact layout of imported data for Queue, select the Queue All Interval 30 Today report:

REPORT Queue All Interval 30 Today

Total Records 1

	AC OBJECT NAME	AFTER CONTACT WORK TIME	AGENT ON CONTACT TIME	AGENT IDLE TIME	AVERAGE QUEUE ANSWER TIME	AVERAGE AFTER CONTACT WORK TIME	AVERAGE HANDLE TIME	AVERAGE CUSTOMER HOLD TIME	AVG AGENT INTERACTION AND CUST HOLD TIME	AVERAGE AGENT INTERACTION TIME	CONTACTS ABANDONED	CONTACTS ABANDONED IN 15 SECONDS	CONTACTS ABANDONED IN 20 SECONDS	CONTACTS ABANDONED IN 25 SECONDS	CONTACTS ABANDONED IN 30 SECONDS	CONTACTS ABANDONED IN 45 SECONDS	CONTACTS ABANDONED IN 60 SECONDS	CONTACTS ABANDONED IN 90 SECONDS	CONTACTS ABANDONED IN 120 SECONDS
STARTINTERVAL ↑	23/11/2018 16:00	BasicQueue	461	991	18	19	461	992	-	531	531	0	-	-	-	-	-	-	
Grand Total (1 record)																			

To see the exact layout of imported data for Agent, select the Agent All Interval 30 Today report:

REPORT Agent All Interval 30 Today

Total Records 1

	USER	AC OBJECT NAME	AFTER CONTACT WORK TIME	AGENT ON CONTACT TIME	AGENT IDLE TIME	NONPRODUCTIVE TIME	AVERAGE AFTER CONTACT WORK TIME	Average Handle Time	Average Customer Hold Time	Avg Agent Interaction And Cust Hold Time	Average Agent Interaction Time	Contacts Agent Hung Up First	Contacts Consulted	Contacts Handled	Contacts Handled Incoming	Contacts Handled Outbound	Contacts Hold	Contacts Hold Disconnect	Contacts Hold Agent Disconnect	Contacts Hold Customer Disconnect
STARTINTERVAL ↑	23/11/2018 16:00	-	mcosic	461	991	18	-	461	992	-	531	531	1	-	1	1	0	0	0	
Grand Total (1 record)																				

CTI Flows

The CTI Adapter provides a mechanism to customize the behavior of the adapter based on your business needs without needing to edit the underlying Visualforce pages, which could negatively impact overall adapter function. This is accomplished through CTI Flows.

A CTI Flow consist of "actions" that represent an API call to parts of Salesforce or Amazon Connect API. Like a JavaScript function, each action can take inputs and provide outputs, or returns values, that you can use from other actions.

CTI Flows

New AC CTI Flow

No records to display

CTI Flow, go to your Adapter page and find a section called "CTI Flows."

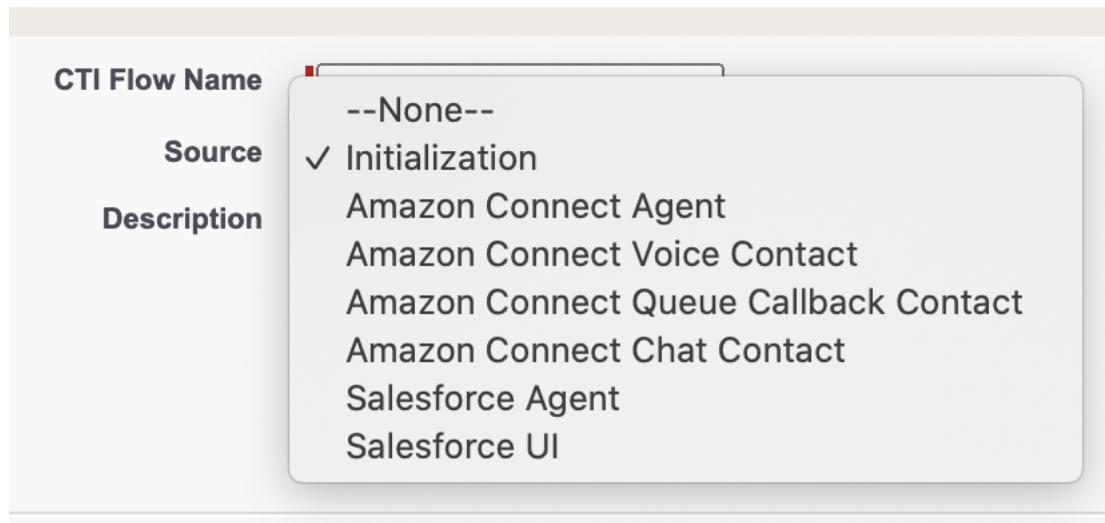
AC CTI Flow Edit

Save Save & New Cancel

Information

CTI Flow Name	Create Screenpop	CTI Adapter	ACLightningAdapter
Source	Amazon Connect Voice Contact	Event	onConnecting
Description		Active	<input checked="" type="checkbox"/>
		Debug	<input type="checkbox"/>

This will take you to a form where you can fill in name and adapter of the CTI Flow. There are a couple of fields that you may be unfamiliar with: "Source" and "Event."



You can think of Source as the "origin" of the CTI Flow. There are currently 7 sources: Initialization, an Agent on Connect, Voice Contact on Connect, Queue Callback Contact on Connect, Chat on Connect, Salesforce Agent or Salesforce UI.

Each source comes with a set of events that you can hook into, i.e. your CTI Flow will be executed when one of these events fire. Typically, you will have only one flow for a combination of a source and an event. (You can find out more about sources and events in Appendix A.)

For the purposes of this example, we selected "Amazon Connect Voice Contact" source and "onConnecting" event. Now click Save and on the next page scroll down till you find the "CTI Flow" section.



AC CTI Flow

Create Screenpop

AC CTI Flow Detail

[Edit](#) [Delete](#) [Clone](#)

▼ Information

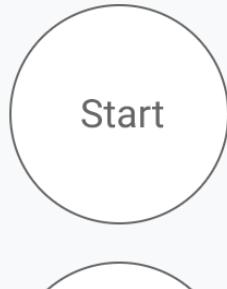
CTI Flow Name Create Screenpop**Source** Amazon Connect Voice Contact**Description****Created By** Amazon Connect, 7/23/2020 9:10 AM

▼ CTI Flow

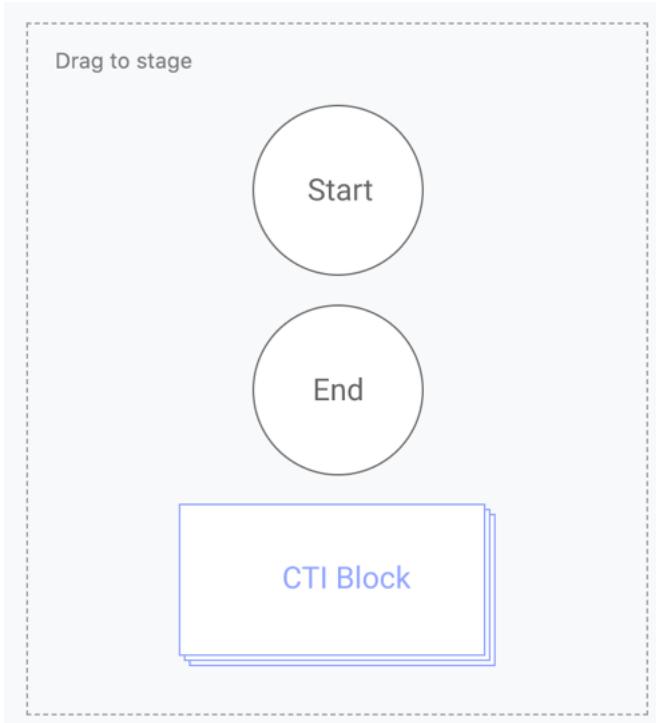
Main Menu

[Save](#)[Download](#) [Upload](#)

Drag to stage



Let's build a CTI Flow that opens a screenpop in Salesforce when a voice call comes.



You can start using by dragging the item called "CTI Block" from the sidebar in the Main Menu over the stage, which is marked by a grid pattern.

When you drop the block, you will see a modal titled "Explorer." This modal contains a list of actions you can choose from.

Explorer

Search	Format Phone Number	Format Phone Number (E164)
phone	Formats a phone number for a country code. Parameters >	Formats a phone number for a country code in E164 format. Parameters >
Categories	What it calls: <code>ac.Utils.Common.formatPhoneNumber(...)</code>	What it calls: <code>ac.Utils.Common.formatPhoneNumberE164(...)</code>
Tags	Select	Select
Showing 13 actions Save search	Get Softphone Layout	Show Softphone Panel
Searches (Clear) phone date	The query to get softphone layout. What it calls: <code>ac.Utils.Salesforce.getSoftphoneLayout()</code>	The command to show softphone panel. What it calls: <code>ac.Utils.Salesforce.showSoftphonePanel()</code>

In the "Search" field, search for "Phone" and Select the action called "Get Customer Phone Number" from the results on the right.

