

# Setup and Installation Guide



**Sep, 2025**

© Copyright Amazon.com, Inc. or its affiliates. All Rights Reserved. SPDX-License-Identifier: CC-BY-SA-4.0

## Notices

This document is provided for informational purposes only. It represents AWS's current product offerings and practices as of the date of issue of this document, which are subject to change without notice. Customers are responsible for making their own independent assessment of the information in this document and any use of AWS's products or services, each of which is provided "as is" without warranty of any kind, whether express or implied. This document does not create any warranties, representations, contractual commitments, conditions or assurances from AWS, its affiliates, suppliers or licensors. The responsibilities and liabilities of AWS to its customers are controlled by AWS agreements, and this document is not part of, nor does it modify, any agreement between AWS and its customers.

## Abstract

This guide details the integration between Amazon Connect and Salesforce Lightning. It covers the installation, configuration, and operation of the two primary components of the integration: the Amazon Connect CTI Adapter for Salesforce and the AWS Serverless Application Repository for Amazon Connect Salesforce integration.

## Salesforce Lambda Versions

The Amazon Connect CTI Integration consists of two components - A salesforce package we refer to as the CTI Adapter, and an AWS Serverless application, which contain a set of lambdas to be deployed to your AWS environment. For more information on the lambdas, [visit here](#).

The version of the Lambdas and the version of the CTI Adapter may differ as they are two separate packages. If a specific version of the lambdas package is needed to run with the CTI Adapter and vice versa, it will be stated [here](#).

## License Summary

The documentation is made available under the Creative Commons Attribution-ShareAlike 4.0 International License. See the [LICENSE file](#).

The sample code within this documentation is made available under the MIT-0 license. See the [LICENSE-SAMPLECODE file](#).

## Table of contents:

- [Release Notes](#)
  - [Important Notes](#)
    - [Google Chrome third-party cookies support](#)
    - [Summer '23 Release](#)
    - [Salesforce Enhanced Domains](#)
    - [Spring '22 Release](#)
    - [WebRTC Plan-B Deprecation](#)
    - [Installing as Admin](#)
    - [Important notes for CTI Flow Builders](#)
      - [Migrating CTI Flows to CTI Adapter v5.0+](#)
      - [Improved Phone Number Handling with Updated Library \(v5.22+\)](#)
  - [5.28 Sep 2025](#)
  - [5.27 April 2025](#)
  - [5.24 August 2024](#)
  - [5.23.3 July 2024](#)
  - [5.22 February 2024](#)
  - [5.21.1 November 2023](#)
  - [5.21 October 2023](#)
  - [5.20.1 July 2023](#)
  - [5.19 April 2022](#)
  - [5.18 January 2022](#)
  - [5.17 November 2021](#)
  - [5.16 August 2021](#)
  - [5.15 July 2021](#)
  - [5.14 June 2021](#)
  - [5.13 April 2021](#)
  - [5.12 March 2021](#)
  - [5.11 March 2021](#)

- [5.10 February 2021](#)
- [5.9 December 2020](#)
- [5.7 November 2020](#)
- [5.5 October 2020](#)
- [5.4 Late September 2020](#)
  - [5.3 September 2020](#)
  - [5.2 September 2020](#)
  - [5.1 Late August 2020](#)
  - [5.0 August 2020](#)
  - [4.5 April 2020](#)
  - [4.4 March 2020](#)
  - [4.2 December 2019](#)
  - [4.1 November 2019](#)
  - [3.11 August 2019](#)
  - [3.10 July 2019](#)
  - [3.9 May 2019](#)
  - [3.87 May 2019](#)
  - [3.7 May 2019](#)
  - [3.6 April 2019](#)
  - [3.1 March 2019](#)
  - [3.0 February 2019](#)
- [Further Reading](#)
- [Key Benefits and Requirements](#)
  - [Key Benefits](#)
  - [Requirements](#)
    - [Prerequisites](#)
    - [Browser Compatibility](#)
    - [Salesforce Lightning Support](#)
- [Installing the CTI Adapter and Salesforce Lambdas](#)
  - [Amazon Connect Salesforce CTI Adapter Managed Package](#)
  - [Amazon Connect Salesforce Lambda package](#)
  - [Setting up the ExecuteAwsService Named Credential](#)
- [Setting Up The CTI Adapter Using Guided Setup](#)
  - [Guided Setup Prerequisites](#)
    - [Create Named Credential](#)

- Create Connected App
- Guided Setup Additional Instructions
  - Retrieve Amazon Connect Instance Url
  - Add users to the Call Center
  - Add users to a Permission Set
    - AC\_Administrator
    - AC\_Manager
    - AC\_Agent
  - Create the Softphone Layout
  - Retrieve the Salesforce API Version
  - Setting up the Salesforce API User
  - Allowing the API user to authenticate using password
  - Setting up the SecretsManager Secret
- Setting Up The CTI Adapter Managed Package Manually
  - Lightning Flow Setup Installation
  - Installing from the Salesforce AppExchange
  - Create the Softphone Layout
  - Set Access Permissions
    - AC\_Administrator
    - AC\_Manager
    - AC\_Agent
  - Configure Console Experience
  - Configure Classic Experience
- Setting Up The Salesforce Lambdas Manually
  - Salesforce Lambda Prerequisites
    - Determine your production Environment
    - Determine your Consumer Key and Secret
    - Determine your Username, Password and Security Token
    - Allowing the API user to authenticate using password
    - Store Salesforce credentials in AWS Secrets Manager
  - Install the Amazon Connect Salesforce Lambda package
    - Compatibility Table
      - Instructions
- Upgrading from an Earlier Version
- CTI Adapter Installation Troubleshooting and Common Issues

- I upgraded my adapter to v5.10, but I cannot see the CCP Config changes
- Error "refused to run the JavaScript URL because it violates the following Content Security Policy directive..."
- Error "refused to frame" Visualforce page
- I upgraded my adapter to v5, but I don't see the CTI Flows feature.
- I upgraded my adapter from v3 to v5 and we lost some screenpop functionality.
- Certain picklists are missing picklist items.
- How to remove permissions to Visualforce pages, Apex classes for a desired profile
- Browser refreshing when trying to open lightning components
  - How do you fix it?
  - Why does this happen?
  - What are the Disable X Trigger options in the Custom Settings?
- CTI Adapter Configuration
  - CTI Adapter Details
  - Single Sign On Settings
    - Identify the SSO URL components
    - Configure the CTI Lightning Adapter in Salesforce
- Omnipresence Agent State Sync
  - Enable Omnichannel
  - Create Presence Statuses
  - Configure Enabled Service Presences Status Access
    - Amazon Connect System Statuses
  - Configure Presence Status Synchronization Rules
    - Presence Status Configuration Rules
- Contact Attributes Display
- Call Recording Playback
  - Cloudformation Template
  - Enabling call recording streaming
  - Adding users to the AC\_CallRecording permission set
  - Enable call recording streaming on the Contact Channel Analytics page
  - Enable call recording streaming on the Task page
- Call Display on the Account Page
- Outbound Campaign Calls
  - Create a Queue
  - Create a Service Channel
  - Create a Routing Configuration

- Outbound Campaign Custom Object Using Salesforce Data Loader
- Amazon Connect Reports in Salesforce
- CTI Flows
  - Create CTI Flow
  - Accessing CTI Flow Block Values
    - JSON Paths
    - Accessing Object Properties
    - Accessing CTI Flow Object Properties
  - Why Would I Use This?
- Localization
  - Prerequisites
  - Setting your preferred language
  - Additional Notes
- CTI Actions
  - CCP Overlay
  - Example
  - Receiving Data from CTI Flows
  - Upgrading from an earlier version
- Recording Controls
  - Setup
- Chat Widget Integration
  - Setup Experience Cloud Site:
  - Setup Chat Widget in Amazon Connect
  - Create Required Visualforce Pages
  - Setup Chat Widget for your Experience Cloud Sites.
  - Trigger multi-contact chat events
    - Recommendations
    - Example Use
- Amazon Q Integration
- Voice Id
- Setting up Medialess
  - Medialess
    - Prerequisites
    - Setting Up Audio Optimized Virtual Desktop Infrastructures (VDI)
      - Audio Optimization

- CTI Adapter Configuration for VDI
  - Important Notes for Citrix Users
- Set Up for Other VDI Platforms
- Global Resiliency
  - Global Resiliency
  - Prerequisites
  - Set up Global Sign-in with SSO
  - CTI Adapter Updates
    - Modify the CTI Adapter Object
    - Create the AC Replica Instance
    - Allowlist your Salesforce org into your Replica Instance
    - Enable Enhanced Logout
    - Create a Feature for Global Resiliency
  - Basic Setup Complete
- Additional Setup
  - Set up Salesforce Lambda in Replica Region
  - Additional Features
    - Call Recording
    - Real time metrics
    - Historical Metrics
    - Contact Lens Import
- Setting up the Mini Lightning Adapter
  - Steps
- Invoking the Amazon Connect Salesforce Lambda in a Contact Flow
  - Salesforce Lookup
  - Salesforce Create
  - Salesforce Update
  - Salesforce Phone Lookup
  - Salesforce query
  - Salesforce queryOne
  - Salesforce createChatterPost
  - Salesforce createChatterComment
  - Salesforce search
  - Salesforce searchOne
- Appendix A: CTI Flow Sources and Events

- Appendix B: Configuring Salesforce as Your Identity Provider
  - Configuration
    - Prerequisites
    - Configuring Salesforce as an Identity Provider
      - Setup Identity Provider & Download Metadata
    - Configure the Identity Provider, Policy, and Role in the AWS Console
      - Configure the Identity Provider
      - Create the IAM Role and Policy
    - Complete the Base Salesforce Configuration
      - Create the Connected App in Salesforce
    - Complete the Amazon Connect Configuration
      - Add Users to Amazon Connect
    - Final Configuration for the Lightning Experience
      - Create the Amazon Connect SSO URL
      - Configure the CTI Lightning Adapter in Salesforce For SSO
- Appendix C: CTI Flow Examples
  - Voice Contact Screenpop (Legacy Adapter Support)
  - Chat Contact Screenpop
  - Click-to-Dial
  - Screen Pop on Customer Phone Number
  - Screen Pop a Case on Contact Attribute Data (if it exists) or Pop a New Case (if it does not)
  - Create a Task (Call Activity) and Pop That Task
  - Screenpop on Customer Email Address (in contact attribute data)
  - Create a Task (Call Activity) and Pop That Task
  - Create a Task (Call Activity) and Pop That Task using CTI Actions
  - Create a Record on Chat Connected and Screenpop
  - Screenpop Chat Contact on View
  - Default CTI Flows
- Appendix D: CTI Flow Blocks
  - If-else
  - HTTP Request
  - Get Property
  - Get All Properties
  - Format Phone Number
  - Format Phone Number (E164)

- Format a Date object
- Is Truthy?
- Set Property
- Log to Console
- Show Modal
- Enable Click To Dial?
- Enable Click To Dial
- Disable Click To Dial
- Get App View Info
- Get Softphone Layout
- Get Agent Workload on Salesforce
- Complete High Velocity Sales Work With Task Saved
- Refresh View
- Show Softphone Panel
- Hide Softphone Panel
- Set Softphone Panel Height
- Set Softphone Panel Width
- Screenpop Object
- Screenpop Url
- Screenpop Object Home
- Screenpop List
- Screenpop Search
- Screenpop New Record
- Search And Screenpop
- Run Apex
- Get Agent State from Salesforce
- Set Agent State on Salesforce
- Login Agent on Salesforce
- Logout Agent on Salesforce
- Save (or Create) a Record
- Create a Task
- Is Contact "Do Not Call"?
- Dial Number
- Mute Agent
- Unmute Agent

- Get Agent Status from Connect
- Set Agent Status on Connect
- Set Agent Status By Name on Connect
- Set Agent as Available on Connect
- Get Quick Connection List
- Get Transfer Connection List
- Get Endpoint by Phone Number
- Get Available Agent States
- Get Agent Name
- Get Agent Extension
- Get Agent Deskphone Number
- Is Agent Softphone Enabled?
- Change Agent to Softphone
- Change Agent to Deskphone
- Get Agent Configuration
- Get Agent Dialable Countries
- Create Task Contact
- Get Contact Attribute
- Is Voice Contact?
- Is Chat Contact?
- Is Task Contact?
- Is Contact Inbound?
- Is Contact Transfer?
- Is Callback?
- Get Contact Properties
- Get Customer Phone Number
- Get Contact Interaction Metadata
- Pop Task Contact's ReferenceUrls
- Query value
- Get Salesforce Lead Id
- Open Salesforce Primary Tab
- Open Salesforce Sub Tab
- Get Focused Primary Tab Object Id
- Get Focused Subtab Object Id
- Call jQuery Method

- Replace String
- Text Starts With Value
- Text Ends With Value
- Join Strings
- SOQL Query
- Multiply
- Divide
- Get Tab Object Map
- Close Salesforce Tab
- Delay
- Get Primary Tab Ids
- Get Tabs With Matching Url
- Length
- Slice
- Cast a Value to a Type
- Get CCP Logs
- Clear All Properties
- Unset Property
- Show Attributes
- Is Task Contact?
- Create Task Contact
- Pop Task Contact's ReferenceUrls
- Start Recording
- Stop Recording
- Update Contact Attributes
- Get Payload
- Send Data to CCP Overlay
- Leave a Voicemail
- Destroy Agent Connection to Live Contact
- Clear Contact

## Release Notes

### Important Notes

## Google Chrome third-party cookies support

The CTI Adapter v5.21 now provides support for third party cookies (see [Amazon Connect third party cookie documentation](#)). After you upgrade to the latest version of the CTI Adapter (v5.21+), agents will be prompted to allow third-party cookies from Amazon Connect:

1. When agents open the CCP within the CTI Adapter, a new **Allow access to cookies** banner appears. It has one action button: **Grant access**.
2. When agents choose **Grant access**, the browser displays a prompt to authorize the use of third-party cookies.
3. Agents must select **Allow** on this second pop-up, and then proceed to log in.

**Note:** If the agent does not follow steps above, please see [our documentation](#) on how to resolve.

## Summer '23 Release

The Salesforce summer release '23 blocks Username-Password Flow by default (see more details [here](#)). If your org uses this version of Salesforce, please unblock the flow by following [these](#) instructions.

## Salesforce Enhanced Domains

Salesforce is making changes to the instance domains on account of the [enhanced domains](#) feature in the Spring 23 release. Once this feature is enabled, you must migrate the CTI adapter to using these new domains. See [here](#) for migration instructions.

## Spring '22 Release

The Salesforce Spring '22 release introduces a change that will likely cause an install or update to any version of the adapter before 5.18 to fail. In addition if you are using the `ac_PhoneCallListView` component in any version of the adapter, the loading of your component may fail. This component has been deprecated in v5.18.

## WebRTC Plan-B Deprecation

The Plan-B deprecation should not affect any current users of the CTI Adapter, as we utilize the embedded CCP and do not build in connect-rtc-js separately.

## Installing as Admin

Please **confirm that the application was installed for admins only** (see [installation](#) for more details). If you did this by accident, then you will have to [manually edit the profiles](#) to remove the permissions to the objects and pages created by the app. If you are updating the package, please verify that all users have

the proper AC permission set. We strongly recommend when installing or upgrading to a new version of the CTI Adapter, customers thoroughly test the new version in a staging or test environment before deploying it to production to ensure compatibility and stability.

**Important:** When upgrading the CTI Adapter, please make sure that the Salesforce Lambdas are a [compatible version](#). Also review the [CTI Adapter Installation Troubleshooting and Common Issues](#) section for known issues and troubleshooting.

## Important notes for CTI Flow Builders

### Migrating CTI Flows to CTI Adapter v5.0+

CTI Flows in v5.0+ replaces Lightning CTI Extensions in version v4.x allowing you to build your agent interface for both Lightning and Classic using a drag-and-drop UI. Many of the CTI blocks in CTI Flows correspond to the API calls in the previous Lightning CTI Extensions, making it easy to map them. However, your existing Lightning CTI Extension scripts will not be automatically migrated to CTI Flows. During the upgrade, you'll have the option to download your existing scripts for reference as you rebuild them in CTI Flows. We highly recommend testing this version in a staging/non-production environment to ensure new CTI Flows match the functionality of your previous scripts. If you need additional functionality from your current scripts, please open a support ticket.

### Improved Phone Number Handling with Updated Library (v5.22+)

We've upgraded the `libphonenumber-js` library to the latest version, expanding support for various area codes that were previously causing call failures. This update ensures greater accuracy and compatibility when handling phone numbers globally.

This upgrade introduces a breaking change to how you access parsed phone numbers within your CTI flows. While the previous path (`$.contact.parsedNumber.phone`) retrieved the phone number of the current contact, we recommend using the following updated paths for better reliability:

- **International Number:** `$.contact.parsedNumber.number`
- **National Number:** `$.contact.parsedNumber.nationalNumber`

Please review your existing CTI flows and update any JSON paths referencing parsed phone numbers to ensure seamless functionality.

For detailed information about the `libphonenumber-js` library and its features, please visit:  
<https://gitlab.com/catamphetamine/libphonenumber-js>

- **Feature:** Introduction of *Mini Lightning Adapter* which shows agent status, replacing embedded SoftPhone CCP for customers using Amazon Connect native CCP in a different window.
- **Enhancement:** Support for both VDI and Medialess Pop-out.
- **Bug Fix:** Fixed bug on negative interaction duration.
- **Bug Fix:** Fixed bug on CTI Flow execution for event-driven sources mismatching contact to execute.
- **Enhancement:** Addition of more supported metrics on `AC_AgentPerformance` and `AC_HistoricalQueueMetrics`.

## 5.27 April 2025

- **Feature:** [Amazon Connect Global Resiliency](#) support: customers can now set up their CTI Adapter in Salesforce with their Connect replica instance, enabling agents' CCP to failover to the specified traffic distribution set by Connect Admin. [See Documentation](#)
- **Bug Fix:** Fixed an issue for `Show modal` CTI Flow block, updated documentation.
- **Bug Fix:** Fixed an issue for `Clear properties` CTI Flow block (`recordingNamedCredential` uncleared).
- **Bug Fix:** AC Contact Trace Record and AC Contact Channel supports initiation method for monitoring and "Get Contact Properties" CTI Flow block. Updated to include `isMonitor` (returns true if it is a monitoring contact).
- **Bug Fix:** Disable echo cancellation field and permission set — Voice quality issue.
- **Bug Fix:** If the agent has an ongoing contact, the Popout CCP in the Medialess feature will no longer close when the browser tab containing Salesforce Service Console where the embedded CCP is present, is refreshed or closed.
- **Bug Fix:** Includes multiparty chat bug fix wherein only the first chat contact is getting used on CTI Actions.