Change type ▾

Get Customer Phone Number

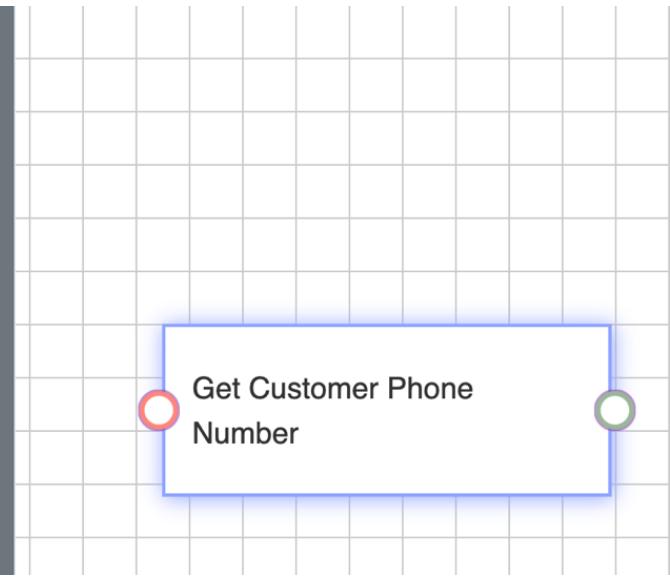
ID: uid-0

Remove About this action

Return Values

This action has a return value. It returns the following fields. You may use these fields in the input fields of connected actions.

phone	Phone number of the caller.
country	Country of the phone number.



You should now see a block on the stage for the action you selected, and the sidebar will display some information about this action, including its return value.

Some actions can be configured using input fields to provide arguments to function calls, as well. This action does not have any input fields, and returns two values ---- "phone" and "country."

Now let's drag another CTI Block over the stage and find an action called "Search and Screenpop."

Change type ▾

Search And Screenpop

ID: uid-9

Remove About this action

Arguments

searchParams ⓘ

Enter a value

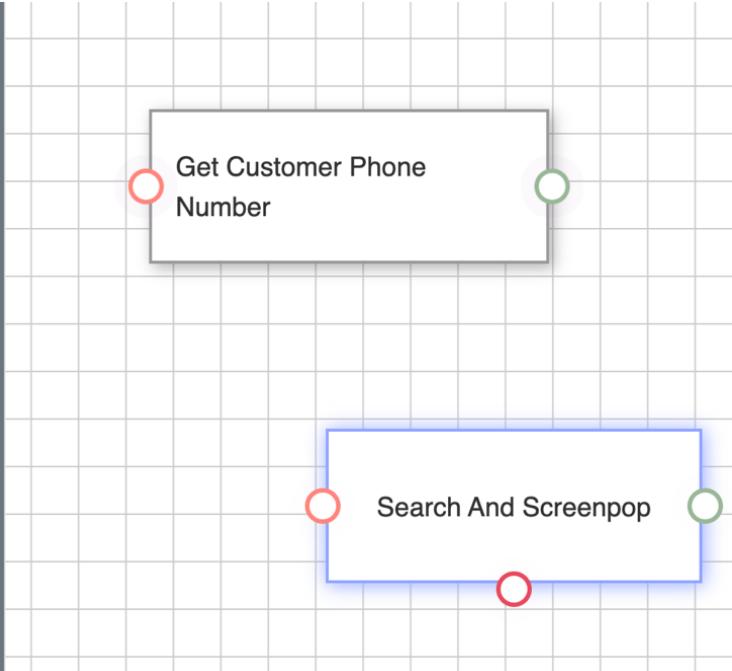
queryParams ⓘ

Enter a value

defaultFieldValues ⓘ

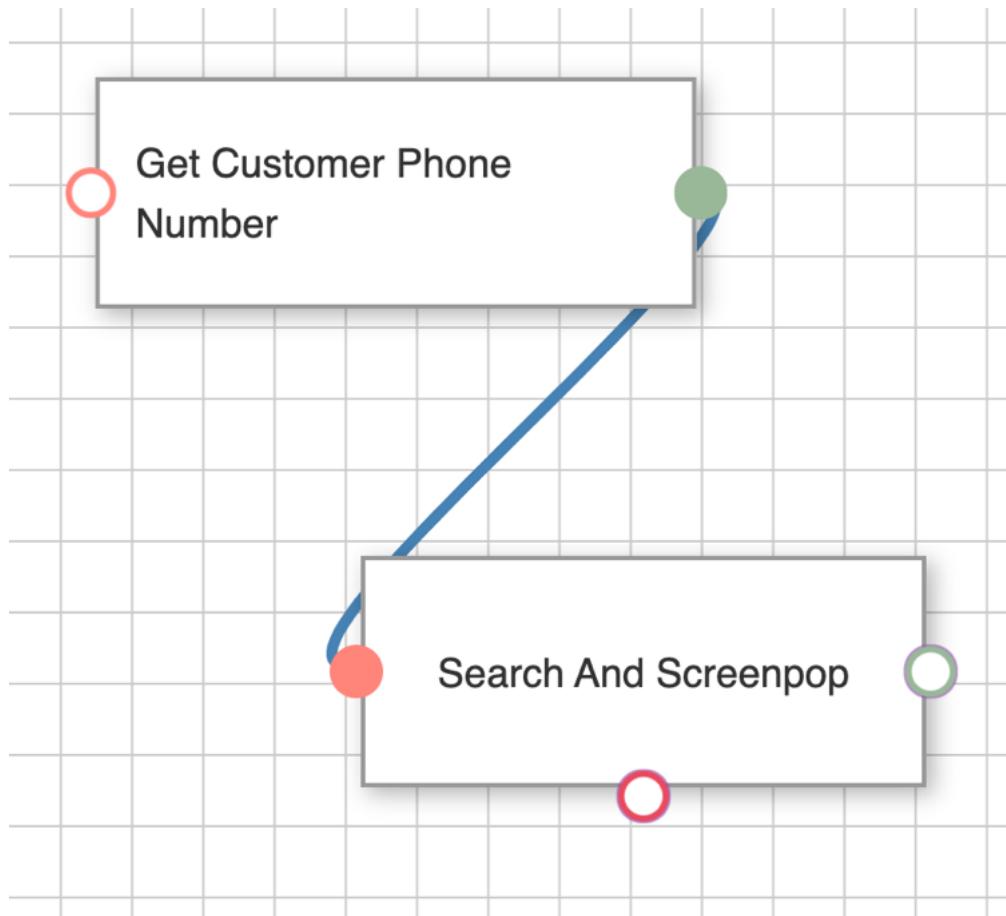
Add a field

deferred ⓘ



Connect these blocks by clicking the green socket (green means "done") on "Get Customer Phone," which will display a blue line that tracks your mouse cursor around the stage.

Now, click on the pink socket, i.e. the "input" socket, which is to the left of the "Search and Screenpop" block. If the connection is successful, the sockets will turn into a solid color and the blue line will connect them. (There are some restrictions on which sockets you can connect together. For example, you cannot connect output of an action to its own input socket or connect two inputs.) If you are not happy with this connection, you can hover over it and double click to remove.



Now we'd like to get the phone number of the customer and use it in "Search and Screenpop." Here is a tip: if two actions are connected, you can use the return values of the first action in the input fields of the next action. (You can even use the return values of actions connected to the last action, and the ones connected to that, and so on.)

This action has only two options, and we want to use the one called "phone" for this field.

Change type ▾

Search And Screenpop

ID: uid-2

Remove About this action

Arguments

searchParams i

Enter a value

GET CUSTOMER PHONE NUMBER (UID-0)