## 5.24 August 2024

- **Feature:** Amazon Workspaces Support: CTI Adapter now provides audio optimization for Amazon Workspaces. [See Documentation](#).
- **Bug Fix:** Fixed an issue where our Contact Channel Analytics Records would display an error prompt when viewed in the Lightning App Builder.
- **Bug Fix:** Fixed an issue where our Contact Channel interaction duration data would show erroneous values for missed calls.

## 5.23.3 July 2024

- **Enhancement:** A new value for Initiation method of a contact 'EXTERNAL\_OUTBOUND` added as an item in the picklist for Contact Trace Records ([Link to AWS Documentaton](#)).
- **Enhancement:** Recording Controls: Resolved an issue where the recording controls feature would use the default named credential regardless of what was passed.
- **Bug Fix:** Fixed the issue of Call Recordings not being rendered on Tasks and Cases pages.
- **Bug Fix:** Fixed infinite buffering of Contact Lens Data on the Contact Channel Analytics page.

## 5.22 February 2024

- **Known Issue in v5.22 - Playback of Connect call recordings on Classic Task or Case:** If you are utilizing the CTI Adapter's functionality for enabling call recording streaming and playback on the Classic Task or Case page, we recommend not upgrading to CTI Adapter version 5.22 as we have discovered an issue where the playback of the call recording does not work as expected. The release v5.23.3 has the fix for this issue, and hence we advise customers to pause upgrading to v5.22.
- **Note:** If you wish to use the v5.22 lambdas, you will need to upgrade your CTI Adapter to v5.22. Consult the [compatibility chart](#).
- **Feature:** Citrix Support: Enabled native VDI support for Citrix. [See Documentation](#).
- **Feature:** Early Get User Media(GUM): Enabled support for the CCP feature EarlyGUM. [See Documentation](#)
- **Feature:** Trigger multi-contact chat events: CTI Adapter enables users to trigger events on selected contact while handling multiple chats simultaneously. [See Documentation](#).
- **Enhancement:** Amazon Q: Amazon Q has undergone a change and goes by a new name. As such, it has been reflected in our documentation. Here is the documentation for [Amazon Q](#)
- **Enhancement:** Recording Controls: Updated the Recording Controls feature to allow users to specify the Named Credential they want to use per CTI Adapter in the "Recording Named Credential" field. This field will not be used if this feature is enabled. If the feature is enabled but no value is provided, a default value of "AmazonConnectAPI" will be assumed.
- **Enhancement:** Salesforce Lambdas:
  - Provided support for queue names with special characters.
  - Updated the Salesforce Lambdas to support new fields for Agent Performance, Historic Queue Metrics, and Contact Lens.

- **Enhancement:** Troubleshooting: Added new section with additional troubleshooting for known problems
- **Enhancement:** Triggers:
  - Fixed typo in CCA Case Trigger + CCA Contact Trigger
- **Enhancement:** Presence Sync:
  - Clarified in our documentation that Presence Sync is not supported in Salesforce Classic adapters. It's listed under the section for Salesforce classic, so this was done to prevent confusion
- **Bug Fix:** AC Contact Channels: `InteractionDuration` value will be updated only once after the call ends.
- **Bug Fix:** Phone numbers: Upgraded the library responsible for formatting numbers to latest version to support calls to more regions.
- **Bug Fix:** Guided Setup: Improved the process to allowlist user URLs.
- **Bug Fix:** Recording Controls: Recording Controls tab will now be visible on the first session load in the user's salesforce instance.
- **Documentation Change:** Medialess: Created new documentation page for setting up medialess ([Link to page](#)).
- **Documentation Change:** Historical Metrics: Added clarifying information to setup historical metrics.
- **Documentation Change:** Upgrading from an earlier version: Added new documentation on upgrading [Salesforce Lambdas](#)
- **Documentation Change:** CTI Flow Blocks: Updated with latest CTI Flow blocks. Added new section about accessing CTI flow block values ([Link to section](#)).

## 5.21.1 November 2023

- **Bug fix:** Google Chrome third party cookie support for GovCloud instances: The v5.21.1 patch includes updated third party cookie support for GovCloud instances.
- **Enhancement:** [Python 3.10 runtime](#) now available in Amazon Connect Salesforce Lambda package v5.19.7 to address AWS ending support for Python 3.7 in AWS Lambda.

## 5.21 October 2023

- **Enhancement:** Google Chrome third party cookie support : Salesforce CTI Adapter v5.21 enables requests for third party cookies within Salesforce domains to support Amazon Connect. See [Amazon Connect third party cookie documentation](#) for further information.

## 5.20.1 July 2023

- **Enhancement:** Amazon Connect Streams API Upgrade : The Amazon Connect Streams API has been upgraded to version 2.2.0 for improved performance and functionality.
- **Enhancement:** CCP Element Editor Permission Change : For CCP Element Editor, editing features was previously available to users assigned to permission sets Agent (AC\_Agent), Manager (AC\_Manager), and Administrator (AC\_Administrator). Starting from this version, only users with the Administrator permission set (AC\_Administrator) will be able to view and edit feature. This change is designed to restrict modification access of CCP Overlay Elements.
- **Enhancement:** Chat Widget Integration Setup Process Changes: The setup process for Chat Widget Integration has been updated to enhance the integration experience and security.
- **Backward Incompatibility Notice:** Chat Widget Integration Update : Customers who have previously set up Chat Widget Integration will need to redo the setup process due to changes introduced in this version. This ensures compatibility with the latest enhancements. *Note: To avoid any downtime of feature, set up should be completed before upgrading the version*
- **Security:** Improved Amazon Connect Instance Security : Throttling mechanisms have been introduced to enhance the security of Amazon Connect Instances, ensuring a safer environment for users and their data.

## 5.19 April 2022

- **Enhancement:** replace call recording audio streaming via cloudfront distribution with the connect native get-recording endpoint. This change makes it so that the cloudfront infrastructure and associated setup process is no longer necessary. Please note that this change will remove audio recording infrastructure from your AWS account, please make sure to test this change before fully deploying.
- **Enhancement:** add IgnorePermissionSet setting to FEATURE\_WISDOM\_PANEL feature. The setting determines whether the AC\_CallRecording/AC\_Administrator permission set is checked before showing Wisdom to the logged in user.
- **Bug fix:** CTI Flows on contact events will fire after the page was reloaded during a contact's life cycle
- **Bug fix:** Fixed an issue where we would create a CCACase or CCAContact batch job even if there were no updates to any related fields.

## 5.18 January 2022

- **Bug Fix:** Updated the **Get Salesforce Contact ID** block to accept E.164 numbers.
- **Bug Fix:** Fixed **onMessage** event name and label which was causing CTI flows to not trigger.
- **Bug Fix:** Fixed stray template tag in `ac_contactChannelListView` causing Spring '22 package installation failure.
- **Bug Fix:** Deprecated `ac_PhoneCallListView` LWC, as it is an artifact of an old version of the adapter and was causing Spring '22 package installation failure.
- **Bug Fix:** Fixed issue where switching contact tabs didn't update the CCP overlay attributes.
- **Bug Fix:** Fixed issue where some `sfInvoke` operations were returning complex JSON objects that don't work with Connect Contact Flows

## 5.17 November 2021

- **Feature:** Added the integration with Wisdom, which delivers articles and article recommendations to agents. See [here](#) for more details.
- **Feature:** Added the integration with Voice id, which provides real-time caller authentication. See [here](#) for more details.
- **Bug Fix:** Fixed a bug where CTI Actions would only load if you switched overlay tabs. Now they will load immediately.
- **Bug Fix:** Fixed a few bugs with Contact Attributes Overlay.
  - Where you needed to set they would not populate in the overlay unless the CTI Attribute Name value was the same as the contact attribute key.
  - Selecting DisplayValue of `Key` did not show just the Key value.
  - When using the ShowAllAttributes feature, the already configured CTI Attributes did not maintain the same HTML formatting as before.
- **Bug Fix:** Fixed a bug where DialedNumber\_\_c was not filled on outbound calls.
- **Bug Fix:** Fixed a bug where Update Contact Attributes didn't work for Chat or Task contacts.
- **Bug Fix:** Fixed a bug where the CTI Flow payload would only contain the CTI Action Additional Data when both CTI Action Payload and Additional Data are configured. Now the CTI Flow payload will have both the CTI Action Payload and Additional Data
- **Enhancement:** Added two new CTI Flow Blocks - Destroy Live Contact and Clear Contact.

## 5.16 August 2021

- **Feature:** Added a `callIncomingDuration` field to the `Contact Interaction Metadata` CTI Flow block, which captures the time between the call coming into an agent and it being accepted/missed/declined.

- **Feature:** Moved the medialess popout page to be an optional feature. Learn how to enable it [here](#)
- **Bug Fix:** Fixed an issue where the `callInteractionDuration` would be too large if the call is missed. It is now defaulted to 0 if the call is not picked up.
- **Bug Fix:** Fixed an issue with the medialess adapter where media was still coming through the adapter and causing audio quality issues. Now, when the medialess option is checked, this will disable the `allowFramedSoftphone` option in CCP config, and media will not be sent through the CCP embedded on Salesforce.
- **Bug Fix:** Fixed an issue where Agents couldn't see some CTI Actions if more than 20 CTI Actions are set up. Now, a scroll bar should appear to navigate to all of them.
- **Bug Fix:** Fixed an issue with the `isInbound` CTI Flow block, which would return false if the Customer hangs up the error before the Agent could answer the call, even if it was inbound.
- **Bug Fix:** Fixed an issue with the `InitialAgentStatus` sub-feature of `SetAgentStatusOnSessionEnd`, which would not follow the `IfProfileNameIncludes` condition.
- **Bug Fix:** Fixed an issue with CCP overlay where if no additional data is added, including Title, Instructions and Fields, the right pointing caret icon will be displayed for detailed form view. Now the execute button will be displayed in this case.
- **Bug Fix:** Fixed an issue with CCP overlay where the order parameter was not affecting the sorting of the CTI Actions in the overlay.
- **Bug Fix:** Fixed an issue with the CCP Element Editor where typing the CTI Action name first caused the cursor to move out of the input box.
- **Bug Fix:** Fixed an issue with the Set Agent Salesforce State CTI Flow block.

## 5.15 July 2021

When installing v5.15, please **confirm that the application was installed for admins only** (see [installation](#) for more details). If you did this by accident, then you will have to [manually edit the profiles](#) to remove the permissions to the objects and pages created by the app.

- **Feature: Guided Setup** The Guided Setup feature helps make the setup process easier. See [Guided Setup](#) for more details.
- **Feature: Chat Widget Integration for SalesForce Experience Cloud(formerly Community Cloud)** Added VisualForce Page component that allows you to add Amazon Connect Chat Widget in your Salesforce Experience Cloud Site.
- **Enhancement:** Changed the default audio recording component in the Contact Channel Analytics for easier setup. See [Call Recording Playback](#) for more details.
- **Enhancement:** Created the `ExecuteAwsService` service for simpler communication between Salesforce and AWS. **WARNING:** If you are using Contact Lens for audio recording you *must* replace your existing `AwsGenerateAudioRecordingUrl` named credential with the `ExecuteAwsService` named credential. See [here](#) for more details.

- **Bug Fix:** Fixed an issue with the lambda package that caused Contact Lens Call Recording Streaming to be broken for redacted calls.
- **Bug Fix:** Fixed an issue that caused the "Clear All Properties" CTI Flow Block to clear properties important to the CTI adapter working.
- **Bug Fix:** Added the `DISCONNECT` field to the `Initiation Method` field in Contact Trace Records.

## 5.14 June 2021

- **BugFix:** Added batch processing to CCA Case Trigger and CCA Contact Trigger.
- **Bugfix:** The issue that caused an Attribute label to not display properly in the attributes panel has been fixed.
- **Bugfix:** The issue that caused AC Queue Metrics tab's name showing blank has been fixed.
- **Bugfix:** The issue that caused the Recording Panel button to fail when a url is used for connect instance alias has been fixed.
- **Enhancement:** We now make it possible for voicemail drops to work with queue callbacks.
- **Enhancement:** You can now configure the CT Action Recording Panel's initial state using contact attributes. If you're recording your call, make sure to add an attribute named `RECORDING_STARTED` whose value is `true` in your Contact Flow.
- **Enhancement:** We have added `IfCurrentAgentState` tag to `SetAgentStatusOnSessionEnd` feature, which allows customers to condition this feature on the Agent's current state.

## 5.13 April 2021

- **Feature: CTI Actions - programmable buttons within the CCP overlay**

In this release, we have added a feature called CTI Action which are programmable buttons for your CTI Flows. Each CTI Action is a button that can be programmed to trigger a CTI Flows whose source value is "CTI Action." In addition, CTI Actions can be programmed to ask the agent for additional information via a data entry form. You can use the agent's entry in your CTI Flow with the help of "Get Payload" block. This is a great way to ask your agents to enter ad-hoc data prior to running the CTI Flow to provide additional information as part of a workflow to automate case creation, or start a customer refund process. **If you are upgrading from a previous version of the CTI Adapter, please be sure to review the additional setup steps required for CTI Actions.**

- **Feature: CTI Actions: recording API integration within the CCP overlay**

The CTI Adapter now includes integration with Connect's recording API. This feature allows the agent to control when to start and stop recording a call. Once the recording has started, they can also pause and resume it. For example, agents can pause a recording before asking for sensitive information from your customers. Once the agent stops a recording, you cannot start it again. Use pause/resume buttons after you've started recording a call to control the recording.

- **Enhancement: Voicemail Drops (beta)**

The **beta Voicemail Drops** feature now integrates with CTI Actions. In the beta, voicemail drops were loaded directly into the CCP Overlay. As of 5.13, you will need to create a CTI Action, and use the newly added "Leave a Voicemail" block in the CTI Flow where you can configure the specific voicemail drop and the quick connect name to use for the voicemail.

- **Feature: CCP Overlay: Data panel to receive data from CTI Flows.**

You can now send data from a CTI Flow to the CCP Overlay. The Data panel on CCP Overlay will display any object you pass it from "Send Data to CCP Overlay" block.

- **Feature: CTI Flow Blocks: "Start Recording" and "Stop Recording"**

With "Start Recording" and "Stop Recording" blocks, you can control the voice recording of the call within your CTI Flows.

- **Feature: CTI Flow Block: "Update Contact Attributes"**

You can now update contract attributes using CTI Flows. This block accepts a list of key-value pairs and assigns them to the currently active contact. It may come handy for passing Case id and other important information to the next agent when transferring a call.

- **Feature: CTI Flow Block: "Get Payload"**

The `payload` object contains the arguments passed to the CTI Flow. Now you will be able to use "Get Payload" block to reference a payload key as an input in other blocks on your CTI Flow.

- **Feature: CTI Flow Block: "Send Data to CCP Overlay"**

This block allows you to send data to your agent from a CTI flow. The agent will see this information in the CCP Overlay in a panel entitled "Data."

- **Feature: CTI Flow Block: "Leave a Voicemail"**

This block works with the beta Voicemail Drops feature. When you configure the `voicemailDropName` and `quickConnectName`, it will pass the contact to an IVR to leave a voicemail on the agent's behalf.

- **Feature:** CTI Flow Block: "Get Salesforce Lead ID": This block allows you to get a Salesforce lead by using a phone number.
- **Enhancement:** "Get Salesforce Contact Id" block now uses FIND syntax to search across multiple fields.
- **BugFix:** For the `SetAgentStatusOnSessionEnd` feature, it would occasionally fail if the agent hadn't interacted with the webpage. We solve this by creating a popout to monitor the agent session.
- **Enhancement:** For the `SetAgentStatusOnSessionEnd` attribute, you can now specify multiple values.
- **Enhancement:** When `SetAgentStatusOnSessionEnd` feature is enabled, you can now configure which state the agent should be shown as when they login with the `InitialAgentState` setting.
- **Enhancement:** When `SetAgentStatusOnSessionEnd` feature is enabled, you can now configure which agent to logout when all tabs are closed by setting the Status to Logout.
- **Bugfix:** Addressed issue that caused CTI Flows to be run on every open Salesforce tab.
- **Bugfix:** Addressed an issue in "Get Salesforce Contact Id" block that caused the query to fail if the phone number was in E164 format.
- **Enhancement:** Added the `onDestroy` Event to certain CTI Flow Sources

## 5.12 March 2021

- **Feature:** Added custom setting which will allow customers to enable and disable non-essential triggers (They are disabled by default now). [More details in the troubleshooting section](#)
- **Bugfix:** Addressed additional trigger issue that prevented orgs with 200k+ CCA records from updating Case and Contact records.
- **Bugfix:** Addressed issue where AC Permission sets did not include the `CustomerEndpointAddress` field for the `ContactChannelAnalytics` object.
- **Bugfix:** Addressed issue where AC Permission sets did not include the `MedialessPopout` page.

## 5.11 March 2021

- **Bugfix:** Addressed trigger issue that prevented community and partner users from updating Contact and Case records.

## 5.10 February 2021

- **Feature:** Contact Control Panel (CCP) Audio Device settings option. Admins can toggle Phone type settings and the new [Audio Devices settings](#) for agents to see on their CCP. [Audio Device settings](#) allow the agents to choose audio devices for their speaker, microphone, and ringer.
- **Feature:** Custom Ringtone for chat. Admins can configure a custom ringtone for chat (separate from CCP) from the CTI Adapter configuration page.
- **Enhancement:** The Salesforce built-in Cross Site Request Forgery (CSRF) protection is enabled for Visualforce pages in the CTI Adapter package which improves organizational security to protect against cross site request forgeries.
- **Bugfix:** Decision blocks no longer requires both sockets to be connected.
- **Bugfix:** Click to Dial stopped working after first use until the agent refreshed the page.
- **Bugfix:** Error that prevented Contact Lens app resources from being hosted on a different domain than the Salesforce instance.
- **Bugfix:** Error that prevented Contact Lens app from displaying intermittently when Transcribe was enabled.
- **Bugfix:** Changed the logic for the IsContactTransfer CTI Flow Block which always returned true.
- **Bugfix:** Medialess popout not closing after Salesforce tabs are closed.
- **Bugfix:** Login window did not close automatically after logging into Connect.
- **Bugfix:** Unable to upgrade the package if the Case or Contact object contained encrypted fields.

## 5.9 December 2020

- **Feature:** Contact Lens Integration
- **Feature:** Tasks Integration - Added the Amazon Connect Task Contact as a source to CTI Flow in addition to Task specific events
- **Feature:** CTI Block - Is Task Contact? - Check if the contact is a task
- **Feature:** CTI Block - Create Task Contact - Creating a new task contact with certain inputs.
- **Feature:** CTI Block - Pop Task Contact's ReferenceUrls - Pop any reference urls that are related to the task contact
- Upgraded Salesforce API to v50.0.
- **Feature update:** If you have CCP open on multiple tabs, CTI Flows will be executed only on one of them. The execution will be performed on the current tab, by default. If the agent is currently looking at a different site, a random tab will be selected to perform the execution.
- **Enhancement:** \$User.ProfileId is now available through "userProfile" property.
- **Enhancement:** CTI Flow execution timeout window has been increased to 60 seconds.
- **Feature update:** When the CCP popout is opened, we now ask for a confirmation before refreshing or closing the tab that opened it. Note that if you do close the original tab, the pop out might also be

closed.

- **Bugfix:** Voicemail Drops feature has been fixed.
- **Bugfix:** CTI Flow "Open Subtab" block has been fixed.

## 5.7 November 2020

- **Feature:** Localization into 9 languages.
- **Feature:** Add callType to return fields of "Get Contact Properties" block
- **Feature:** Add formatted phone number to return fields of "Get Contact Properties" block
- **Feature:** Add script name to CTI flow definition file.
- **Feature:** Remove context from log outputs
- **Bugfix:** Return field of "Open Primary Tab" was value, not id, as specified. We now provide it in both `value` and `id` fields for backward compatibility.
- **Feature:** Make the error message shown when the execution runs too long more informative.
- **Feature:** Make sure the attributes overlay doesn't open automatically when CCP is opened.  
Documentation: "Create and pop that task" default flow is fixed.
- **Bugfix:** update return value of "Get Agent Configuration" block to match the documentation.
- **Feature:** Increase CTI Flow timeout to 10 seconds.
- **Bugfix:** remove the leading wildcard matcher in "Get Salesforce Contact Id" block query. The wildcard matcher caused performance issues with the query. Going forward make sure the phone number is an exact match to the one in file.
- **Bugfix:** Ensure "Join Strings" block does not ignore boolean false values.
- **Bugfix:** Ensure "Log to Console" block does not ignore boolean false values.
- **Feature:** Add uid field on top of the block on the canvas.
- **Bugfix:** Remove the loginWindow object from log output because it errors with "Cannot convert object to primitive value."
- **Bugfix:** ContactChannel object updates to new agent if previous agent rejected or missed a contact
- **Bugfix:** Changing status to logout now correctly logs agent out
- **Feature:** Rename "Enable Click to Dial?" to "Can Make Outbound Calls?".
- **Feature:** CTI Flow Block - math function - "Multiply"
- **Feature:** CTI Flow Block - math function - "Divide"
- **Feature:** CTI Flow Block - "Get Tab Object Map"
- **Feature:** CTI Flow Block - "Close Salesforce Tab"
- **Feature:** CTI Flow Block - "Delay"
- **Feature:** CTI Flow Block - "Get Primary Tab Ids"
- **Feature:** Improve browser log formatting.

- **Feature:** CTI Flow Block - "Get Tabs With Matching Url"
- **Feature:** *Update Connect agent status when all Salesforce tabs are closed:* You can set the agent status to a specific state if the SetAgentStatusOnSessionEnd feature is turned on and the agent's routing profile name includes the value of IfProfileNameIncludes setting, such as "On-Call." By default, the agent status is set to "Offline" if the feature is enabled and nothing is specified for IfProfileNameIncludes. If this feature is enabled, the agent will be automatically shown as available when they login to Salesforce and the CCP.
- **Feature:** CTI Flow Block - Length"
- **Feature:** CTI Flow Block - "Slice"
- **Feature:** CTI Flow Block - "Cast a Value to a Type"
- **Bugfix:** Agent is able to accept calls when Medialess is turned on.
- **Feature:** CTI Flow Block - "Get CCP Logs" Remove "Initialization" and "Browser" sources

## 5.5 October 2020

- **Feature:** CTI Flow Block - "Clear All Properties"
- **Feature:** CTI Flow Block - "Unset Property"
- **Feature:** CTI Flow Block - "Show All Attributes"
- **Bugfix:** Attributes panel can now display attributes of transferred contacts.

## 5.4 Late September 2020

- **Feature:** You can now provide additional ad-hoc fields to "Create a Task" block. (Note: the values of these fields don't have a lookup dropdown yet.)
- **Feature:** New CTI Block! - You can now create "counters" with the "Update Counter" and read the value of your counters using "Get Counter" block.
- **Feature:** You can now get the number of open tabs from `openAgentTabs` counter.
- **Feature:** You can now compare multiple things using "Is One Of?" block in CTI Flows.
- **Feature:** New CTI Block! - You can now extract a value from a complex value, such as an array or an object, using the "Extract Value" block. (This comes handy when you retrieve a Salesforce object.)
- **Feature:** New CTI Block! - You can use the Salesforce retrieve API to fetch a record from the server by id using "Retrieve Salesforce Record" block.
- **Feature:** New CTI Block! - You can use the "Get Salesforce Contact Id" to fetch the id of a Salesforce contact by its phone number.
- **Feature:** New CTI Block! - You can now show a window alert using "Alert" block.
- **Feature:** New CTI Block! - You can now use create a complex string using string templates and multiple variables with the help of "String Template" block.

- **Bugfix:** When a screenpop is "deferred," the CTI Block used to return an inexact match and the Id field in the return value of the block would be blank. This issue has been fixed in this release.
- **Bugfix:** Presence sync is working again. The current release also reduces the wait threshold between each presence sync update from 1 second to 100ms, i.e. co-occurring events won't get lost anymore (as much).
- **Bugfix:** The encoding issue affecting "SOQL Block" has been fixed. The single quotes in the SOQL query are no longer encoded as HTML entities.
- **Bugfix:** To access the return value of another block, power users use "magic strings," e.g. `\$.actions.<blockId>.results.<fieldName>`, but these strings used to be cleared in the UI when the block is selected on the canvas. This issue is now fixed.
- **Bugfix:** The spelling of `TaskSubtype` field in "Create a Task" block has been fixed. Your TaskSubtype won't get lost anymore.
- **Bugfix:** Call recording view for a Case has been fixed.
- **Bugfix:** "Is Contact Inbound?" block is working again.
- **Bugfix:** "Is Truthy?" block now works with boolean input values.
- **Bugfix:** Salesforce UI onNavigationChange event listener is working again.
- **Bugfix:** We now alert you to change your instance alias if you try to sign in with instance alias set to "default."

## 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>
- 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>
- 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 allowlist your Salesforce Visualforce domain within your Amazon Connect Approved Origins. 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 CTI Adapter and Salesforce Lambdas

### Amazon Connect Salesforce CTI Adapter Managed Package

The Amazon Connect CTI Adapter for Salesforce provides the core integration between the two platforms. It embeds the Amazon Connect Contact Control Panel into Salesforce which provides telephony control as well as access to event data coming from Amazon Connect. Using this adapter, you can configure screen pops based on customer data, automate contact center telephony functions like click-to-dial, and establish presence syncing rules for integration with Salesforce Omni-Channel. This is the base of the integration.

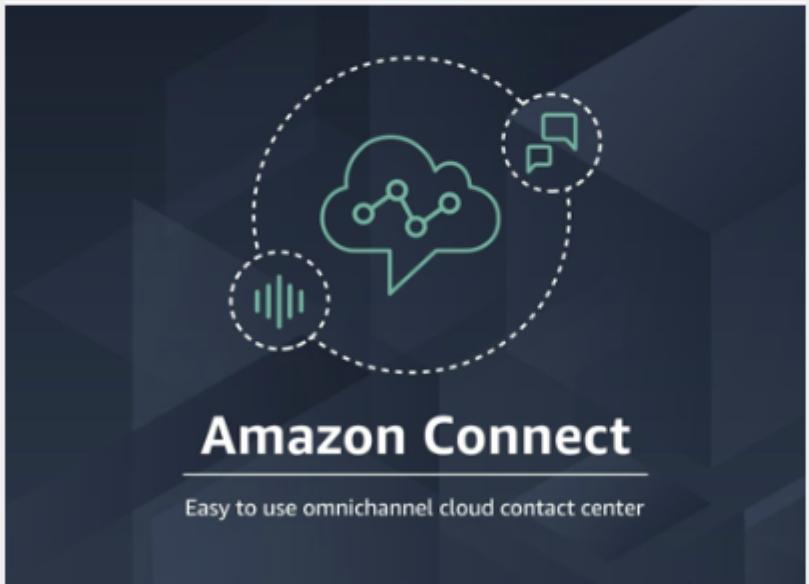
The first step in the deployment of the integration is to install the Amazon Connect CTI Adapter managed package from the AppExchange Marketplace.

1. Log in into your Salesforce org and go to **Setup**
2. In the **Quick Find**, type **AppExchange** (the results will populate without hitting enter)
3. Select **AppExchange Marketplace** from the links provided
4. In the AppExchange window, enter **Amazon Connect** into the **Search AppExchange** field and press enter
5. In the **Search Results**, select **Amazon Connect CTI Adapter**

[<> BACK](#)

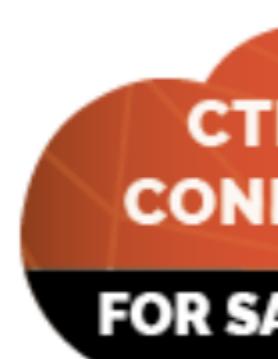
# Search Results for "amazon connect"

40 Apps · Sorted by Relevance



**Amazon Connect**  
Easy to use omnichannel cloud contact center

Amazon Connect CTI Adapter: ...  
(37)      FREE



CTI CONN  
FOR SA  
ON-PREMIS  
MS-TEAMS • A

CTI Data Conn  
(44)

6. On the **Amazon Connect CTI Adapter** detail page, select **Get It Now**

< BACK

## Amazon Connect CTI Adapter: CTI | Contact Center | IVR | ACD | Call Recording

by Amazon Web Services

Bring the Power of Intelligent CTI to Salesforce Service Cloud

The screenshot shows the AWS AppExchange product page for the Amazon Connect CTI Adapter. On the left, there's a sidebar with tabs for 'DETAILS', 'REVIEWS', and 'PROVIDER'. The main area features a video thumbnail showing a man speaking at a desk with a laptop, titled 'Amazon Connect CTI Adapter ...'. Below the video is the text 'Amazon Connect CTI Adapter for Salesforce Overview and Demo' and a series of small circular progress indicators. To the right of the video, there's a 'Free' badge, a detailed description of the adapter's features, and a 'Read More' link. At the bottom right of the main content area is a blue button with a downward arrow and the text 'Get It Now', which is highlighted with a red box.

7. If you are presented with the Log In to AppExchange screen, select **Open Login Screen**. You should then be presented with an Allow Access Screen. Choose **Allow**

The screenshot shows the 'Allow Access?' screen from the AppExchange login process. It features the Salesforce logo at the top. The main question 'Allow Access?' is centered. Below it, a box contains the message 'appexchange\_api is asking to:' followed by a list of permissions: 'Access your basic information'. Underneath, it asks 'Do you want to allow access for dougjaso+sfseorga@amazon.com? (Not you?)' with two buttons: 'Deny' and 'Allow'. The 'Allow' button is highlighted with a red box. At the bottom, there's a note: 'To revoke access at any time, go to your personal settings.'

8. On the **Where do you want to install Amazon Connect CTI Adapter** page, choose the **Install Here** button in the **Install in This Org** section

Where do you want to install Amazon Connect CTI Adapter: CTI | Contact Center | IVR | ACD | Call Recording?

Before you install in a production org, we recommend testing in a sandbox first.

Install in This Org

Get going in the org where you're logged in right now.

**Install Here**

Install in a Sandbox Org

Test in a copy of a production org.

**Install in Sandbox**

**Cancel**

9. On the **Confirm installation details** screen, fill out the **Tell us about yourself** form, check the box to **agree with the terms and conditions**, and optionally select the box to **allow the provider to contact you**. Then select **Confirm and Install**

I have read and agree to the [terms and conditions](#).

Salesforce.com Inc. is not the provider of this application but has conducted a limited security review. Please [click here](#) for detailed information on what is and is not included in this review.

Allow the provider to contact me by email, phone, or SMS about other products or services I might like

**Cancel**

**Confirm and Install**

10. Select **Install for Admins Only**, then choose **Install**. **THIS SELECTION IS VERY IMPORTANT** - if you select the wrong option, then standard users may have access to objects and pages that they shouldn't have access to.



## Install Amazon Connect - Universal Package

By

Install for Admins Only

Install for All Users

Install for Specific Profiles...

**Install**

**Cancel**

11. The CTI Adapter will take some time to install. While it installs, you will be presented with the **This app is taking a long time to install screen**.

12. Choose **Done**.

## aws Install Amazon Connect CTI Adapter: CTI | Contact Center | IVR | ACD | Call Recording

By Amazon Web Services



**This app is taking a long time to install.**

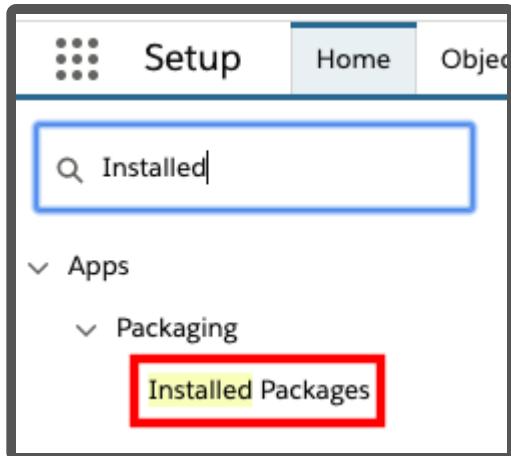
You will receive an email after the installation has completed.

**Done**

13. Once you receive confirmation that the **installation has completed** via email, return to the browser

14. Close the **Amazon Connect CTI Adapter** detail page (if still open)

15. In Quick Find, enter **Installed**, then select Installed Packages from the result



16. Once the **Installed Packages** page opens, validate that the **Amazon Connect -- Universal Package** is installed

The screenshot shows the 'Installed Packages' page in the Salesforce Setup interface. The page title is 'Installed Packages'. It includes a brief introduction about AppExchange and links to 'Help for this Page' and 'Visit AppExchange'. A table lists the installed package, showing details like Publisher (Amazon AWS), Version Number (4.2), Namespace Prefix (amazonconnect), Install Date (5/21/2020, 10:42 PM), and Status (Passed). The package name is 'Amazon Connect - Universal Package'.

Action	Package Name	Publisher	Version Number	Namespace Prefix	Install Date	Limits	Apps	Tabs	Objects	AppExchange Ready
Uninstall	Amazon Connect - Universal Package	Amazon AWS	4.2	amazonconnect	5/21/2020, 10:42 PM		0	5	20	Passed

## Amazon Connect Salesforce Lambda package

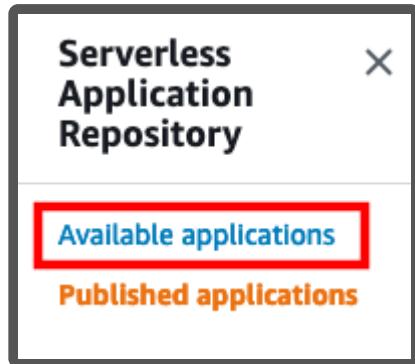
The Amazon Connect Salesforce Lambda package adds considerable capability to the integration. It includes data connectivity between Amazon Connect and Salesforce for typical tasks like lookups, case creation, and updates. Additionally, it adds new features like real-time and historical data imports, contact trace record imports, recording import, transcription, and contact analytics functions. These capabilities are configurable and can be activated or deactivated on a call-by-call basis.

The Amazon Connect Salesforce Lambda package is delivered via the 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.