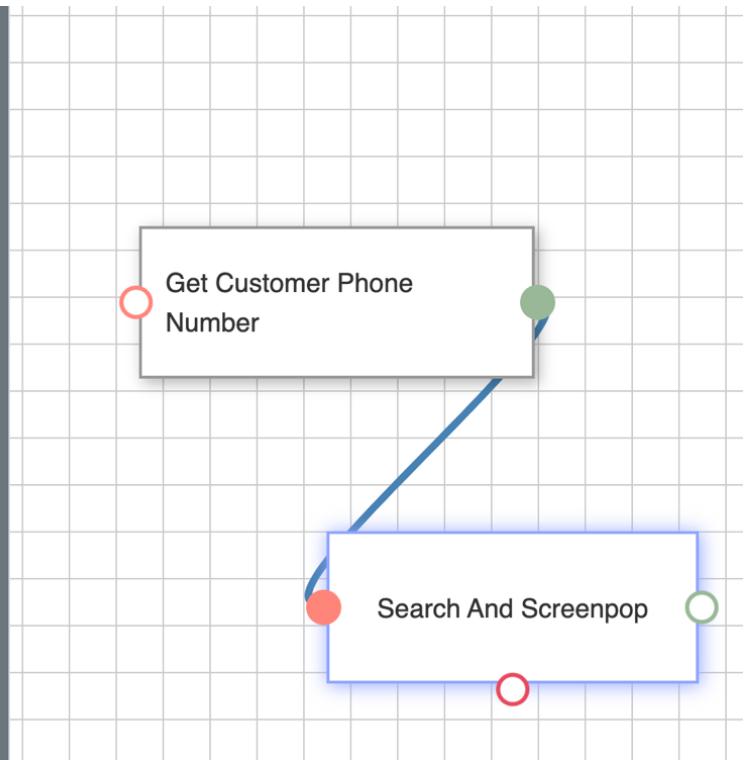
phone

country

Add a field

deferred i

callType i



Search And Screenpop

ID: uid-9

Remove About this action

Arguments

searchParams i

ValueOf Get Customer Phone Num... x | v

queryParams i

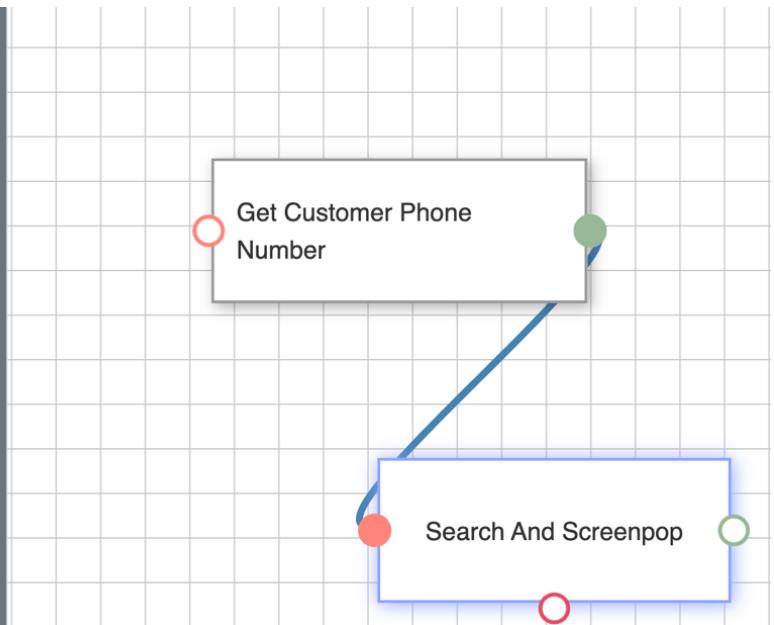
test

✓ Add New Value

Add a field

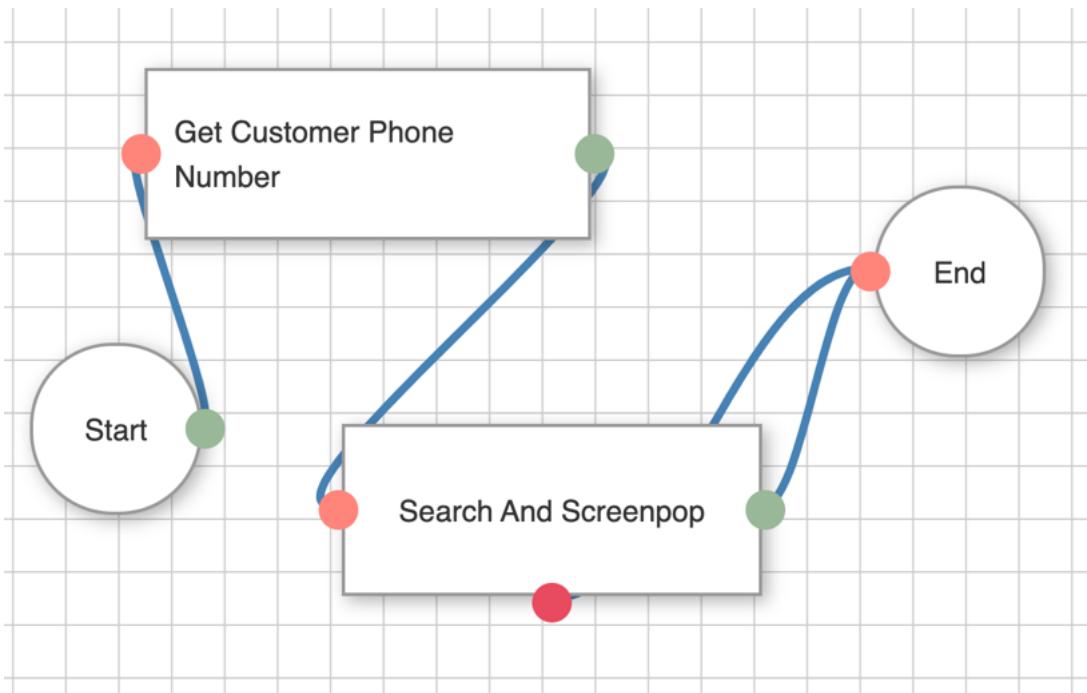
deferred i

callType i



If you want to enter a custom input value, you can type that, and select "Add New Value" from the dropdown.

And make sure to set "callType" to "inbound." Finally, add the "Start" and "End" nodes and connect everything together.



When you're finished, click "Save" in the sidebar. That's it. You created your first CTI Flow.

To test your flow, go to your Service Console, and make a call from a number that is in the profile of a Contact. As the call is displayed in your CCP dashboard, Salesforce will pop open the contact of the caller in a separate tab.

Invoking the Amazon Connect Salesforce Lambda in a Contact Flow

The Amazon Connect Contact Flow defines the routing behaviour within Amazon Connect, allowing contact center administrators to customize call flow behaviour such as playing prompts, invoking Lambda functions for data lookup, and sending the call to different queues based on various conditions. As a result, Contact Flows are expected to be highly customized for each organization. While the Adapter package does not provide any Contact Flows, there are some best practices that are worth highlighting when utilizing the Adapter.

The key element that enables Contact Flow integration is the AWS Lambda function. A Lambda function is a serverless piece of code that is invoked by the Contact Flow. Typically, Lambda functions are used to update or retrieve information from databases or APIs, as well as integrating with other systems. Lambda function can return any data processed to the Contact Flow where it can be used for decision making.

Since Salesforce is highly customizable, the same Salesforce object in a different environment may have different fields associated with it. As a result, we can expect objects to have different requirements for how they are retrieved, updated and created. The CTI Adapter was built to be able to query Salesforce objects regardless of how they have been

customized. The user of the Adapter must therefore ensure they are passing the appropriate parameters to the Lambda functions provided as part of the Adapter.

The Lambda function supports different operations, based on the mandatory input parameter "sf_operation".

Salesforce Lookup

This operation is invoked by setting "sf_operation" to "lookup". In this case, the Lambda function queries Salesforce for objects based on the parameters passed to it.

- "**sf_object**" parameter contains Salesforce Object, like Case, Contact etc.
- "**sf_fields**" parameter contains a set of fields to be returned in a result. For example, if we are querying Case, we might specify "Id, IsClosed, Subject", or if we are querying Contact, we might specify "Id, Name, Email"
- Specify a conditional parameter, for example "CaseNumber" or "homephone". Multiple values may be sent and they will be applied with "AND" operator.

In the Amazon Connect Contact Flow Designer, add *Integrate > Invoke AWS Lambda function* block. Set 'sfInvokeAPI' Lambda ARN and make sure you have granted Amazon Connect to invoke the Lambda Function.

Example for phone number lookup:

The screenshot shows the configuration of an 'Invoke AWS Lambda function' block in the Amazon Connect Contact Flow Designer. The block has the following settings:

- Name:** Invoke AWS Lambda function
- Description:** Makes a call to AWS Lambda, and optionally returns key / value pairs.
- Function ARN:** arn:aws:lambda:us-east-1:680944752362:function:aws-ser
- Function input parameters:**
 - Use text:** Selected (radio button is checked).
 - Destination key:** sf_operation
 - Value:** lookup

Use text X

Destination key

Value

Use text X

Destination key

Value

Use attribute X

Destination key

Type

Attribute

A result example:

```
"ExternalResults": {  
    "Id": "0031r000026MVPPIAA4",  
    "sf_count": "1",  
    "Name": "Milos Cosic"  
}
```

Example for Case lookup:

Invoke AWS Lambda function

X

Makes a call to AWS Lambda, and optionally returns key / value pairs.

The returned key value pairs can be used to set contact attributes.

Function ARN

2362:function:aws-serverless-repository-AmazonConnec-s

Function input parameters

Use text

Destination key

sf_operation

Value

lookup

X

Use text

Destination key

sf_object

Value

Case

X

Use text

Destination key

sf_fields

Value

Id, IsClosed, Subject

X

Use text

Use attribute

Destination key

CaseNumber

Type

System

Attribute

Stored customer input

X

A result example:

```
"ExternalResults": {  
    "Id": "5001r000023QcAcAAK",  
    "IsClosed": "true",  
    "sf_count": "1",  
    "Subject": "Amazon Connect Case"  
}
```

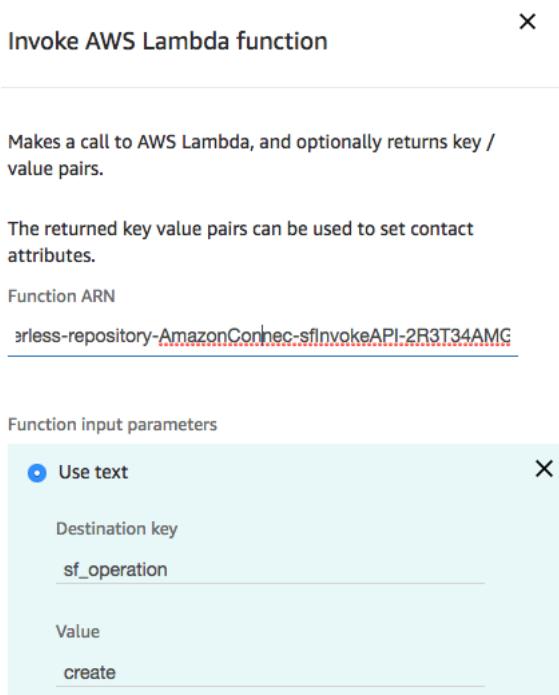
Salesforce Create

This operation is invoked by setting "sf_operation" to "create". In this case, the Lambda function creates a Salesforce object based on the parameters passed to it.

- "**sf_object**" parameter contains Salesforce to be created, like Case.
- Specify additional parameters for the Salesforce object to be created. Please be sure to include all parameters required to create the Salesforce object.

In the Amazon Connect Contact Flow Designer, add *Integrate > Invoke AWS Lambda function* block. Set 'sflInvokeAPI' Lambda ARN and make sure you have granted Amazon Connect to invoke the Lambda Function.

An example for Case creation:



Use text X

Destination key

Value

Use text X

Destination key

Value

Use text X

Destination key

Value

Use text X

Use attribute X

Destination key

Type

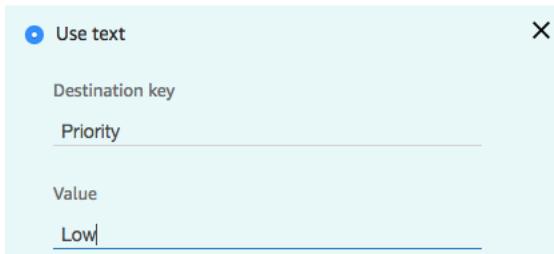
Attribute

Contact Id is usually received as a result of a previous phone lookup, but it can be also stored as an Attribute (i.e. sf_contact_id)

Use text X

Destination key

Value



A result example (providing the newly created Case Id):

```
"ExternalResults": {  
    "Id": "5001r000023QfhPAAS"  
},
```

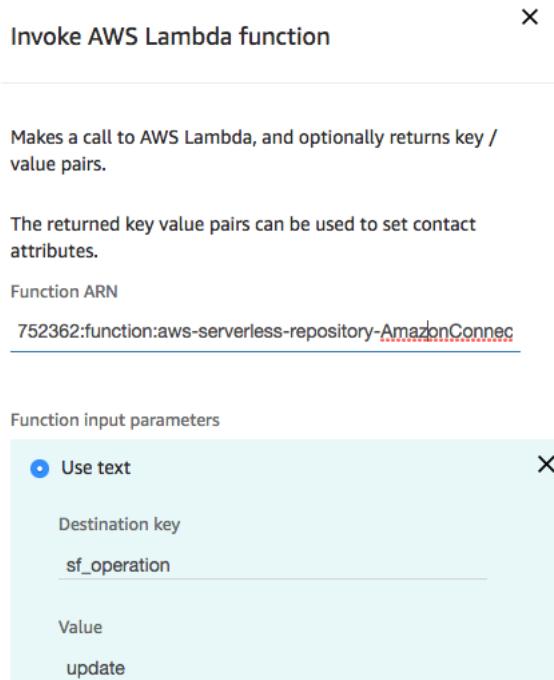
Salesforce Update

This operation is invoked by setting "sf_operation" to "update". In this case, the Lambda function updates a Salesforce object based on the parameters passed to it.

- "**sf_object**" parameter contains Salesforce to be updated, like Case.
- Specify additional parameters for the Salesforce object to be created. Parameters must include `sf_object` and `sf_id`.

In the Amazon Connect Contact Flow Designer, add *Integrate > Invoke AWS Lambda function* block. Set 'sfInvokeAPI' Lambda ARN and make sure you have granted Amazon Connect to invoke the Lambda Function.

An example for Case update:



Use text X

Destination key
`sf_object`

Value
Case

Use attribute X

Destination key
`sf_id`

Type
External

Attribute
Id

Case Id is usually received as a result of a previous case lookup, but it can be also stored as an Attribute (i.e. `sf_case_id`)

Use text X

Destination key
`Status`

Value
Closed

A result example (HTTP Status Code):

```
"ExternalResults": {  
    "Status": "204"
```

204 is "No Content" success code

Salesforce Phone Lookup

This operation is invoked by setting "sf_operation" to "phoneLookup". In this case, the Lambda function queries Salesforce for Contacts based on the parameter passed to it.

It uses the Salesforce Object Search Language (SOLS) to construct text-based search queries against the search index, which gives significant performance improvement when searching phone number fields.

- "**sf_phone**" parameter contains the phone number to search.

- "**sf_fields**" parameter contains a set of fields to be returned in a result. As it searches for Contacts, we might specify "Id, Name, Email"

In the Amazon Connect Contact Flow Designer, add *Integrate > Invoke AWS Lambda function* block. Set 'sfInvokeAPI' Lambda ARN and make sure you have granted Amazon Connect to invoke the Lambda Function.

Example for phone number lookup:

The screenshot shows three stacked configuration panels for an 'Invoke AWS Lambda function' block in the Amazon Connect Contact Flow Designer.

Panel 1: General Information

- Header: Invoke AWS Lambda function
- Description: Makes a call to AWS Lambda, and optionally returns key / value pairs.
- Text: The returned key value pairs can be used to set contact attributes.
- Function ARN: [arn:aws:lambda:us-east-1:123456789012:function:sfInvokeAPI](#)

Panel 2: Function Input Parameters (Top)

- Destination key: sf_operation
- Value: phoneLookup

Panel 2: Function Input Parameters (Middle)

- Destination key: sf_fields
- Value: Id, Name

Panel 3: Function Input Parameters (Bottom)

- Destination key: sf_phone
- Type: System
- Attribute: Customer Number

A result example:

```
"ExternalResults": {  
    "Id": "0031r000026MVPiAA4",  
    "sf_count": "1",  
    "Name": "Milos Cosic"  
}
```

Salesforce query

This operation is invoked by setting "sf_operation" to "query". In this case, the Lambda function uses Salesforce Object Query Language (SOQL) to conduct a query against the Salesforce instance.

- "query" parameter contains the query.

Any additional parameters will replace text values in the original query so that queries can be dynamic based on values stored within the contact flow. For example, the parameter set:

- query: "select {{field}} from {{object}}"
- field: "Id"
- object: "Task"

Will result in the query: "select Id from Task".

Function input parameters

The screenshot shows a configuration dialog for a Lambda function. At the top, there is a radio button labeled "Use text" which is selected, indicated by a blue circle. To its right is a close button (an "X"). Below this, under the heading "Destination key", the value "sf_operation" is entered into a text input field. Under the heading "Value", the value "query" is entered into another text input field. At the bottom left, there is another radio button labeled "Use attribute".

In the contact flow example below, we look for a customer by phone number.

Use text X

Use attribute X

Destination key

number

Type

System

Attribute

Customer Number

(full text of the value is "select Id from Contact where Phone LIKE '%{{number}}%'")

Use text X

Destination key

query

Value

select Id from Contact where Phone LIKE '%{{nur

Use attribute X

This operation returns a response of:

```
{  
  "sf_records": [  
    {
```

```
        "Id": "00303000001RZfIAAW"
    }
],
"sf_count": "1"
}
```

Salesforce queryOne

This operation is invoked by setting "sf_operation" to "queryOne" (case sensitive). In this case, the Lambda function uses Salesforce Object Query Language (SOQL) to conduct a query against the Salesforce instance, returning a result only when one record is returned from the query. For query, the following parameter is required:

- "query" parameter contains the query.

Any additional parameters will replace text values in the original query so that queries can be dynamic based on values stored within the contact flow. For example, the parameter set:

- query: "select {{field}} from {{object}}"
- field: "Id"
- object: "Task"

Will result in the query: "select Id from Task".

In the contact flow example below, we look for a customer by phone number.

Function input parameters

Use text X

Destination key
sf_operation

Value
query

Use attribute

(full text of the value is "select Id from Contact where Phone LIKE '%{{number}}%'")

Use text

X

Destination key

query

Value

select Id from Contact where Phone LIKE '%{{nur

Use attribute

Use text

X

Use attribute

Destination key

number

Type

System



Attribute

Customer Number



This operation returns a response of:

```
{  
    "sf_records": [  
        {  
            "Id": "00303000001RZFIAAW"  
        }  
    ]  
}
```

```
  ] ,  
  "sf_count": "1"  
}
```

Salesforce createChatterPost

This operation is invoked by setting "sf_operation" to "createChatterPost" (case sensitive). In this case, the Lambda function uses the Salesforce Connect REST API to create a chatter post (see [here](#)). For createChatterPost, the following parameters are required:

- sf_feedElementType
- sf_subjectId
- sf_messageType
- sf_message

The following parameter is optional:

- sf_mention

(refer to the api reference for value types)

Any additional parameters will replace text values in the sf_message so that messages can be dynamic based on values stored within the contact flow. For example, the parameter set:

- sf_message: "Please help me with case {{caseld}}"
- caseld: 1234

Will result in the message: "Please help me with case 1234".