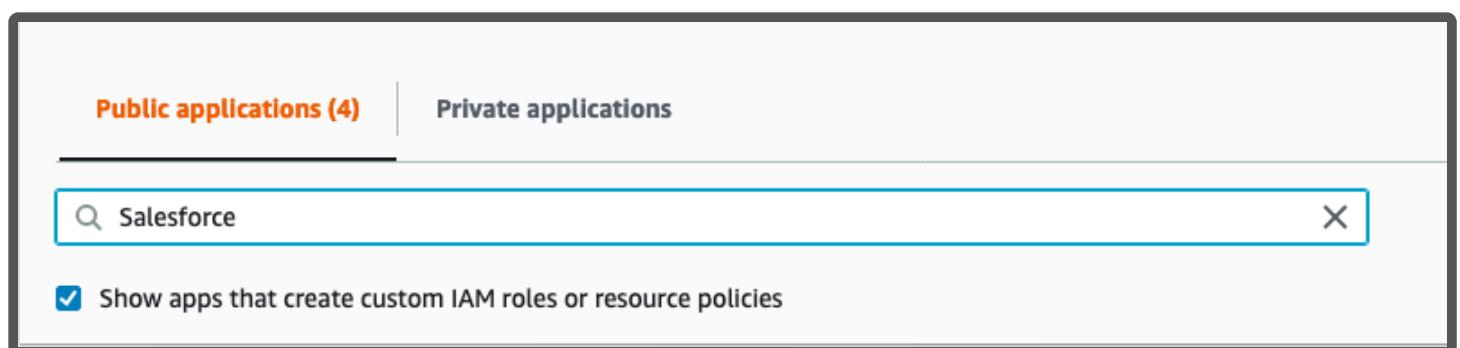
1. In a new browser tab, login to the [AWS console](#)
2. Make sure you are in the same region as your Amazon Connect instance
3. Once you have selected the region, navigate to the [Amazon Connect Console](#)
4. Verify that the Amazon Connect instance that you wish to configure is listed

5. Once you have verified your Amazon Connect instance, Open the [Serverless Application Repository Console](#)

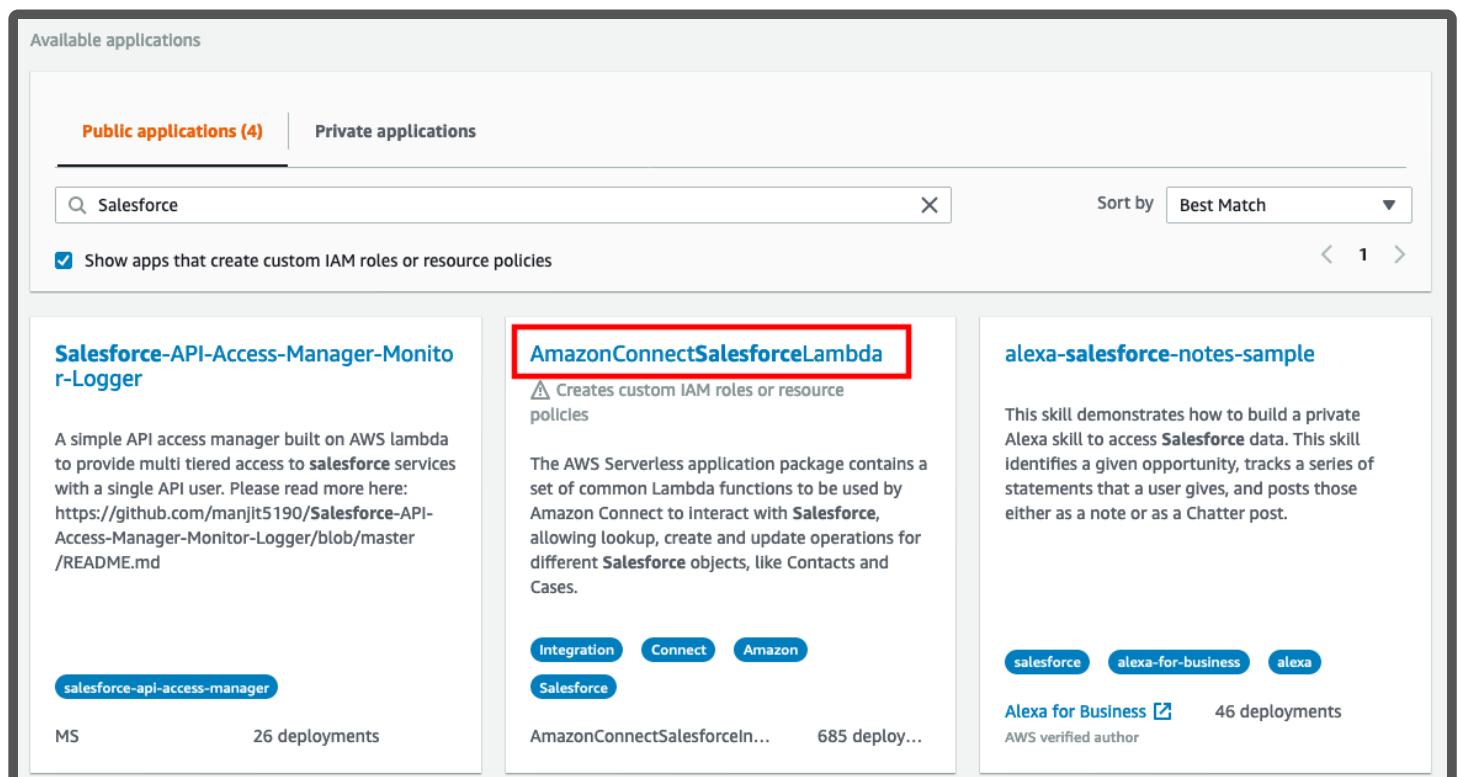
6. In the left navigation, select **Available Applications**



7. In the search area, make sure that **Public applications** is selected, check the box for **Show apps that create custom IAM roles or resource policies**, and enter **Salesforce** in the search field, this will automatically filter the available packages



8. Select **AmazonConnectSalesForceLambda**



9. When the Application loads, scroll down to the **Application settings** section

10. If you would like to use the Guided Setup feature, **don't change any parameters in the template** and select **Deploy**, and wait for the stack to finish deployment. Then, follow the section below on setting up the ExecuteAwsService named credential. If you are not using the Guided Setup feature, navigate to [here](#) and follow the instructions (skipping the rest of the instructions on the page).

### Deployment status for serverlessrepo-SFConsolidatedLambdaPackage

[Create a new app](#) [Test app](#)

Your application has been deployed  
Review the application's README for what to do next.

Permissions Resources [View CloudFormation Stack](#)

## Setting up the ExecuteAwsService Named Credential

The ExecuteAwsService Named Credential is the entrypoint for the CTI Adapter to communicate with your AWS account. The Apex code uses the Named Credential to call the `sfExecuteAwsService.py` lambda, which uses boto3 to make changes in and retrieve data from your AWS account. Setting up this Named Credential is **not required** if you do not wish to use the features that rely on it (Guided Setup and Contact Lens). In addition, you can alter the permissions given to the `sfExecuteAwsService` lambda to match your security requirements (NOTE: if you choose to do so, do so after you configure up the lambdas as some permissions are added/removed based on how the lambdas are configured).

Before you create the ExecuteAwsService Named Credential, **confirm that the application was installed for admins only**. If not, then standard users may be able to invoke methods that call named credentials. If you did this by accident, then you will have to [manually edit the profiles](#) to remove the permissions to the objects and pages created by the app.

### Install Amazon Connect - Universal Package

By

Install for Admins Only  Install for All Users  Install for Specific Profiles...

[Install](#) [Cancel](#)

1. Navigate to the IAM console in your AWS account, select the **Users** tab, and select **Add Users** to create a new user.

The screenshot shows the AWS Identity and Access Management (IAM) console. On the left, there's a sidebar with options like Dashboard, Access management, User groups, **Users**, Roles, Policies, and Identity providers. The main area is titled 'IAM users (7) Info' and contains a table with columns for User name, Groups, Last activity, MFA, and Console last sign-in. A search bar and pagination controls are also present. At the top right, there are 'Delete' and 'Add users' buttons, with 'Add users' being highlighted by a red box.

2. Give your IAM user a name (like `sfExecuteAwsServiceIamUser`). For the Access type, select **Programmatic access**. Click Next.

3. Select **Attach existing policies directly**, then search for and select `invokeSfExecuteAWSServicePolicy`.

The screenshot shows the 'Add user' wizard at step 2, 'Set permissions'. It has five tabs at the top: 1, 2 (highlighted in blue), 3, 4, and 5. Below the tabs, there are three options: 'Add user to group', 'Copy permissions from existing user', and 'Attach existing policies directly', which is highlighted with a blue box. A 'Create policy' button is also visible. Below these, a search bar shows 'sfexecute' and a results table with one item: 'sfexecute' (Policy name), 'Customer managed' (Type), and 'None' (Used as). The table has columns for Policy name, Type, and Used as.

4. Click next until the user is created. In the final screen, copy down the **Access Key ID** and the **Secret Access Key**.

The screenshot shows the final step of the 'Add user' wizard. It displays two large input fields: 'Access key ID' and 'Secret access key', both of which are heavily redacted with orange bars. Between the fields is a small icon of two overlapping squares.

5. Next, navigate to the Lambda Console. In the functions tab, search for `sfExecuteAWSService`.

Functions (36)		Last fetched 20 seconds ago	C	Actions	Create function
<input type="text"/> Filter by tags and attributes or search by keyword				2 matches	< 1 >
"sfExecuteAWSService"		<input type="button" value="Clear filters"/>			
Function name	Description	Runtime	Code size	Last modified	
-sfExecuteAWSService-		Python 3.7	3.8 MB	22 days ago	

6. Copy down the name of the function. Make sure you are not copying any extra characters.

7. Navigate to your setup section of your Salesforce instance, and search for *Named Credentials*.

The screenshot shows the Salesforce Setup interface. The top navigation bar includes a blue cloud icon, the word "Setup", and tabs for "Home" and "Object Manager". A search bar says "Search Setup". On the left, there's a sidebar with a search field containing "named cr" and a "Security" section with a "Named Credentials" link that is highlighted with a yellow underline. The main content area has a blue header "SETUP Named Credentials". Below it, a large heading says "Named Credentials" and a subtext says "A named credential specifies a callout endpoint and its required authentication parameters". There are "View:" dropdown and "Create New View" buttons. At the bottom right of the main content area, a button labeled "New Named Credential" is highlighted with a red rectangle.

8. Select **New Named Credential**. For the values in the next screen, enter the following:

- **Label:** ExecuteAwsService
- **URL:** `https://lambda.{insert AWS region}.amazonaws.com/2015-03-31/functions/{insert lambda function name (copied above)}/invocations`
- **Identity Type:** Named Principle
- **Authentication Protocol:** AWS Signature Version 4
- **AWS Access Key ID:** Access Key ID copied above
- **AWS Secret Access Key:** Secret Access Key
- **AWS Region:** {insert AWS region}
- **AWS Service:** lambda

**Save** **Cancel**

<b>Label</b>	<input type="text" value="ExecuteAwsService"/>
<b>Name</b>	<input type="text" value="ExecuteAwsService"/>
<b>URL</b>	<input type="text" value="https://lambda.us-west-2.amazonaws.com/2015-03-31/functions/XXXXXXXXXXsfExecuteAWSservice-1XXXXXXXXXX3/invocations"/>

**▼ Authentication**

<b>Certificate</b>	<input type="text"/>
<b>Identity Type</b>	<input type="text" value="Named Principal"/>
<b>Authentication Protocol</b>	<input type="text" value="AWS Signature Version 4"/>
<b>AWS Access Key ID</b>	<input type="text"/>
<b>AWS Secret Access Key</b>	<input type="text" value="....."/>
<b>AWS Region</b>	<input type="text" value="us-west-2"/>
<b>AWS Service</b>	<input type="text" value="lambda"/>

9. Click **Save**.

After following the above instructions, follow [these instructions](#) to navigate to the Guided Setup feature.

## Setting Up The CTI Adapter Using Guided Setup

**Guided Setup**

<b>Provision Amazon Connect Instance?</b>	<input type="checkbox"/>
This setting will provision an Amazon Connect instance in your AWS account. You cannot provision an instance the same time you configure the Adapter or the Lambdas.	
<b>Set up Amazon Connect Salesforce CTI Adapter?</b>	<input type="checkbox"/>
This setting will configure the Salesforce CTI Adapter in your Salesforce instance.	
<b>Set up Amazon Connect Salesforce Lambdas?</b>	<input type="checkbox"/>
This setting will help you set up the Amazon Connect Salesforce Lambdas in your AWS account.	

**Next**

In order to navigate to the Guided Setup feature, perform the following steps (NOTE: If you are not an admin user then you must first add yourself to the AC\_Administrator permission set, see [here](#) for more details):

1. Navigate to the Setup section in your Salesforce instance.
2. Search for Visualforce Pages, and select **AC\_GuidedSetup**.
3. Select **Preview**.

# Guided Setup Prerequisites

The below sections are linked to from the Guided Setup feature. Only perform the below steps when the Guided Setup feature links to them.

## Create Named Credential

See [here](#) for instructions on setting up the Named Credential.

## Create Connected App

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 'Apps' section of the Salesforce setup. It lists various standard apps with their descriptions. The 'Sample Console' app is selected, indicated by a checkmark in its 'Edit' column. Other apps listed include App Launcher, Community, Content, Marketing, Platform, Sales, and Site.com. The interface includes buttons for 'Quick Start', 'New', and 'Reorder' at the top right, and 'Help for this Page' at the top right corner.

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.

The screenshot shows the 'New Connected App' form. The 'Basic Information' tab is selected. The 'Connected App Name' field contains 'Amazon Connect Integration'. The 'API Name' field contains 'Amazon\_Connect\_Integration'. The 'Contact Email' field is empty. At the top right of the form are 'Save' and 'Cancel' buttons.

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

The screenshot shows a section titled "API (Enable OAuth Settings)". Below it is a checkbox labeled "Enable OAuth Settings" which is checked. The entire section is highlighted with a red border.

6. Set the **Callback URL** to your domain url. Find the domain at *Setup -> My Domain*.

The screenshot shows the same "API (Enable OAuth Settings)" screen. The "Callback URL" field contains the value "https://[REDACTED].my.salesforce.com". The entire section is highlighted with a red border.

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

a. Access the identity URL service (id, profile, email, address, phone)

b. Manage user data via APIs (api)

8. Select the checkbox "Require Secret for Web Server Flow", and the checkbox "Require Secret For Refresh Token Flow"

The screenshot shows the "API (Enable OAuth Settings)" screen with the "Selected OAuth Scopes" section expanded. It lists several available OAuth scopes, including "Access Analytics REST API Charts Geodata resources (eclair\_api)", "Access Analytics REST API resources (wave\_api)", "Access Connect REST API resources (chatter\_api)", "Access Lightning applications (lightning)", "Access Visualforce applications (visualforce)", "Access chatbot services (chatbot\_api)", "Access content resources (content)", "Access custom permissions (custom\_permissions)", "Access unique user identifiers (openid)", and "Full access (full)". Two specific scopes are selected: "Access the identity URL service (id, profile, email, address, phone)" and "Manage user data via APIs (api)". These selected scopes are highlighted with a red border. The "Selected OAuth Scopes" section also includes "Add" and "Remove" buttons. Other configuration options like "Require Secret for Web Server Flow" and "Require Secret for Refresh Token Flow" are also visible.

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

10. Click "Continue" on the next screen

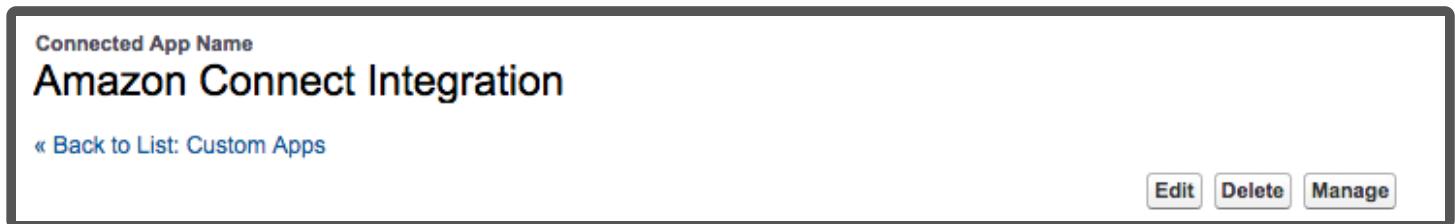
The screenshot shows a confirmation message: "New Connected App" and "Allow from 2-10 minutes for your changes to take effect on the server before using the connected app." At the bottom right are "Continue" and "Cancel" buttons.

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



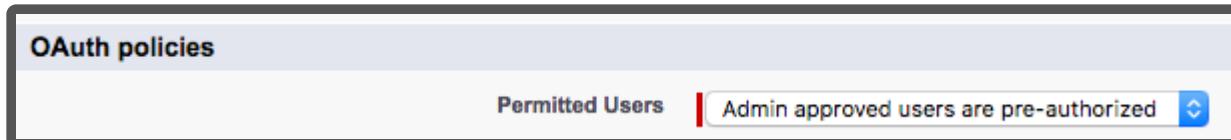
12. Select "Click to reveal" next to Consumer Secret and record this value to "Consumer Secret" in your installation notes.

13. Click "Manage" at the top of the page

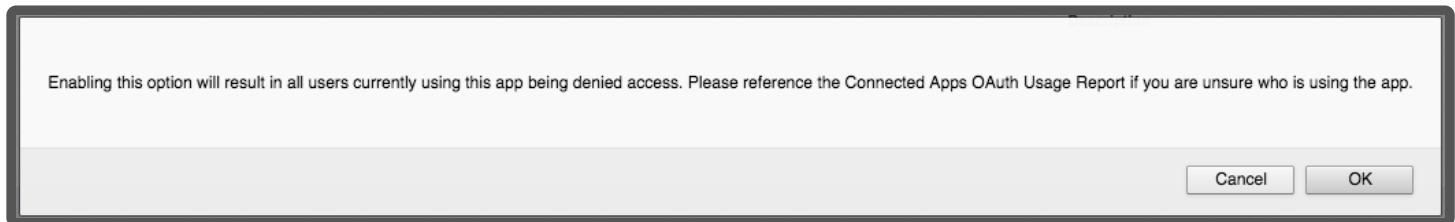


14. On the page that appears, click "Edit Policies"

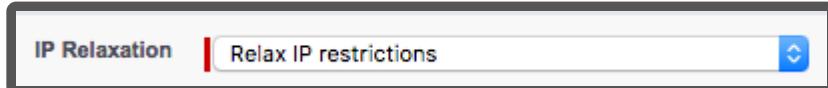
15. Set "Permitted Users" to "Admin approved users are pre-authorized"



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



17. Set "IP Relaxation" to "Relax IP restrictions"



18. Click "Save"

## Guided Setup Additional Instructions

The below sections are linked to from the Guided Setup feature. Only perform the below steps when the Guided Setup feature links to them.

### Retrieve Amazon Connect Instance Url

1. Navigate to the [Amazon Connect Console](#)

2. Select your Instance Alias
3. On the Overview page for your instance, copy the Login URL (if your Amazon Connect instance uses the `https://(instancename).awsapps.com/connect/login` domain, then remove everything after ".com"):

## Account overview

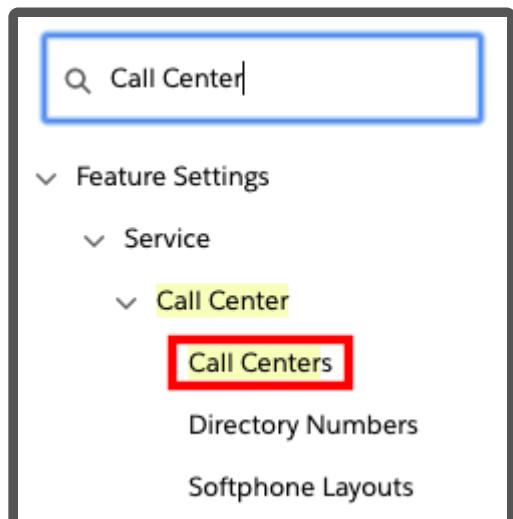
### Access information

Access URL

<https://guidedsetuptest-instance-w3dgh2.my.connect.aws>

## Add users to the Call Center

1. Log in into your Salesforce org and go to **Setup**
2. In the **Quick Find** field, enter **Call Center**, then select **Call Centers** from the result list



3. If you see the **Say Hello to Salesforce Call Center** page, select **Continue**
4. Select **AC Lightning Adapter**

# All Call Centers

A call center corresponds to a single computer-telephony integration (CTI) system already in place. Call Center features.

Action	Name ↑
Edit   Del	<a href="#">AC Lightning Adapter</a>
Edit   Del	<a href="#">Amazon Connect CCP Adapter Classic 3.11</a>
Edit   Del	<a href="#">Amazon Connect CCP Adapter Console 3.11</a>

5. On the **AC Lightning Adapter** detail page, select **Edit**
6. On the **AC Lightning Adapter: Manage Users** page, select **Add More Users**.
7. Set filters (if desired) and then choose **Find**.
8. Select the checkbox next to the user to add, then choose **Add to Call Center**.

Full Name	Alias	Username	Role	Profile
<input checked="" type="checkbox"/> Douglas-Jason	JDoog	[REDACTED]	System Administrator	
<input type="checkbox"/> User_Integration	Integ	integration@00d59000004zmvseak.com	Analytics Cloud Integration User	
<input type="checkbox"/> User_Security	sec	insightssecurity@00d59000004zmvseak.com	Analytics Cloud Security User	

9. Repeat the steps to add more users.

## Add users to a Permission Set

All users must be assigned the required permission set to access Salesforce metadata. The Amazon Connect CTI Adapter includes Permission Sets-- one for agents, one for managers, one for administrators, and a few for specific features, that grant users the appropriate access for their role. More information on assigning user permissions can be found in the [Salesforce help documentation](#).

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

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.
<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](https://help.salesforce.com/articleView?id=perm_sets_mass_assign.htm&type=5)

## AC\_Administrator

Object Name	Object Permissions	Total Fields	Tab Settings
AC Agent Performance	Read, Create, Edit, Delete, View All, Modify All	124	--
AC CCP Overlay Elements	No Access	9	--
AC Contact Channel Analytics	Read, Create, Edit, Delete, View All, Modify All	31	Visible
AC Contact Channels	Read, Create, Edit, Delete, View All, Modify All	24	--
AC Contact Trace Records	Read, Create, Edit, Delete, View All, Modify All	50	Visible
Accounts	No Access	25	--
AC CTI Adapters	Read, Create, Edit, Delete, View All, Modify All	22	Visible
AC CTI Attributes	Read, Create, Edit, Delete, View All, Modify All	11	--
AC CTI Scripts	Read, Create, Edit, Delete, View All, Modify All	10	--
AC Events	No Access	--	--
AC Features	Read, Create, Edit, Delete, View All, Modify All	6	--
AC Guided Setup	--	--	Visible
AC Historical Queue Metrics	Read, Create, Edit, Delete, View All, Modify All	119	--
AC Phone Calls	No Access	22	--
AC Presence Sync Rules	Read, Create, Edit, Delete, View All, Modify All	13	--
AC QueueMatrices	No Access	16	--
AC Queue Metric Events	No Access	--	--
AC Queue Metrics	--	--	Visible
AC Real Time Queue Metrics	Read, Create, Edit, Delete, View All, Modify All	16	--
AC Voice Id Channel	Read, Create, Edit, Delete, View All, Modify All	15	--
AC Voicemail Drops	Read, Create, Edit, Delete, View All, Modify All	10	Visible
AC Wisdom	--	--	Visible

## AC\_Manager

Object Name	Object Permissions	Total Fields	Tab Settings
AC Agent Performance	Read, View All	124	--
AC CCP Overlay Elements	No Access	9	--
AC Contact Channel Analytics	Read, Create, Edit, Delete, View All, Modify All	31	Visible
AC Contact Channels	Read, Create, Edit, View All	24	--
AC Contact Trace Records	Read, Create, Edit, Delete, View All, Modify All	50	--
Accounts	No Access	25	--
AC CTI Adapters	Read	22	Visible
AC CTI Attributes	Read	11	--
AC CTI Scripts	Read	10	--
AC Events	Read, Create	--	--
AC Features	Read	6	--
AC Guided Setup	--	--	--
AC Historical Queue Metrics	Read, View All	119	--
AC Phone Calls	No Access	22	--
AC Presence Sync Rules	Read, View All	13	--
AC QueueMatrices	No Access	16	--
AC Queue Metric Events	No Access	--	--
AC Queue Metrics	Read	--	--
AC Real Time Queue Metrics	Read, View All	16	--
AC Voice Id Channel	Read, Create, Edit, Delete, View All, Modify All	15	--
AC Voicemail Drops	Read, Create, Edit, Delete	10	Available
AC Wisdom	--	--	--

## AC\_Agent

Object Name	Object Permissions	Total Fields	Tab Settings
AC Agent Performance	Read	124	--
AC CCP Overlay Elements	No Access	9	--
AC Contact Channel Analytics	Read, View All	31	Visible
AC Contact Channels	Read, Create, Edit, View All	24	--
AC Contact Trace Records	Read, Edit, View All	50	--
Accounts	No Access	25	--
AC CTI Adapters	Read	22	--
AC CTI Attributes	Read	11	--
AC CTI Scripts	Read	10	--
AC Events	Read, Create	--	--
AC Features	Read	6	--
AC Guided Setup	--	--	--
AC Historical Queue Metrics	Read	119	--
AC Phone Calls	No Access	22	--
AC Presence Sync Rules	Read, View All	13	--
AC QueueMatrices	No Access	16	--
AC Queue Metric Events	Read	--	--
AC Queue Metrics	--	--	Visible
AC Real Time Queue Metrics	No Access	16	--
AC Voice Id Channel	Read, Create, Edit, Delete, View All, Modify All	15	--
AC Voicemail Drops	Read, Create, Edit, Delete	10	--
AC Wisdom	--	--	--

## Create the Softphone Layout

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

The screenshot shows the Salesforce Setup interface. In the left sidebar, under 'Feature Settings' > 'Service' > 'Call Center', the 'Softphone Layouts' option is selected and highlighted with a blue border. The main content area is titled 'Softphone Layouts' and contains a brief description: '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.' Below the description is a table with columns: Name, Default, Created By Alias, Created Date, Last Modified By Alias, and Last Modified Date. A single row is listed: 'No records to display.'

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

2. Choose **New**.

The screenshot shows the 'Softphone Layout Edit' page. At the top, there are 'Save' and 'Cancel' buttons. Below them is a 'Name' input field with a red border and a 'Default Layout' checkbox. 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: 'If single Account found, display: Account Name', 'If single Contact found, display: Name', and 'If single Lead found, display: Name'. Each section includes a note about display behavior in Lightning Experience. On the right side of the page, there are 'Edit' and 'Add / Remove Objects' buttons.

3. 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

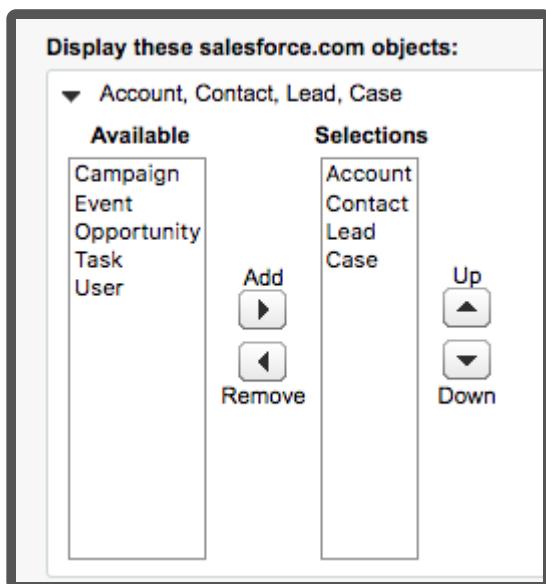
[Save](#) [Cancel](#)

Name

AmazonConnectDefault

Is Default Layout

4. 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.



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

► If single Account found, display: Account Name If multiple matches are found, only the Account Name is displayed in Salesforce Classic. In Lightning Experience, all the selected fields are displayed.	<a href="#">Edit</a>
► If single Contact found, display: Name If multiple matches are found, only the Name is displayed in Salesforce Classic. In Lightning Experience, all the selected fields are displayed.	<a href="#">Edit</a>
► If single Lead found, display: Name If multiple matches are found, only the Name is displayed in Salesforce Classic. In Lightning Experience, all the selected fields are displayed.	<a href="#">Edit</a>
► If single Case found, display: Case Number If multiple matches are found, only the Case Number is displayed in Salesforce Classic. In Lightning Experience, all the selected fields are displayed.	<a href="#">Edit</a>

6. 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

[Save](#) [Cancel](#)

Name

AmazonConnectDefault

Is Default Layout

## Softphone Layouts

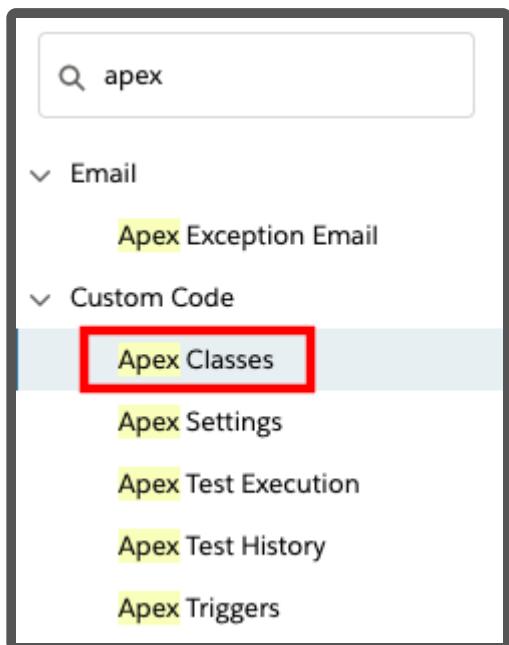
A softphone is a customizable call control tool that appears in the sidebar of every salesforce.com page if a user is assigned to a call center and is working on a machine on which a CTI adapter has been installed. Similar to page layouts, you can create custom softphone layouts and assign them to call center users based on their user profile.

New [Softphone Layout Assignment](#)

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

## Retrieve the Salesforce API Version

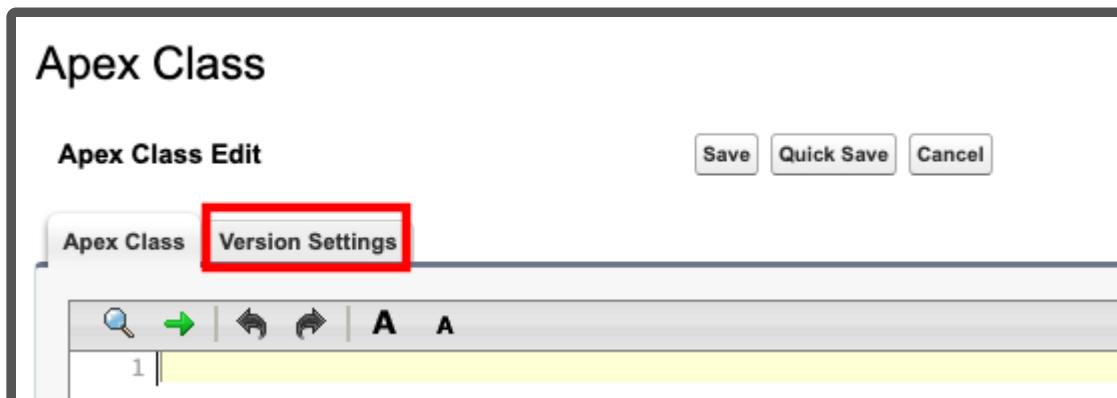
1. Log in into your Salesforce org and go to **Setup**
2. In the **Quick Find** field, type **apex**, then select **Apex Classes** from the results



3. Select New



4. Select the Version Settings tab



5. Note the Salesforce.com API version in your notepad. The pattern of this value is `vXX.X`.

# Apex Class

## Apex Class Edit

Save Quick Save Cancel

Apex Class Version Settings

Name	Version
Salesforce.com API	47.0
Amazon Connect - Universal Package	4.2

## Setting up the Salesforce API User

The Lambda functions authenticate with Salesforce via user credentials. It is a common practice to create an API user account for this purpose.

1. Log in to Salesforce
2. Navigate to Setup > Manage Users > Profiles
3. Click "New Profile"
4. Enter the Profile Name (i.e. "API Only")
5. 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.

6. 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 ✓

7. Once the new profile page opens, select the **System Permissions** button

**System**

**System Permissions**  
Permissions to perform actions that affect the entire system

8. If the Lightning Experience User checkbox is selected, clear it

Lightning Experience User

9. Save the system permissions, then go back to Profile Overview

10. Select the *Password Policies* link, click edit

**System**

**System Permissions**  
Permissions to perform actions that affect the entire system

**Login Hours**  
Settings that control when users can log in

**Login IP Ranges**  
Settings that control the IP addresses from which users can log in

**Service Providers**  
Permissions that let users switch to different service providers

**Session Settings**  
Settings that control required session settings

**Password Policies**  
Profile Based password policies

**Default Experience**  
Setting for assigning a default community experience

**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](#)

11. Set **User password expire in** to **Never expires** **NOTE:** Failure to do 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"/> <a href="#">i</a>

12. Select **Save**

13. Navigate to Setup > Manage Apps > Connected Apps

14. 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**

Allow users to install canvas personal apps [Edit](#)

View: All [Create New View](#)

Action	Master Label ↑
Edit	<a href="#">Amazon Connect Integration</a>

15. Click "Manage Profiles"

**Profiles**

[Manage Profiles](#)

No profiles associated with this app.

16. 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"/>	<a href="#">Analytics Cloud Integration User</a>
<input type="checkbox"/>	<a href="#">Analytics Cloud Security User</a>
<input checked="" type="checkbox"/>	<a href="#">API Only</a>

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

18. Navigate to Setup > Manage Users > Users

19. 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](#)

Action Full Name ↑

Alias

Username

20. 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"/> <a href="#">i</a>
Title	<input type="text"/>
Company	<input type="text"/>
Department	<input type="text"/>
Division	<input type="text"/>

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

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

22. Click "Save"

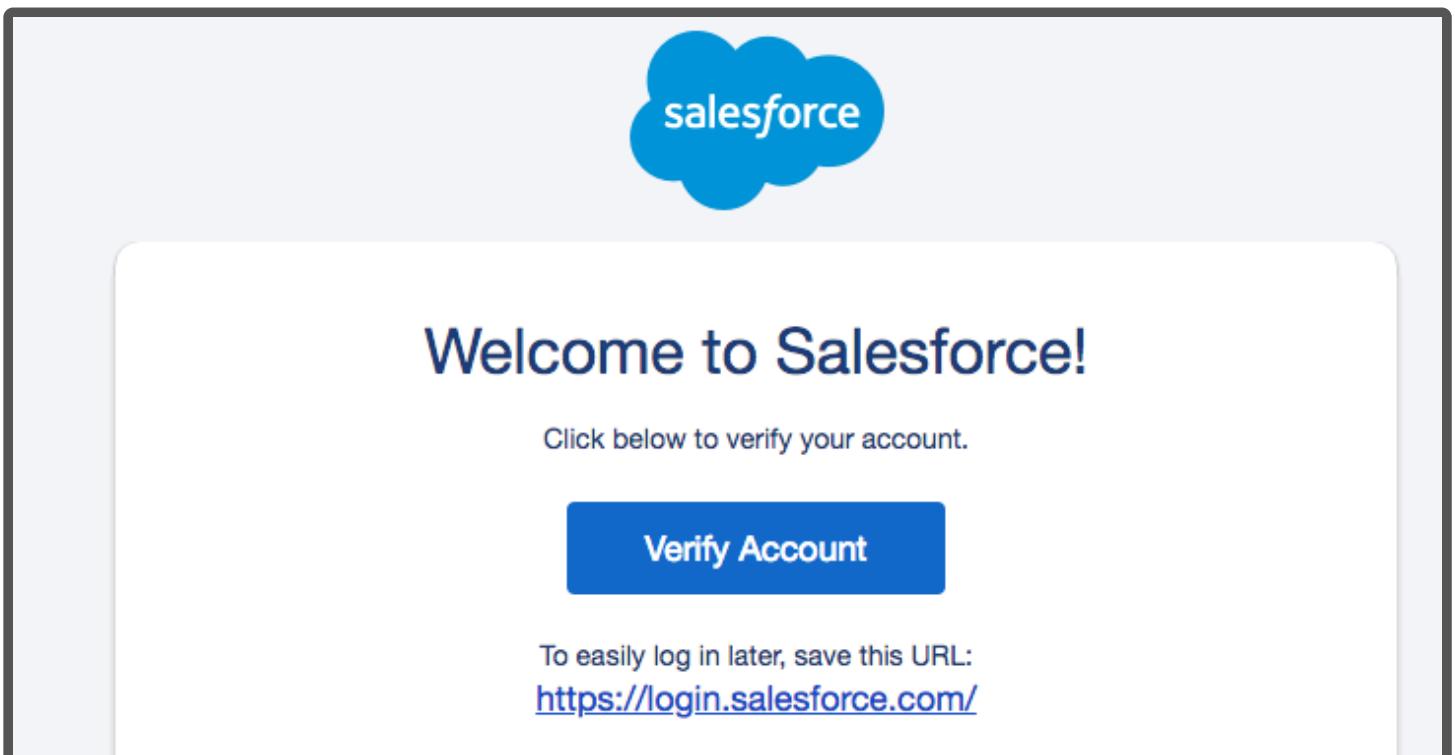
23. In **Quick Find**, search for "Permission Sets". Select the **AC\_Administrator** permission set.

The screenshot shows the Salesforce Setup interface. The left sidebar has sections for Users (Permission Set Groups, **Permission Sets**), Custom Code, and Global Search. The main area is titled "Permission Sets" and contains a table of permission sets. One row, "AC\_Administrator", is selected and highlighted with a red box. The table columns are Action, Permission Set Label, and Description.