In the contact flow example below, we leave a chatter post on a contact.

Use text

X

Destination key

sf_operation

Value

createChatterPost

Use attribute

Use text

X

Destination key

sf_feedElementType

Value

FeedItem

Use attribute

Use text

X

Destination key

sf_subjectId

Value

00303000001RZflAAW

Use attribute

Use text

X

Destination key

sf_messageType

Value

Text

Use attribute

Use text X

Use attribute X

Destination key

contactId

Type

System

Attribute

Contact id

Use text X

Destination key

sf_message

Value

I had a problem during the call. My contact id is {{contactId}}

Use attribute X

(full text of the value is "I had a problem during the call. My contact id is {{contactId}}.")

The operation returns a response of:

```
{  
    "Id": "0D503000000ILY5CAO"  
}
```



apiuser



I had a problem during the call. My contact id is dda99fbf-6186-4125-ba59-c461d620fdbd.

[Comment](#) · [Like](#) · Today at 3:45 PM via Amazon Connect Integration

the Subject:

Salesforce createChatterComment

This operation is invoked by setting "sf_operation" to "createChatterComment" (case sensitive). In this case, the Lambda function uses the Salesforce Connect REST to create a chatter comment (see [here](#)). For createChatterComment, the following parameters are required:

- sf_feedElementId
- sf_commentType
- sf_commentMessage

(refer to the api reference for value types)

Any additional parameters will replace text values in the sf_commentMessage so that messages can be dynamic based on values stored within the contact flow. For example, the parameter set:

- sf_commentMessage: "Please help me with case {{ caseld }}"
- caseld: 1234

In the contact flow example below, we leave a comment on a chatter post.

Use text

X

Destination key

sf_operation

Value

createChatterComment

Use attribute

Use text

X

Destination key

sf_feedElementId

Value

0D503000000ILY5CAO

Use attribute

Use text

X

Destination key

sf_commentType

Value

Text

Use attribute

Use text X

Destination key
sf_message

Value
This concern has been addressed.

Use attribute

The operation returns a response of:

```
{  
    "Id": "0D703000000ChhNCAS"  
}
```



apiuser



I had a problem during the call. My contact id is dda99fbf-6186-4125-ba59-c461d620fdbd.

[Comment](#) · [Like](#) · Today at 3:45 PM via Amazon Connect Integration



apiuser



This concern has been addressed.

[Like](#) · Today at 3:53 PM via Amazon Connect Integration

Write a comment...

See the chatter post appear attached to the Subject:

Appendix A - CTI Flow Sources and Events

The following sources are defined in the adapter for use with CTI Scripts:

- Initialization
 - onInit: The CTI adapter has initialized.
 - Amazon Connect Agent
 - onRefresh: The Connect agent's data was updated.
 - onStateChange: The Connect agent's state changed.
 - onRoutable: The Connect agent became available for contacts.
 - onNotRoutable: The Connect agent became unavailable for contacts.
 - onOffline: The Connect agent's state was set to "Offline".
 - onError: The Connect agent encountered a system error.
 - onAfterCallWork: The Connect agent entered "After Call Work".
 - onInit: The Connect agent has logged in.
- Amazon Connect Voice Contact
 - onIncoming -- The voice contact is incoming. Note: This event fires for queued callback contact only.
 - onConnecting -- The voice contact is connecting. Note. This event fires for inbound and outbound contacts except queued callback contacts.
 - onConnected -- The voice contact is connected.
 - onEnded -- The voice contact is ended or destroyed.
 - onRefresh -- The voice contact is updated.
 - onAccepted -- A voice contact is accepted.
 - onInit -- The voice contact is initialized.
 - onMissed -- The voice contact is / was missed.
- Amazon Connect Chat Contact
 - onConnecting -- The chat contact is connecting.
 - onConnected -- The chat contact is connected.
 - onEnded. The chat contact ended.
 - onRefresh -- The chat contact is updated.

- onAccepted -- The chat contact is accepted.
 - onInit: The chat contact was initialized.
 - onMessageReceived: A message was received from the customer
 - onMessageSent: A message was sent to the customer
 - onMissed: The chat contact was missed.
- Salesforce Agent
 - onStateChange -- The Salesforce agent's state changed.
 - onWorkAccepted -- The Salesforce agent accepted work.
 - onWorkloadChanged -- The Salesforce agent's workload changed.
 - Salesforce UI
 - onClickToDial: A phone number, within the Salesforce UI, was clicked.
 - onNavigationChange
 - onHvsWorkStart

Appendix B - Configuring Salesforce as Your Identity Provider

Amazon Connect supports Security Assertion Markup Language (SAML 2.0) to enable single sign on(SSO). Salesforce can act as a single sign on identity provider to service providers, allowing end users to easily and securely access many web and mobile applications with one login. By establishing the SSO integration between Amazon Connect and Salesforce, you will be able to seamlessly login to Salesforce and the same credentials will be used to auto-login to Amazon Connect.

Configuration

Prerequisites

To complete the SSO integration between Salesforce and Amazon Connect, you need:

1. An Amazon Connect Instance configured for SAML authentication
2. Appropriate AWS permissions to create Identity and Access Management (IAM) roles and policies

3. Administrator permissions for your Salesforce Org
4. Amazon Connect CTI Adapter AppExchange package installed and configured

Configuring Salesforce as an Identity Provider

First, we need to enable Salesforce to act as an identity provider (IdP). An IdP performs end user authentication and provides the credentials to the requesting service provider. In this case, Salesforce server as the IdP and Amazon Connect the service provider, while being embedded in Salesforce.

Setup Identity Provider & Download Metadata

1. Log in into your Salesforce org and go to **Setup**.
2. In the **Quick Find** field, type **Identity Provider**, then select **Identity Provider** from the result list
3. Identity Provider may be enabled by default. If not, choose **Enable Identity Provider**, then select the appropriate certificate and select Save.

Identity Provider

Enable Salesforce.com as an identity provider so you can use single sign-on with other web sites, and define the appropriate service providers whose applications support single sign-on. You can switch to different service providers without having to log in again. [Learn more...](#)

Identity Provider Setup

Enable Identity Provider

Click Enable Identity Provider to enable your Salesforce.com organization as an identity provider.

Name	Created Date
No Service Providers	

Service Providers

Service Providers are now created via Connected Apps. [Click here.](#)

4. Choose **Download Metadata** and save the file to your computer.

Identity Provider

[Help for this Page](#)

Enable Salesforce.com as an identity provider so you can use single sign-on with other web sites, and define the appropriate service providers whose applications support single sign-on. You can switch to different service providers without having to log in again. [Learn more...](#)

Quick Tips

- [Certificates and Keys](#)
- [About Single Sign-On](#)
- [My Domain](#)

The screenshot shows the 'Identity Provider Setup' page. At the top, there are buttons for 'Edit', 'Disable', 'Download Certificate', and 'Download Metadata'. The 'Download Metadata' button is highlighted with a red box. Below this, there's a section titled 'Details' showing the 'Issuer' as 'https://ctiadapterdemo-dev-ed.my.salesforce.com'. Under 'Currently chosen certificate details', it shows a self-signed certificate labeled 'SelfSignedCert_17Feb2020_221125' with a creation date of 2/17/2020, 2:11 PM, and a key size of 2048. The expiration date is 2/17/2021, 4:00 AM. Finally, under 'SAML Metadata Discovery Endpoints', it lists the 'Salesforce Identity' endpoint as 'https://ctiadapterdemo-dev-ed.my.salesforce.com/.well-known/samlidp.xml'.

Configure the Identity Provider, Policy, and Role in the AWS Console

Next, you need to configure the identity provider (Salesforce) in the AWS console and provide access to Amazon Connect via IAM policies and roles. This allows AWS to acknowledge Salesforce as the identity provider and to provide users authenticated through Salesforce with the access required to login to Amazon Connect.

Configure the Identity Provider

1. Login to the [AWS console](#)
2. Open the [AWS identity and Access Management \(IAM\) Console](#)
3. Select **Identity providers

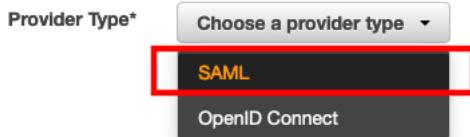
Identity and Access Management (IAM)

The screenshot shows the AWS IAM Dashboard. It includes sections for 'Dashboard', 'Access management' (with links to 'Groups', 'Users', 'Roles', 'Policies'), and 'Identity providers' (which is highlighted with a red box). Other links include 'Account settings'.

4. Choose **Create Provider**
5. On the Configure Provider screen, select **SAML** as the Provider Type

Configure Provider

Choose a provider type.