Action	Permission Set Label	Description
<input type="checkbox"/> Clone	AC_Administrator	Allows the user to configure Amazon Connect setup and provides ...
<input type="checkbox"/> Clone	AC_Agent	
<input type="checkbox"/> Clone	AC_CallRecording	
<input type="checkbox"/> Clone	AC_Manager	

24. Select **Manage Assignments**. Add the apiuser you just created to the permission set.

25. 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@acsfdcdryrun.com.

Your password must have at least:

- 8 characters
- 1 letter
- 1 number

\* New Password

|

\* Confirm New Password

Security Question

▼ In what city were you born?

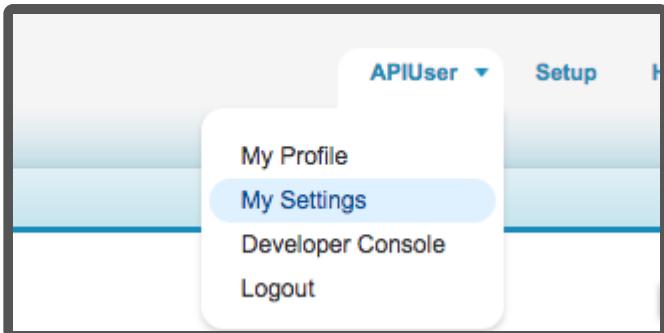
\* Answer

Change Password

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

26. Click "Change Password"

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



28. 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, you must reset your security token.

 After you reset your token, you can't use your old token in API applications and desktop clients.

**Reset Security Token**

29. Your security token will be emailed to you

### Reset My Security Token

### Check Your Email

 We sent a new security token to the email address for your account.

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

## Allowing the API user to authenticate using password

The api user created above authenticates using username-password flow in Salesforce. This flow needs to be unblocked and to do that, go to **Setup** and in the Quick Find box, search for **OAuth and OpenID Connect Settings**. After that, make sure that the toggles for **Allow OAuth Username-Password Flows** and **Allow OAuth User-Agent Flows** are turned ON, as shown in below image.



SETUP

## OAuth and OpenID Connect Settings

### OAuth and OpenID Connect Flows

Control which OAuth 2.0 and OpenID Connect flows your connected apps can use. These settings affect your entire org. Username-password flows are blocked by default in orgs created in Summer '23 or later. Blocking a flow can break managed packages, mobile apps, and other integrations that use the flow. We recommend testing changes in a sandbox before implementing in production.

Allow OAuth Username-Password Flows

On

Allow OAuth User-Agent Flows

On

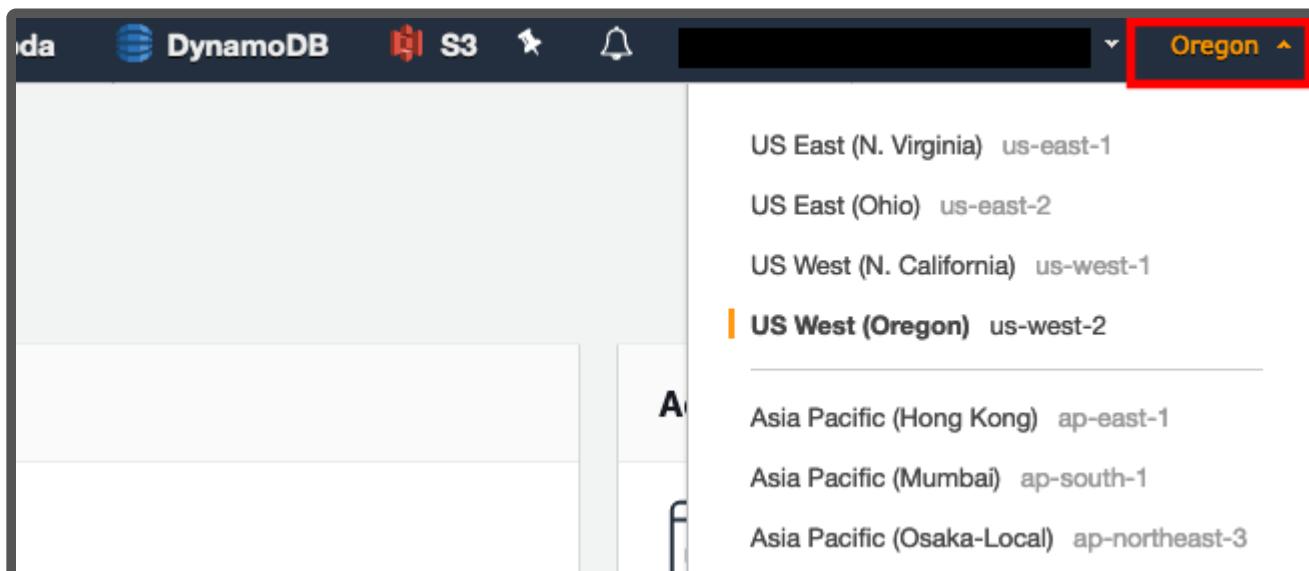
Allow Authorization Code and Credentials Flows

Off

## Setting up the SecretsManager Secret

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. Click on the managed key that you just created (which is *SalesforceCredentialsSecretsManagerKey* in this case).

20. Note down the ARN. This is *SalesforceCredentialsKMSKeyARN* that will be used later when installing the Amazon Connect Salesforce Lambda package.

21. Navigate back to the Secrets Manager setup tab

22. 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 ▾ [C](#)

Add new key [C](#)

[Cancel](#) [Next](#)

23. Click Next

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

25. Click Next

26. Make sure **automatic rotation** is disabled.

27. Click Next

28. Click Store

29. 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	-	

# Setting Up The CTI Adapter Managed Package Manually

Below are manual setup instructions for the Salesforce CTI Adapter Managed Package. After following the below steps, be sure to follow the instructions for setting up the Salesforce Lambdas [here](#).

Before proceeding, please **confirm that the application was installed for admins only** (see [installation](#) for more details). If you did this by accident, then you will have to [manually edit the profiles](#) to remove the permissions to the objects and pages created by the app.

## Lightning Flow Setup Installation

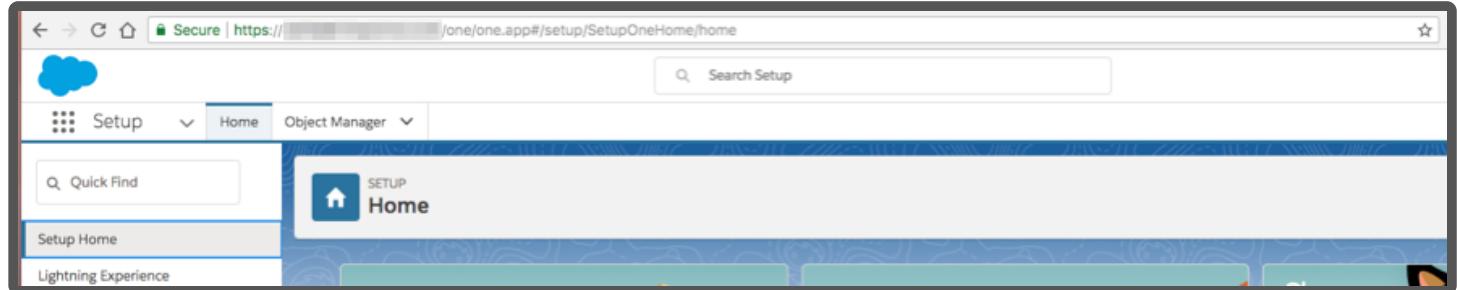
1. Navigate to **Service Setup** within the Lightning UI under the gear icon.
2. Click **View All**
3. Search for or select **Add Phone Support**
4. Click **Start** on the **Voice Setup** screen
5. Under **Select Your Voice Provider**, select Amazon Connect CTI Adapter
6. Agree to the terms and conditions 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 allowlist 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 Admins Only**.



## Install Amazon Connect - Universal Package

By

Install for Admins Only

Install for All Users

Install for Specific Profiles...

**Install**

**Cancel**



## Install Amazon Connect - Universal Package

By Amazon AWS



**Installation Complete!**

Please review the instructions below to properly configure this app. [View in another browser](#)

**Done**

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



## Installed Packages

On AppExchange you can browse, test drive, download, and install pre-built apps and components right into your salesforce.com environment. [Learn More about Installing Packages](#).

Apps and components are installed in packages. Any custom apps, tabs, and custom objects are initially marked as "In Development" and are not deployed to your users. This allows you to test and customize before deploying. You can deploy the components individually using the other features in setup or as a group by clicking Deploy.

Depending on the links next to an installed package, you can take different actions from this page.

To remove a package, click **Uninstall**. To manage your package licenses, click **Manage Licenses**.



Visit AppExchange »

## Installed Packages

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	Import	Version	Created Date	Last Modified Date
Edit   Del	Amazon Connect CCP Adapter Classic		23/05/2018 13:27	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	23/05/2018 13:27
Edit   Del	Amazon Connect CCP Adapter Lightning		23/05/2018 13:27	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 Salesforce Setup interface. In the left sidebar, under 'Feature Settings' > 'Service' > 'Call Center', the 'Softphone Layouts' option is selected. A message at the bottom left says, 'Didn't find what you were looking for? Search all of Setup instead.' The main content area is titled 'Softphone Layouts' and contains a brief description: '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 custom softphone layouts and assign them to call center users based on their user profile.' Below the description is a table header with columns: Name, Default, Created By Alias, Created Date, Last Modified By Alias, and Last Modified Date. A 'New' button and a 'Softphone Layout Assignment' link are also present.

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

7. Choose **New**.

The screenshot shows the 'Softphone Layout Edit' page. At the top, there's a 'Save' and 'Cancel' button. Below it, a 'Name' field is filled with 'AmazonConnectDefault' and an 'Is Default Layout' checkbox 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:' (Caller ID, Dialed Number) and 'Display these salesforce.com objects:' (Account, Contact, Lead). There are three expandable sections under 'Display these salesforce.com objects': 'If single Account found, display: Account Name', 'If single Contact found, display: Name', and 'If single Lead found, display: Name'. Each section includes a note about how it behaves in Lightning Experience versus Salesforce Classic. On the right side of the page, there are 'Edit' buttons for each section and a 'Help about this section' link.

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

The screenshot shows the 'Softphone Layout Edit' page again, but this time the layout is named 'AmazonConnectDefault'. The 'Is Default Layout' checkbox is checked. The rest of the interface is identical to the previous screenshot.

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.

Display these salesforce.com objects:

▼ Account, Contact, Lead, Case

Available	Selections
Campaign	Account
Event	Contact
Opportunity	Lead
Task	Case
User	

Add      Remove      Up      Down

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

► If single Account found, display: Account Name If multiple matches are found, only the Account Name is displayed in Salesforce Classic. In Lightning Experience, all the selected fields are displayed.	Edit
► If single Contact found, display: Name If multiple matches are found, only the Name is displayed in Salesforce Classic. In Lightning Experience, all the selected fields are displayed.	Edit
► If single Lead found, display: Name If multiple matches are found, only the Name is displayed in Salesforce Classic. In Lightning Experience, all the selected fields are displayed.	Edit
► If single Case found, display: Case Number If multiple matches are found, only the Case Number is displayed in Salesforce Classic. In Lightning Experience, all the selected fields are displayed.	Edit

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

Save      Cancel

Name   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 layouts, you can create custom softphone layouts and assign them to call center users based on their user profile.

Action	Name	Default	Created By Alias	Created Date	Last Modified By Alias	Last Modified Date
Edit	AmazonConnectDefault	✓	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**.



SETUP

## Permission Sets

### Permission Sets

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

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

[All Permission Sets](#) [Edit](#) | [Delete](#) | [Create New View](#)

[New](#)

Action	Permission Set Label ↑	Description
<input type="checkbox"/>	Clone Toolkit for Amazon Connect - Agent	Permissions to all components that an agent would need to use the toolkit.
<input type="checkbox"/>	Clone 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](https://help.salesforce.com/articleView?id=perm_sets_mass_assign.htm&type=5)

## AC\_Administrator

Object Name	Object Permissions	Total Fields	Tab Settings
AC Agent Performance	Read, Create, Edit, Delete, View All, Modify All	124	--
AC CCP Overlay Elements	No Access	9	--
AC Contact Channel Analytics	Read, Create, Edit, Delete, View All, Modify All	31	Visible
AC Contact Channels	Read, Create, Edit, Delete, View All, Modify All	24	--
AC Contact Trace Records	Read, Create, Edit, Delete, View All, Modify All	50	Visible
Accounts	No Access	25	--
AC CTI Adapters	Read, Create, Edit, Delete, View All, Modify All	22	Visible
AC CTI Attributes	Read, Create, Edit, Delete, View All, Modify All	11	--
AC CTI Scripts	Read, Create, Edit, Delete, View All, Modify All	10	--
AC Events	No Access	--	--
AC Features	Read, Create, Edit, Delete, View All, Modify All	6	--
AC Guided Setup	--	--	Visible
AC Historical Queue Metrics	Read, Create, Edit, Delete, View All, Modify All	119	--
AC Phone Calls	No Access	22	--
AC Presence Sync Rules	Read, Create, Edit, Delete, View All, Modify All	13	--
AC QueueMatrices	No Access	16	--
AC Queue Metric Events	No Access	--	--
AC Queue Metrics	--	--	Visible
AC Real Time Queue Metrics	Read, Create, Edit, Delete, View All, Modify All	16	--
AC Voice Id Channel	Read, Create, Edit, Delete, View All, Modify All	15	--
AC Voicemail Drops	Read, Create, Edit, Delete, View All, Modify All	10	Visible
AC Wisdom	--	--	Visible

## AC\_Manager

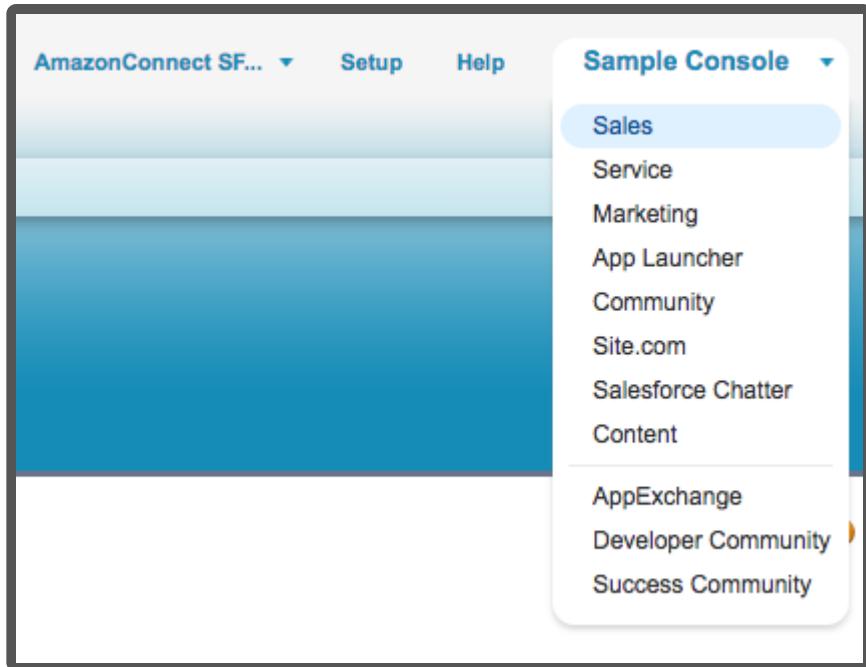
Object Name	Object Permissions	Total Fields	Tab Settings
<a href="#">AC Agent Performance</a>	Read, View All	124	--
<a href="#">AC CCP Overlay Elements</a>	No Access	9	--
<a href="#">AC Contact Channel Analytics</a>	Read, Create, Edit, Delete, View All, Modify All	31	Visible
<a href="#">AC Contact Channels</a>	Read, Create, Edit, View All	24	--
<a href="#">AC Contact Trace Records</a>	Read, Create, Edit, Delete, View All, Modify All	50	--
<a href="#">Accounts</a>	No Access	25	--
<a href="#">AC CTI Adapters</a>	Read	22	Visible
<a href="#">AC CTI Attributes</a>	Read	11	--
<a href="#">AC CTI Scripts</a>	Read	10	--
<a href="#">AC Events</a>	Read, Create	--	--
<a href="#">AC Features</a>	Read	6	--
<a href="#">AC Guided Setup</a>	--	--	--
<a href="#">AC Historical Queue Metrics</a>	Read, View All	119	--
<a href="#">AC Phone Calls</a>	No Access	22	--
<a href="#">AC Presence Sync Rules</a>	Read, View All	13	--
<a href="#">AC QueueMatrices</a>	No Access	16	--
<a href="#">AC Queue Metric Events</a>	Read	--	--
<a href="#">AC Queue Metrics</a>	--	--	Visible
<a href="#">AC Real Time Queue Metrics</a>	Read, View All	16	--
<a href="#">AC Voice Id Channel</a>	Read, Create, Edit, Delete, View All, Modify All	15	--
<a href="#">AC Voicemail Drops</a>	Read, Create, Edit, Delete	10	Available
<a href="#">AC Wisdom</a>	--	--	--

## AC\_Agent

Object Name	Object Permissions	Total Fields	Tab Settings
<a href="#">AC Agent Performance</a>	Read	124	--
<a href="#">AC CCP Overlay Elements</a>	No Access	9	--
<a href="#">AC Contact Channel Analytics</a>	Read, View All	31	Visible
<a href="#">AC Contact Channels</a>	Read, Create, Edit, View All	24	--
<a href="#">AC Contact Trace Records</a>	Read, Edit, View All	50	--
<a href="#">Accounts</a>	No Access	25	--
<a href="#">AC CTI Adapters</a>	Read	22	--
<a href="#">AC CTI Attributes</a>	Read	11	--
<a href="#">AC CTI Scripts</a>	Read	10	--
<a href="#">AC Events</a>	Read, Create	--	--
<a href="#">AC Features</a>	Read	6	--
<a href="#">AC Guided Setup</a>	--	--	--
<a href="#">AC Historical Queue Metrics</a>	Read	119	--
<a href="#">AC Phone Calls</a>	No Access	22	--
<a href="#">AC Presence Sync Rules</a>	Read, View All	13	--
<a href="#">AC QueueMatrices</a>	No Access	16	--
<a href="#">AC Queue Metric Events</a>	Read	--	--
<a href="#">AC Queue Metrics</a>	--	--	Visible
<a href="#">AC Real Time Queue Metrics</a>	No Access	16	--
<a href="#">AC Voice Id Channel</a>	Read, Create, Edit, Delete, View All, Modify All	15	--
<a href="#">AC Voicemail Drops</a>	Read, Create, Edit, Delete	10	Available
<a href="#">AC Wisdom</a>	--	--	--

## 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.

A screenshot of the "All Tabs" page in a CRM-like application. At the top, there is a navigation bar with links for Home, Chatter, Campaigns, Leads, Accounts, Contacts, Opportunities, Forecasts, Contracts, Orders, Cases, Solutions, Products, Reports, Dashboards, and a "+" icon. The "+" icon is highlighted with a red box. Below this is a section titled "All Tabs" with a "View:" dropdown set to "All Tabs". The page lists several tabs with icons: AC Contact Channel Analytics (calculator), AC Contact Trace Records (document), Accounts (file folder), AC CTI Adapters (highlighted with a red box), AC Real Time Queue Metrics (computer monitor), AC Voicemail Drops (phone receiver), Analytics (bar chart), App Launcher (grid), Documents (document), Duplicate Record Sets (list), Engagement Channel Types (envelope), External Managed Accounts (building), Files (cloud), Forecasts (chart), Groups (people), and Home (house).

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

Select "AC CTI Adapters"

Create a new adapter. Fill in the CTI Adapter Name. For the Call Center Definition Name, type in ACConsoleAdapter. For the Amazon Connect Instance, type in the login url to the instance (this can be found in the Amazon Connect Instance details page), removing everything after ".com".

Overview

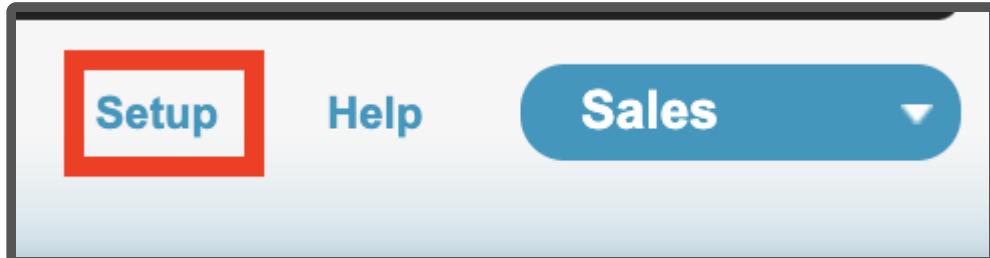
Instance ARN: [REDACTED]

Directory: [REDACTED]

Service-linked role: AWSServiceRoleForAmazonConnect\_x8eOtNYvgBDc9F1XHHQc [Learn more](#)

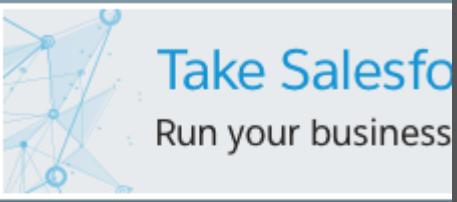
Login URL: [https://\[REDACTED\].awsapps.com/connect/login](https://[REDACTED].awsapps.com/connect/login)

Select Save.



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

Home Chatter Libraries Co



Visualforce Pages i 🔍

Expand All | Collapse All

**Build**

Develop

Visualforce Pages

Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_RecordingViewer</a>	<a href="#">AC_RecordingViewer</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_CtiScriptEditor</a>	<a href="#">AC_CtiScriptEditor</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_LightningAdapter</a>	<a href="#">AC_LightningAdapter</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_LightningScriptIncludes</a>	<a href="#">AC_LightningScriptIncludes</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_RealTimeQueueMetrics</a>	<a href="#">AC_RealTimeQueueMetrics</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_ClassicScriptIncludes</a>	<a href="#">AC_ClassicScriptIncludes</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_ConsoleAdapter</a>	<a href="#">AC_ConsoleAdapter</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_ConsoleScriptIncludes</a>	<a href="#">AC_ConsoleScriptIncludes</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">ACSFCCP_CallTask</a>	<a href="#">ACSFCCP_CallTask</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">ACSFCCP_ObjectType</a>	<a href="#">ACSFCCP_ObjectType</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">ACSFCCP_PostCallUpdateTask</a>	<a href="#">ACSFCCP_PostCallUpdateTask</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_ClassicAdapter</a>	<a href="#">AC_ClassicAdapter</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">ACSFCCP_CallRecordingTask</a>	<a href="#">ACSFCCP_CallRecordingTask</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">ACSFCCP_CallLogging_View</a>	<a href="#">ACSFCCP_CallLogging_View</a>	amazonconnect

<a href="#">Security</a>			<a href="#">ACSFCCP_CallRecordingCase</a>	<a href="#">ACSFCCP_CallRecordingCase</a>	amazonconnect
<a href="#">Security</a>			<a href="#">AC_HelperIncludes</a>	<a href="#">AC_HelperIncludes</a>	amazonconnect
<a href="#">Security</a>			<a href="#">AC_HelperIncludesCcpV1</a>	<a href="#">AC_HelperIncludesCcpV1</a>	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. If you are using the "enhanced domains" update, it will be in this format:

`https://XXXXXXXX--amazonconnect.sandbox.vf.force.com/AC_ClassicAdapter`

Otherwise, it will be in this format:

`https://XXXXXXXX--amazonconnect.visualforce.com/apex/AC_ClassicAdapter`

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, and select "Approved Origins" on the left-hand side:

Amazon Connect X

Amazon Connect > [guidedsetuptest-instance-w3dgh2](#) > Approved origins

Approved domains	
Amazon Connect can integrate with other products including Customer Relationship Management (CRM) and Work details on how to set up integrations with Amazon Connect. <a href="#">Learn more</a>	
Domains	
Once you have integrated with a CRM product, add the origins (scheme + host + port) that Amazon Connect will need to have access to.	
<input type="text"/> Find resources	
URL	

[Approved origins](#)

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

## Add domain

X

Enter domain URL

https://f[REDACTED].visualforce.com

Cancel

Add domain

Click "Add" button

## Approved domains

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](#)

### Domains

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

Find resources



Delete

Add domain

URL

https://f[REDACTED].visualforce.com

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

The screenshot shows the Salesforce Administer interface. At the top, there's a blue header bar with the Salesforce logo, a user icon, and a search bar. Below the header, a banner reads "Take Salesfo Run your business". A sidebar on the left is titled "Administer" and contains two main sections: "Manage Apps" and "Google Apps". Under "Manage Apps", there are links for Connected Apps, Connected Apps OAuth, Usage, and App Menu. Under "Google Apps", there is a link for Google Apps Settings. Below this, another section titled "Build" has a "Create" link followed by "Apps".

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

Apps				
Action	App Label	Console	Custom	Description
Edit	<a href="#">App Launcher</a>	<input type="checkbox"/>	<input type="checkbox"/>	App Launcher tabs
Edit	<a href="#">Community</a>	<input type="checkbox"/>	<input type="checkbox"/>	Salesforce CRM Communities
Edit	<a href="#">Content</a>	<input type="checkbox"/>	<input type="checkbox"/>	Salesforce CRM Content
Edit	<a href="#">Marketing</a>	<input type="checkbox"/>	<input type="checkbox"/>	Best-in-class on-demand marketing automation
Edit	<a href="#">Platform</a>	<input type="checkbox"/>	<input type="checkbox"/>	The fundamental Lightning Platform
Edit	<a href="#">Sales</a>	<input type="checkbox"/>	<input type="checkbox"/>	The world's most popular sales force automation (SFA) solution
Edit	<a href="#">Salesforce Chatter</a>	<input type="checkbox"/>	<input type="checkbox"/>	The Salesforce Chatter social network, including profiles and feeds
Edit	<a href="#">Sample Console</a>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(Salesforce Classic) Lets agents work with multiple records on one screen
Edit	<a href="#">Service</a>	<input type="checkbox"/>	<input type="checkbox"/>	Manage customer service with accounts, contacts, cases, and more
Edit	<a href="#">Site.com</a>	<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"

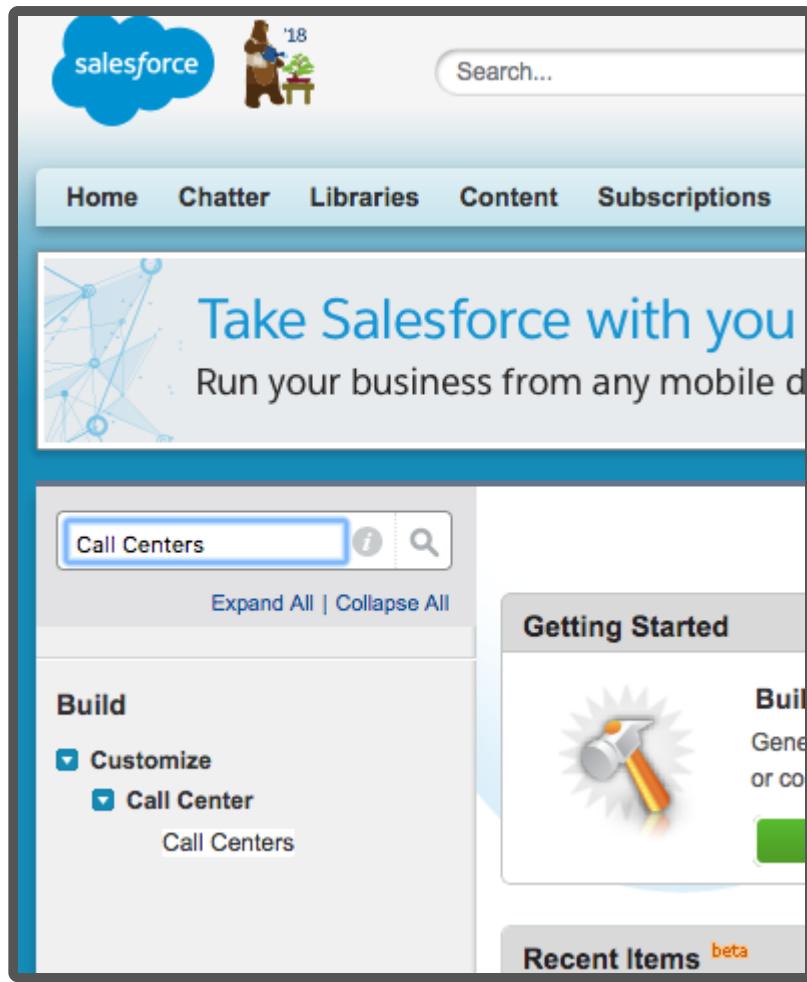
Assign to Profiles	Profile	<input type="checkbox"/> Visible	<input type="checkbox"/> Default
	Analytics Cloud Integration User	<input type="checkbox"/>	<input type="checkbox"/>
	Analytics Cloud Security User	<input type="checkbox"/>	<input type="checkbox"/>
	Contract Manager	<input type="checkbox"/>	<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"/>

**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.



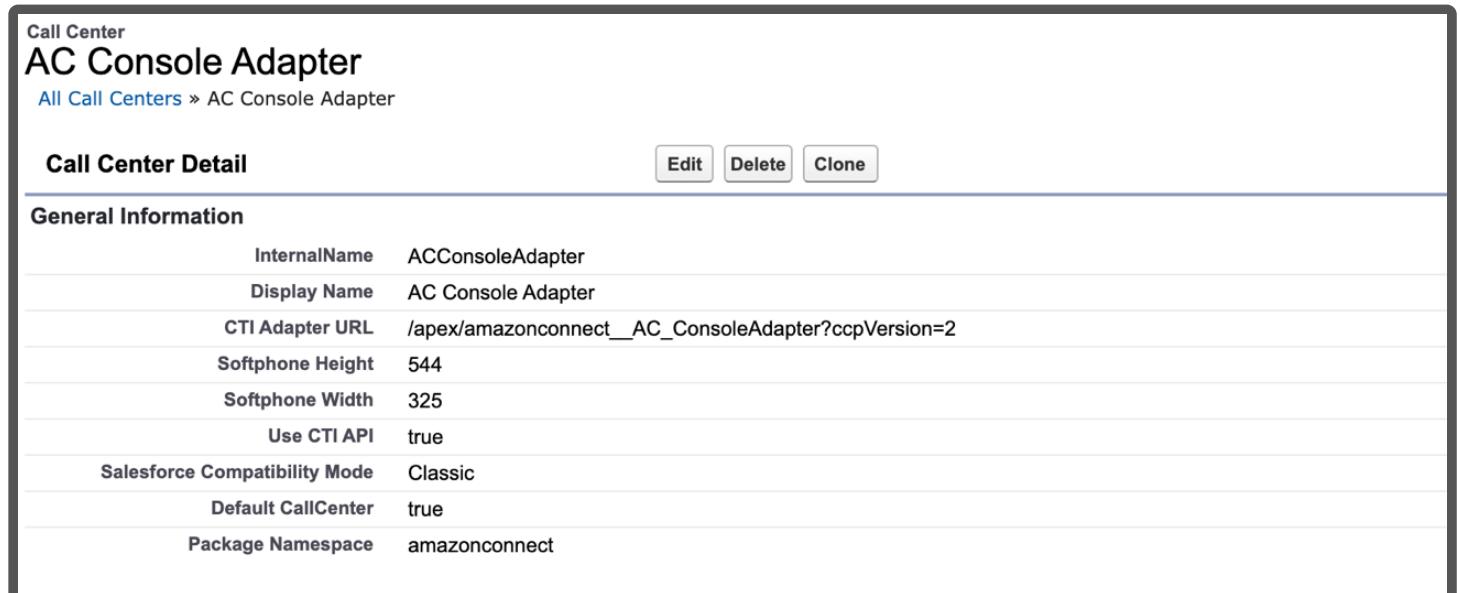
The screenshot shows the Salesforce home page. At the top, there's a blue cloud icon with the word "salesforce" and a user profile icon with the number '18'. A search bar is at the top right. Below the header, a banner says "Take Salesforce with you" and "Run your business from any mobile device". The main content area has a sidebar on the left with a search bar containing "Call Centers" and a "Build" section that includes "Customize" and "Call Center" under "Call Centers". The main panel features a "Getting Started" section with a gear icon and a "Recent Items" section with a "beta" label.

## 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 a valid license for the CTI system to use the Call Center feature.

Action	Name	Import	Version
Edit   Del	<a href="#">Amazon Connect CCP Adapter Classic</a>		
Edit   Del	<a href="#">Amazon Connect CCP Adapter Console</a>		
Edit   Del	<a href="#">Amazon Connect CCP Adapter Lightning</a>		

Select "Amazon Connect CCP Adapter Console 3.9"



The screenshot shows the "Call Center Detail" page for the "AC Console Adapter". The title is "AC Console Adapter". The URL is "All Call Centers » AC Console Adapter". The "Call Center Detail" section has buttons for "Edit", "Delete", and "Clone". Under "General Information", there is a table with the following data:

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

Replace the **CTI Adapter URL** with the AC Lightning Adapter visualforce page url you copied in the previous section. If you wish to specify your version of the ccp user interface, add "?ccpVersion=x", where x is the version of the ccp (either 1 or 2). Click on the Save button.

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

The screenshot shows the 'Call Center Users' page. At the top, there is a header with 'Call Center Users' and a 'Manage Call Center Users' button. Below the header, a section titled 'Call Center Users by Profile' displays a total count of 0. The main content area is titled 'Amazon Connect CCP Adapter Console: Manage Users'. It includes a breadcrumb navigation: 'All Call Centers' > 'Amazon Connect CCP Adapter Console' > 'Manage Users'. Below the breadcrumb, there is a 'View' dropdown set to 'All' and a 'Create New View' link. A table with columns 'Full Name', 'Alias', and 'Username' is shown, with a note 'No records to display.' At the top right of the table are 'Add More Users' and 'Remove Users' buttons.

The screenshot shows the 'Amazon Connect CCP Adapter Console: Search for New Users' page. The title is 'Amazon Connect CCP Adapter Console: Search for New Users'. The breadcrumb navigation is 'All Call Centers' > 'Amazon Connect CCP Adapter Console' > 'Manage Users' > 'Search for New Users'. Below the title, a message says 'Set the search criteria below and then click Search to find salesforce.com users who should be enabled as call center users.' There are five dropdown menus for filtering search criteria, each with options like '--None--'. To the right of each dropdown is a column for entering values and an 'AND' operator. Below the dropdowns is a section titled 'Filter By Additional Fields (Optional)' with three bullet points: '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', and 'For date/time fields, enter the value in following format: 23/05/2018 15:07'. At the bottom right is a 'Find' button.

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

The screenshot shows the 'Add to Call Center' dialog. It lists users with checkboxes next to their names. The users are: 'SFDCDryRun\_AmazonConnect' (selected), 'User\_Integration' (unchecked), and 'User\_Security' (unchecked). To the right of the user names are columns for 'Alias' (ASFDC, integ, sec) and 'Username' (acsfdddryrun, integration@00d0n000001bsn5uaa.com, insightssecurity@00d0n000001bsn5uaa.com). At the top right of the dialog are 'Add to Call Center' and 'Cancel' buttons. Below the table, there are columns for 'Role' and 'Profile'.

Role	Profile
System Administrator	Analytics Cloud Integration User
Analytics Cloud Security User	

Repeat the steps to add more users.