6. Set the Provider Name to **SalesforceConnect**
7. Import the metadata file you downloaded previously by selecting Choose File and navigating to the downloaded metadata file.
8. Select Next Step
9. Choose Create
10. The Identity provider has been created

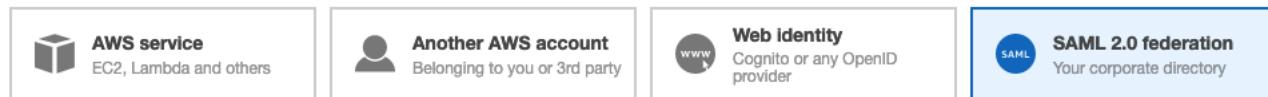
Create the IAM Role and Policy

1. Login to the [**AWS console**](#)
2. Open the [**AWS identity and Access Management \(IAM\) Console**](#)
3. Select **Roles**, then choose **Create role**
4. Choose **SAML 2.0 federation**
5. In the SAML provider dropdown, select the provider you just created, which should be named **SalesforceConnect**
6. Select the radio button for **Allow programmatic and AWS Management Console access**. The Attribute and Value fields should auto-populate

Create role

1 2 3 4

Select type of trusted entity



Allows users that are federated with SAML 2.0 to assume this role to perform actions in your account. [Learn more](#)

Choose a SAML 2.0 provider

If you're creating a role for API access, choose an Attribute and then type a Value to include in the role. This restricts access to users with the specified attributes.

SAML provider

Allow programmatic access only
 Allow programmatic and AWS Management Console access

Attribute

Value*

Condition

7. Select Next: Permissions

8. On the Attach permissions policies page, select **Create policy**. This will open a new browser tab.

9. Choose the **JSON** tab to switch to the JSON editor

10. Replace the existing JSON with the following:

```
{  
    "Version": "2012-10-17",  
    "Statement": [  
        {  
            "Sid": "Statement1",  
            "Effect": "Allow",  
            "Action": "connect:GetFederationToken",  
            "Resource": [  
                "***YOUR ARN***/user/${aws:userid}"  
            ]  
        }  
    ]  
}
```

11. Replace *****YOUR ARN***** with the ARN of your Amazon Connect instance. To find your Amazon Connect instance ARN:

12. Open a new tab in your browser and navigate to [Amazon Connect Console](#)
13. Click on the name (alias) of your Amazon Connect instance
14. Copy the Instance ARN and paste it to your computer's notepad (you will use it in a few places)
15. Choose **Review policy**
16. Set the Name to **SalesforceConnectPolicy**
17. Select **Create Policy**
18. Once the Policy has been created, close the tab, go back to the original (Role) tab in your browser and select the **Refresh** button (do not refresh the browser)
19. In the search field, enter **SalesforceConnectPolicy** and select the box to attach the policy.

Create role

1 2 3 4

▼ Attach permissions policies

Choose one or more policies to attach to your new role.

Create policy		↻				
Filter policies ▼ <input type="text" value="SalesforceConnectPolicy"/> Showing 1 result						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Policy name</th> <th style="width: 90%;">Used as</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"><input checked="" type="checkbox"/> ▶ SalesforceConnectPolicy</td> <td style="padding: 5px; text-align: center;">None</td> </tr> </tbody> </table>	Policy name	Used as	<input checked="" type="checkbox"/> ▶ SalesforceConnectPolicy	None	
Policy name	Used as					
<input checked="" type="checkbox"/> ▶ SalesforceConnectPolicy	None					

20. Choose **Next: Tags** and set tags if desired, then choose **Next: Review**
21. Name the Role **SalesforceConnectRole** and provide a description if you like
22. Select Create role

Complete the Base Salesforce Configuration

Next, you need to configure a Connect App in Salesforce and provide further configuration to complete the SAML integration.

Create the Connected App in Salesforce

1. Log in into your Salesforce org and go to **Setup**
2. In the **Quick Find** field, type **Apps** and select **Build->Create->Apps**
3. Select New Connected App

- Provide a name for the Connected App, such as **AmazonConnectSAML**, then press tab and the API Name should auto-populate
- Provide an email contact address

New Connected App

Save **Cancel**

Basic Information

Connected App Name	AmazonConnectSAML
API Name	AmazonConnectSAML
Contact Email	douglas+ctiadapterdemo@amazon.com
Contact Phone	
Logo Image URL	
Upload logo image or Choose one of our sample logos	
Icon URL	
Choose one of our sample logos	
Info URL	
Description	

- In the Web App Settings section, choose **Enable SAML**
- Leave Start URL empty
- Set Entity Id to the same name that you gave the Identity Provider in the IAM console, which should be **SalesforceConnect**
- Set ACS URL as **https://signin.aws.amazon.com/saml**
- Set Subject Type as **Persistent ID**

Web App Settings

Start URL	
Enable SAML	<input checked="" type="checkbox"/>
Entity Id	SalesforceConnect
ACS URL	https://signin.aws.amazon.com/saml
Enable Single Logout	<input type="checkbox"/>
Subject Type	Persistent ID
Name ID Format	urn:oasis:names:tc:SAML:1.1:nameid-format:unspecified
Issuer	https://ctiadapterdemo-dev-ed.my.salesforce.com
IdP Certificate	Default IdP Certificate
Verify Request Signatures	<input type="checkbox"/>
Encrypt SAML Response	<input type="checkbox"/>

- Choose **Save**. The screen should refresh and the new Connected App should be displayed
- Scroll down to the **Custom Attributes** section and select **New**
- Set Key as **https://aws.amazon.com/SAML/Attributes/RoleSessionName**
- Set Value as **\$User.Email**

15. Select **Save

Create Custom Attribute

The screenshot shows a 'Create Custom Attribute' dialog box. The 'Key' field is set to 'https://aws.amazon.com'. The 'Value' field contains the expression '\$User.Email1', which is highlighted with a blue rectangular border. Below the input fields are two buttons: 'Insert Field' and 'Insert Operator'. At the bottom of the dialog are 'Save' and 'Cancel' buttons.

16. Select New again to configure another custom attribute

17. Set Key as **https://aws.amazon.com/SAML/Attributes/Role**

18. The Value is going to be a combination of the Identity Provider and IAM Role ARNs.

a. In a new tab, open the [AWS identity and Access Management \(IAM\) Console](#)

b. On the left navigation, select **Identity providers**

c. Select the Identity provider you created earlier, which should be named **SalesforceConnect**

d. Copy the **Provider ARN** to your computer's notepad

e. Return to the IAM console and select **Roles**

f. Select the Role you created earlier, which should be **SalesforceConnectRole**

g. Copy the **Role ARN** to your computer's notepad

h. Format the combined value as follows:

```
'Identity Provider ARN' & ', ' & 'Role ARN'
```

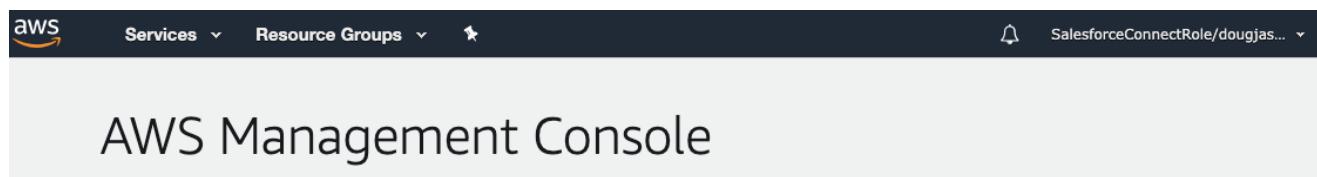
i. Paste the formatted value into the Custom Attribute Value

19. Select **Save**

Create Custom Attribute

The screenshot shows a 'Create Custom Attribute' dialog box. The 'Key' field is set to 'https://aws.amazon.com'. The 'Value' field contains the following SAML attribute definition:
'arn:aws:iam::YOURACCOUNT:saml-provider/SalesforceConnect' & ',' &
'arn:aws:iam::YOURACCOUNT:role/SalesforceConnectRole'
Below the 'Value' field are two buttons: 'Insert Field' and 'Insert Operator'. At the bottom of the dialog are 'Save' and 'Cancel' buttons.

20. At the top of the Connected App description, select **Manage**
21. Scroll down to the **SAML login Information** section
22. Copy the **IdP-Initiated Login URL** to your computer's notepad
23. Scroll down to find the Profiles section, then select **Manage Profiles**
24. Select a profile from the list, for example System Administrator for testing purposes
25. Choose **Save**
26. Open a new tab in your browser and navigate to IdP-Initiated Login URL that you copied in an earlier step
27. The browser will redirect to AWS Console and log you in automatically as a federated user **Note:** you may be able to see AWS services, but you should have no configuration rights.



28. The Federated Login consists of the Role name and your Salesforce email address.
29. Initial validation is complete

Complete the Amazon Connect Configuration

The last step in the SAML setup is to add users to Amazon Connect that exist in your Salesforce org, then validate login. It is critical that the usernames for both platforms match exactly.

Add Users to Amazon Connect

1. In a new browser tab, login to the [AWS console](#)
2. Open the [Amazon Connect Console](#)
3. Select the name (alias) of your Amazon Connect instance
4. Choose **Login as administrator**

Overview

Instance ARN arn:aws:connect:us-west-2:
[REDACTED] instance [REDACTED]

Directory ctiadapterdemo

Service-linked role ⓘ AWSServiceRoleForAmazonConnect_[REDACTED] [Learn more](#)

Login URL <https://ctiadapterdemo.awsapps.com/connect/login>

[Login as administrator](#)

5. Within the Amazon Connect administration portal, select **Users** then choose **User Management**
6. Click **Add New Users**
7. Leave **Create and setup a new user** selected and choose **Next**
8. Complete the First and Last name fields as appropriate
9. Set the login name to match the **Email Address** of your Salesforce user
10. Set the **Routing Profile**. In this example, the default Basic Routing Profile is shown
11. Set the **Security Profile**. In this example, *Admin* is shown

Add new user

1 Select source 2 Add user details 3 Verify user details

First name <input type="text" value="Jason"/>	Last name <input type="text" value="Douglas"/>	Login name <input type="text" value="j@ctiadapterdemo.amazon.com"/>
Routing Profile: <input type="text" value="Basic Routing Profile"/>		Security Profiles: <input type="text" value="Admin"/>
		Phone Type: <input type="text" value="Soft phone"/> <input type="checkbox" value="Auto-Accept Call"/>
		After call work (ACW) timeout: <input type="text" value="0"/>

12. Select **Save**

13. Select **Create Users**

14. Repeat this process as required for your staff

Final Configuration for the Lightning Experience

Now that all of the underlying pieces are in place, the last steps are to create the Amazon Connect Single Sign On URL and validate that it works correctly, then configure the Lightning CTI adapter and login the agent.

Create the Amazon Connect SSO URL

You create the Amazon Connect SSO URL by combining the IdP-Initiated Login URL that you copied earlier, and a relay state URL that will redirect the authenticated user to your Amazon Connect instance.

The 'RelayState' will be in the following format:

`https://console.aws.amazon.com/connect/federate/{InstanceId}?destinat`

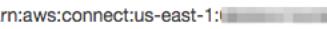
Please note that "console.aws.amazon.com" refers to US-East-1 region (N. Virginia). If your Amazon Connect instance is in a different region, please use the region Console URL. For example:

`https://us-west-2.console.aws.amazon.com/connect/federate/{InstanceId}`

1. To begin, format the relay state URL by replacing {InstanceId} with your Instance Id. To find your Amazon Connect Instance Id:

- a. Open a new tab in your browser and navigate to the [Amazon Connect Console](#)
- b. Click on the name (alias) of your Amazon Connect
- c. From the Instance ARN, copy the portion after the '/'. This is the Instance Id

Overview

Instance ARN	arn:aws:connect:us-east-1:  :instance/ 
Directory	
Login URL	<a data-bbox="355 1676 518 1706" href="https://.awsapps.com/connect/login">https://.awsapps.com/connect/login
	Login as administrator



2. Concatenate the 'IdP-Initiated Login URL' and the 'RelayState', by combining the two with "&RelayState=" in between, for example:

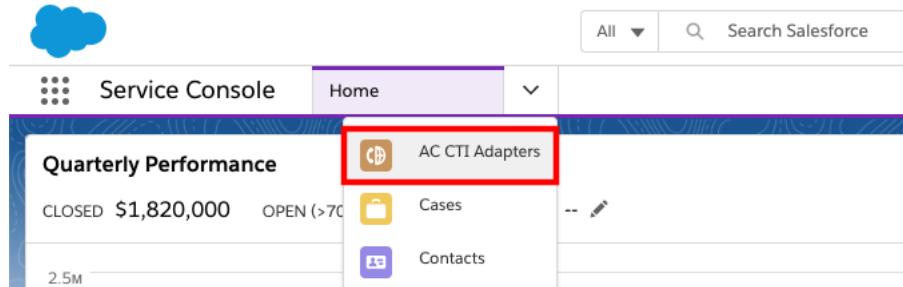
<https://mXXXXXXrun-dev-ed.my.salesforce.com/idp/login?app=0sp0N00000>

3. This is the Final SSO URL, needed for the Amazon Connect Lightning CTI Adapter Configuration.
4. To validate this URL:
 - a. Open a new tab in the same browser that you are logged into Salesforce
 - b. Paste the fully concatenated URL into the new browser and press enter
 - c. You should automatically login and be redirected to the Amazon Connect Contact Control Panel.
5. Once you validate the full URL, you are ready to add it to the Lightning Adapter

Configure the CTI Lightning Adapter in Salesforce For SSO

Now we are ready to complete the last step in the configuration process: Adding the SSO settings for Salesforce to the Lightning Adapter. This will configure the adapter to authenticate via SSO and redirect to the Amazon Connect Contact Control Panel once authentication completes.

1. Log in into your Salesforce org and go to the **Service Console**
2. Expand the **navigation menu** by selecting the down arrow and choose **AC CTI Adapters**.



3. Select **ACLightningAdapter**
4. Scroll down to the Single SignOn (SSO) section and choose the pencil icon of either field to edit

A screenshot of the AC Lightning Adapter configuration page. It shows a section titled 'Single SignOn (SSO)' with two fields: 'SSO Url' and 'SSO Relay State'. Each field has a small edit icon (pencil) to its right, which is highlighted with a red box.

5. For the SSO Url, copy the first part of the SSO URL that you created previously, up to the first question mark (do not copy the question mark), for example:

`https://mXXXXXXrun-dev-ed.my.salesforce.com/idp/login?app=0sp0N000`

6. Paste this portion of the URL into the **SSO Url** field

Single SignOn (SSO)

SSO Url

`https://sample-dev-ed.my.salesforce.com/idp/login`

7. For the SSO Relay State, copy everything AFTER the question mark (do not copy the question mark), for example:

`https://mXXXXXXrun-dev-ed.my.salesforce.com/idp/login?app=0sp0N000`

8. Paste this portion of the URL into the **SSO Relay State** field

Single SignOn (SSO)

SSO Url

`https://sample-dev-ed.my.salesforce.com/idp/login`

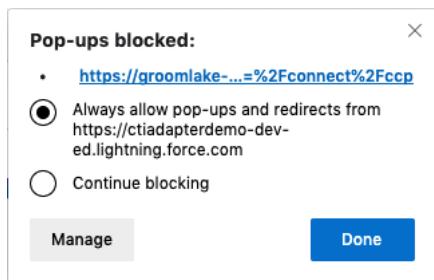
SSO Relay State

`app=0sp6g000000XZyd&RelayState=https://us-west-2.console.aws.amazon.com/connect/federate/YOUR-INSTANCE-ID?destination=%2Fconnect%2Fccp`

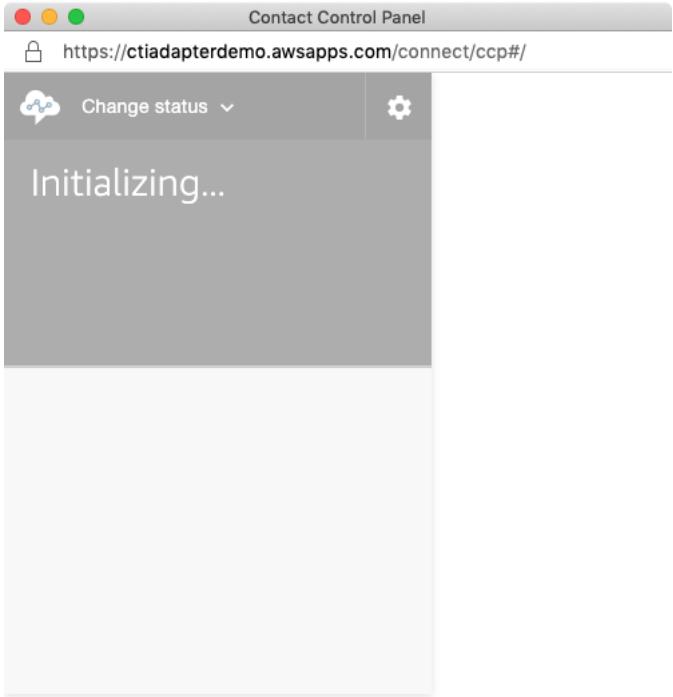
9. Choose **Save**

10. Refresh your browser to make the changes take effect

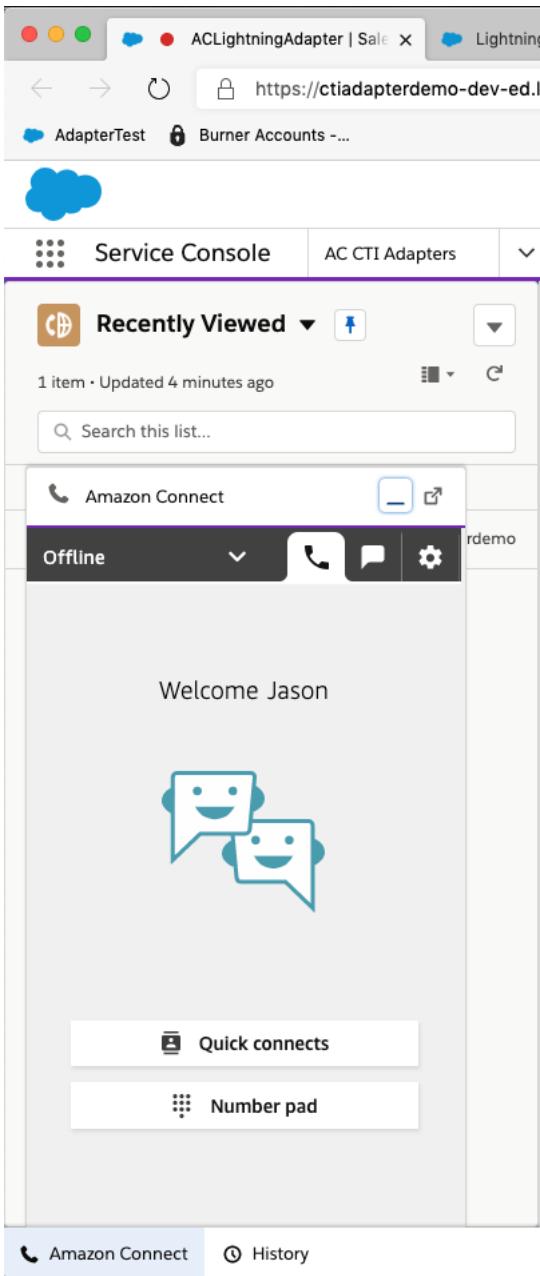
a. **NOTE:** If you receive a blocked popup warning, select the warning and change the setting to always allow popups from your Salesforce org, then refresh the browser again



11. After a few seconds, a new window should pop up for a moment. This window is performing the authentication and setting your session cookie. Once it does this, it will close automatically.



12. Once the authentication window closes, select the **phone icon** in the console toolbar to open the CCP Note: You may also receive popups to allow notifications and microphone access. Please accept both.
13. You should now see the authenticated and logged in CCP



Configuration is complete

Appendix C - CTI Flow Examples

This appendix includes samples scripts that provide different functionality depending on the event source.

Voice Contact Screenpop (Legacy Adapter Support)

Source: Amazon Connect Voice Contact

Event: onConnecting

[Download](#)

Chat Contact Screenpop

Source: Amazon Connect Chat Contact

Event: onConnecting

[Download](#)

Click-to-Dial

Source: Amazon Connect Chat Contact

Event: onClickToDial

[Download](#)

Screen Pop on Customer Phone Number

Source: Amazon Connect Voice Contact

Event: onConnecting

[Download](#)

Screen Pop a Case on Contact Attribute Data (if it exists) or Pop a New Case (if it does not)

Source: Amazon Connect Voice Contact

Event: onConnecting

[Download](#)

Create a Task (Call Activity) and Pop That Task

Source: Amazon Connect Voice Contact

Event: onConnecting

[Download](#)

Screenpop on Customer Email Address (in contact attribute data)

Source: Amazon Connect Chat Contact

Event: onConnecting

[Download](#)

Create a Task (Call Activity) and Pop That Task

Source: Amazon Connect Chat Contact

Event: onConnecting

[Download](#)

Default CTI Flows

The following zip file includes default flows, which are automatically added and activated on new installations of the package. However, if you are upgrading from an earlier version you may need to replace your legacy script with the new flow.

[Download](#)

Appendix D - CTI Flow Blocks

If-else

Change the flow of your script depending on value of fields you fetch or store. This is a simple "if-else" utility for your flow.

HTTP Request

Make an HTTP request.

Get Property

Fetches a property from the local data store. You can access a property you have retrieved from the local store by referring to the return value of this block.

Get All Properties

Returns all stored properties.

Format Phone Number

Formats a phone number for a country code.

Format Phone Number (E164)

Formats a phone number for a country code in E164 format.

Format a Date object

Returns a formatted date.

Is Truthy?

This is a utility to branch your flow depending on the truthiness of a value.

Set Property

Assigns a value to a property in the local data store.

Log to Console

Sends a static or dynamic value from an action to a logger.

Show Modal

The command to open modal.

Enable Click To Dial?

The query to determine whether Click to Dial should be enabled.

Enable Click To Dial

The command to enable Click to Dial.

Disable Click To Dial

The command to disable Click to Dial.

Get App View Info

The command to get App View information.

Get Softphone Layout

The query to get softphone layout.

Get Agent Workload on Salesforce

Returns the agent's current workload.

Complete High Velocity Sales Work With Task Saved

This methods allow your CTI implementation to communicate with High Velocity Sales (HVS) to handle HVS work.

Refresh View

The command to refresh the view.

Show Softphone Panel

The command to show softphone panel.

Hide Softphone Panel

The command to hide softphone panel.

Set Softphone Panel Height

The command to set the height of softphone panel.

Set Softphone Panel Width

The command to set the width of softphone panel.

Screenpop Object

The command to open a screenpop with information from object.

Screenpop Url

The command to screenpop a url in a new browser tab or browser window.

Screenpop Object Home

The command to screenpop to an object's home page.

Screenpop List

The command to screenpop a list view.

Screenpop Search

The command to screenpop search results based upon the search input. Not to be confused with "Search And Screenpop."

Screenpop New Record

The command to screenpop to a new record of the specified type with specified default field values.

Search And Screenpop

This command searches objects specified in the softphone layout for a given string. Returns search results and screen pops any matching records. Not to be confused with "Screenpop Search."

Run Apex

The command to run an apex function.

Get Agent State from Salesforce

The command to get an agent's state.

Set Agent State on Salesforce

The command to set an agent's presence state on Salesforce.

Login Agent on Salesforce

The command to login an agent on Salesforce.

Logout Agent on Salesforce

The command to logout an agent on Salesforce.

Save (or Create) a Record

The command to save or create a Salesforce object.

Create a Task

The command to create a Task. (The Subject of the task will be a string made up of upto 3 field values.)

Is Contact "Do Not Call"?

The query to check if the Contact requested not to be called.

Dial Number

The command to dial a phone number or to conference to an endpoint.

Mute Agent

The command to mute the agent.

Unmute Agent

The command to unmute the agent.

Get Agent Status from Connect

The command to get the current presence status of the agent from Connect.

Set Agent Status on Connect

The command to set the current presence status of the agent on Connect.

Set Agent Status By Name on Connect

The command to set the current presence status of the agent on Connect by name of the state.

Set Agent as Available on Connect

The command to set the current state of the agent to "Available."

Get Quick Connection List

Gets the list of quick connects available to the current agent

Get Transfer Connection List

Gets the list of quick connects available to the current agent.

Get Endpoint by Phone Number

Generates and returns an endpoint for a provided phone number.

Get Available Agent States

Gets all of the available agent states including custom states.

Get Agent Name

Returns the agent's user friendly display name for the agent.

Get Agent Extension

Returns the phone number that is dialed by Amazon Connect to connect calls to the agent for incoming and outgoing calls, if softphone is not enabled.

Get Agent Deskphone Number

Returns the phone number that is dialed by Amazon Connect to connect calls to the agent for incoming and outgoing calls, if softphone is not enabled.

Is Agent Softphone Enabled?

Checks if agent softphone is enabled. Branches in different directions if it is or not.

Change Agent to Softphone

Changes the current agent to softphone mode.

Change Agent to Deskphone

Changes the current agent to desktop phone mode with the specified phone number.

Get Agent Configuration

Returns the phone number that is dialed by Amazon Connect to connect calls to the agent for incoming and outgoing calls, if softphone is not enabled.

Get Agent Dialable Countries

Returns the list of dialable countries for the current agent.

Get Contact Attribute

The command to get value of an attribute from the contact in the current session.

Is Voice Contact?

The command to determine if the contact is a voice contact.

Is Chat Contact?

The command to determine if the contact is a chat contact.

Is Contact Inbound?

The command to determine if the contact is inbound.

Is Contact Transfer?

The command to determine if the contact is transferred.

Is Callback?

The command to determine if the contact is a queue callback.

Get Contact Properties

The command to get properties of a contact.

Get Customer Phone Number

The command to get customer phone number of a contact.

Get Contact Interaction Metadata

The command to get metadata about a contact interaction.

Query value

The query to execute an arbitrary SOQL statement and returns the results.

Open Salesforce Primary Tab

Opens a new primary tab to display the content of the specified URL.

Open Salesforce Sub Tab

Opens a new subtab (within a primary tab) that displays the content of a specified URL.

Get Focused Primary Tab Object Id

Returns the object ID of the primary tab on which the browser is focused.

Get Focused Subtab Object Id

Returns the object ID of the subtab on which the browser is focused.

Call jQuery Method

Perform a method call on a jQuery selection with your arguments.

Replace String

Perform a .replace() method on an input string.

Text Starts With Value

Checks whether a text input starts with one of the values.

Text Ends With Value

Checks whether a text input ends with one of the values.

Join Strings

Concatenates 2 values into a string.

SOQL Query

The query to execute an arbitrary SOQL statement and returns the results.