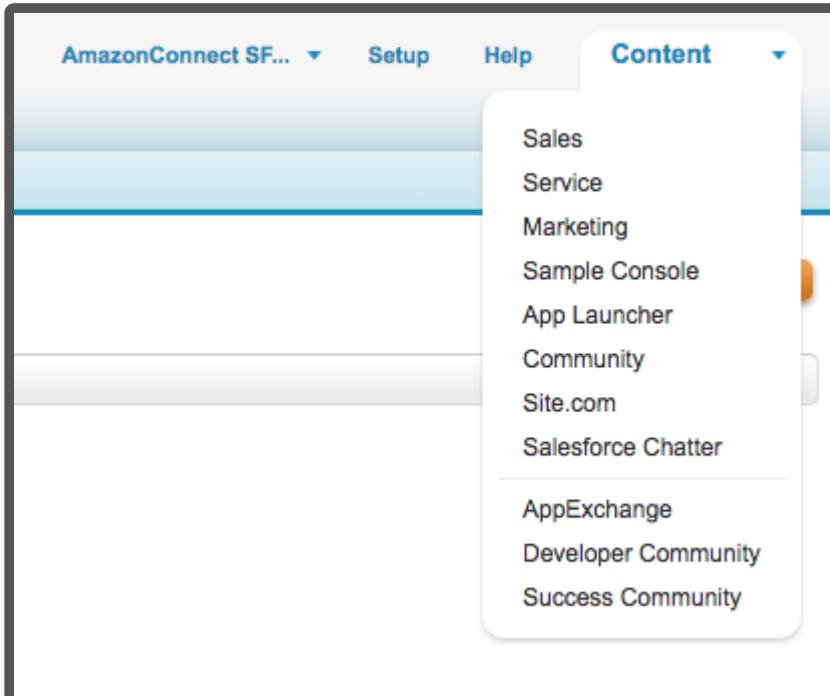
## Amazon Connect CCP Adapter Console: Manage Users

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

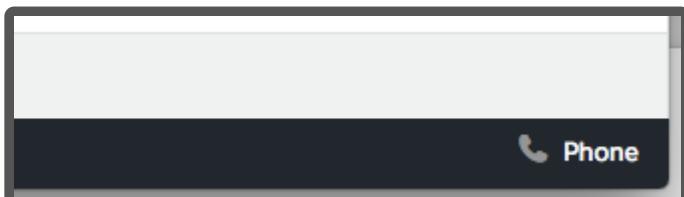
View: All

Action	Full Name	Alias	Username
<input type="checkbox"/> Remove	SFDCDryRun_AmazonConnect	ASfdc	acsfdcdryrun

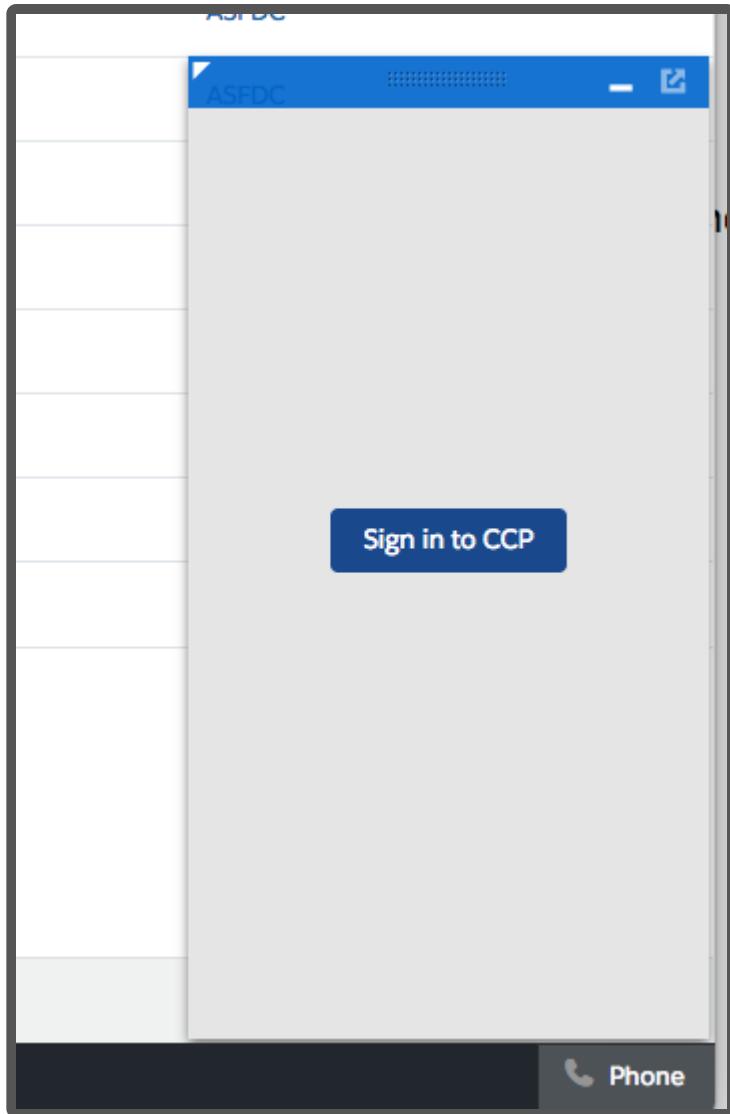
From the top-right corner, select Sample Console application.



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



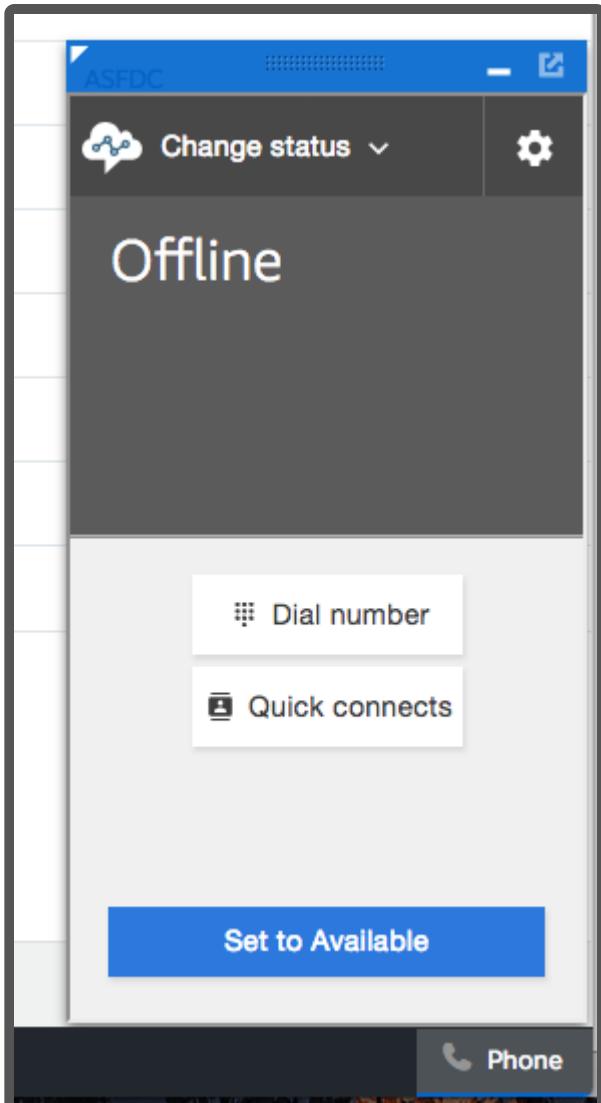
Click on the Phone button to open the softphone pop-up.



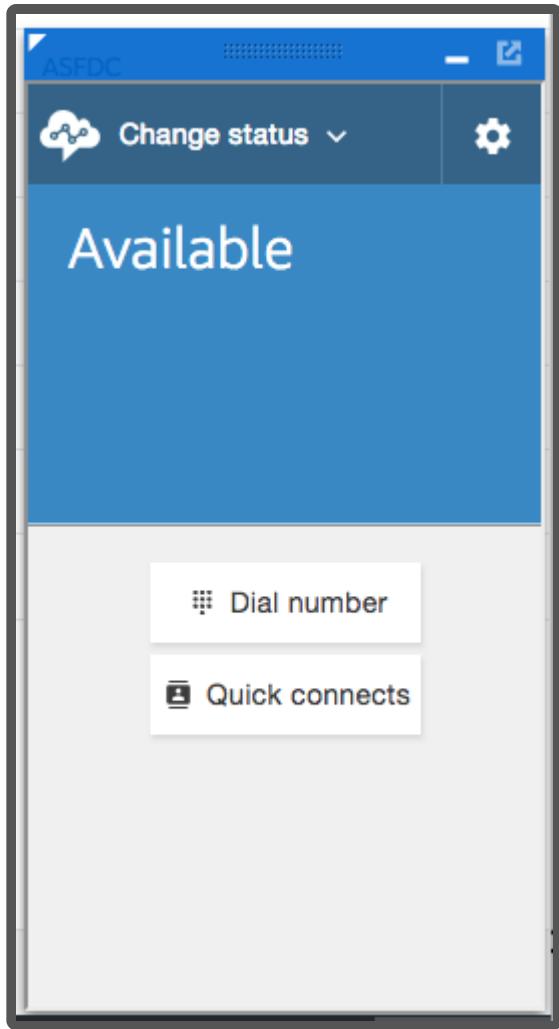
You will need to Sign in into your Amazon Connect CCP. Click on the Sign in to CCP button. A new modal pop-up will show, asking you to enter your credentials.

The screenshot shows a web browser window titled "test10 - AWS Apps Authentication". The address bar indicates a secure connection to <https://test10.awsapps.com/auth?clie...>. The main content area displays the "Amazon Connect" sign-in page. It features a blue cloud icon with a speech bubble containing a phone receiver, followed by the text "Amazon Connect". Below this, a message reads "Please log in with your [REDACTED] test10 credentials". There are two input fields: "Username" and "Password", both currently empty. A blue "Sign In" button is positioned below the password field. At the bottom of the sign-in form is a link "Forgot Password?". To the right of the sign-in form, a vertical list of "ACCOUNT OWNER ALIAS" entries is shown, all of which are "ASfdc". Below this list is a screenshot of a mobile device displaying a "Sign in to CCP" button. The browser's status bar at the bottom shows "Page 1 of 1" and a "Phone" icon.

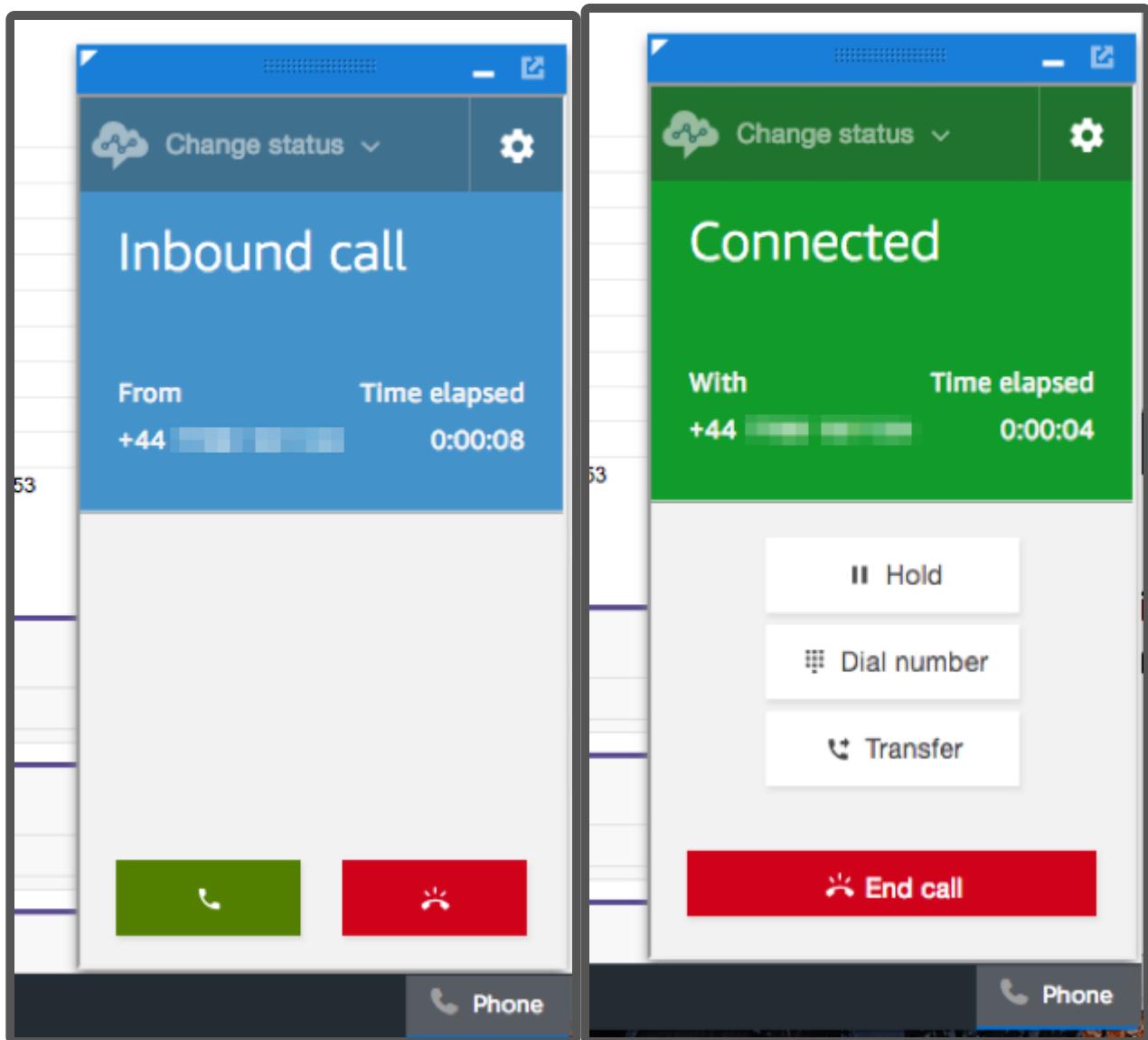
Enter your credentials and click Sign in. Allow Microphone access (if asked by browser). Once login is successful, the pop-up window will automatically close.



Select "Change status" and select "Available".



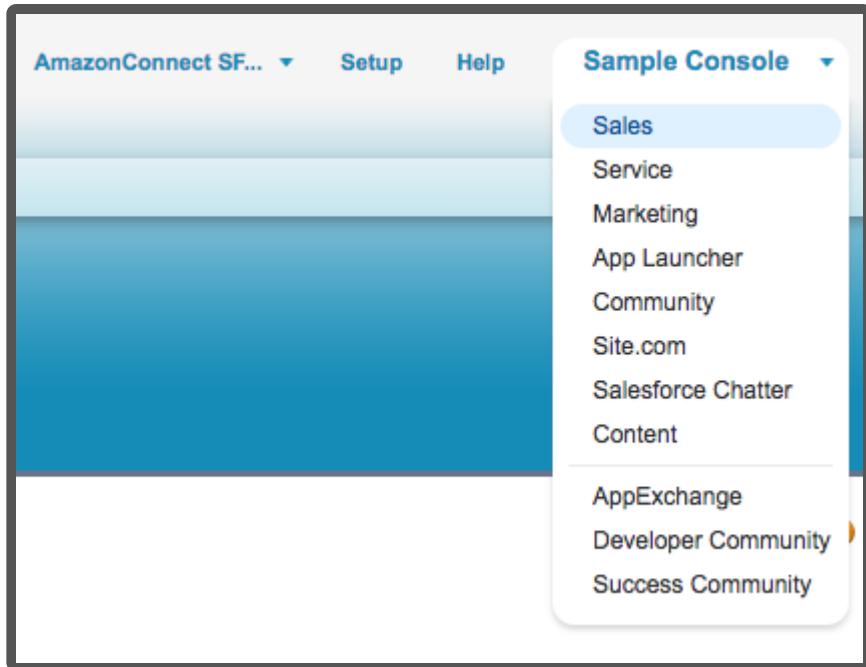
Make an inbound phone call to your Amazon Connect instance. The CCP is going to "ring" and you can answer the call.



## 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. For the Call Center Definition Name, type in ACCConsoleAdapter. For the Amazon Connect Instance, type in the login url to the instance (this can be found in the Amazon Connect Instance details page), removing everything after ".com".

Overview

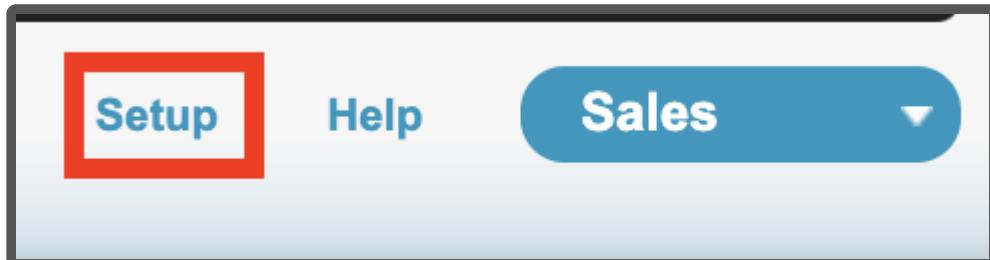
Instance ARN: [REDACTED]

Directory: [REDACTED]

Service-linked role: AWSServiceRoleForAmazonConnect\_x8eOtNYvgBDc9F1XHHQc [Learn more](#)

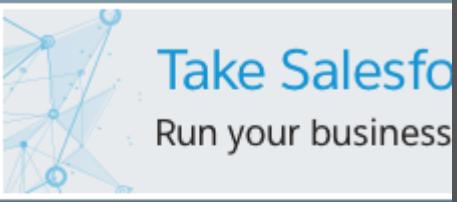
Login URL: [https://\[REDACTED\].awsapps.com/connect/login](https://[REDACTED].awsapps.com/connect/login)

Select Save.



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

Home Chatter Libraries Co



Visualforce Pages i 🔍

Expand All | Collapse All

**Build**

Develop

Visualforce Pages

Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_RecordingViewer</a>	<a href="#">AC_RecordingViewer</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_CtiScriptEditor</a>	<a href="#">AC_CtiScriptEditor</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_LightningAdapter</a>	<a href="#">AC_LightningAdapter</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_LightningScriptIncludes</a>	<a href="#">AC_LightningScriptIncludes</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_RealTimeQueueMetrics</a>	<a href="#">AC_RealTimeQueueMetrics</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_ClassicScriptIncludes</a>	<a href="#">AC_ClassicScriptIncludes</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_ConsoleAdapter</a>	<a href="#">AC_ConsoleAdapter</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_ConsoleScriptIncludes</a>	<a href="#">AC_ConsoleScriptIncludes</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">ACSFCCP_CallTask</a>	<a href="#">ACSFCCP_CallTask</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">ACSFCCP_ObjectType</a>	<a href="#">ACSFCCP_ObjectType</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">ACSFCCP_PostCallUpdateTask</a>	<a href="#">ACSFCCP_PostCallUpdateTask</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">AC_ClassicAdapter</a>	<a href="#">AC_ClassicAdapter</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">ACSFCCP_CallRecordingTask</a>	<a href="#">ACSFCCP_CallRecordingTask</a>	amazonconnect
Security   <span style="color: #ccc;">i</span> <span style="color: #ccc;">d</span> <a href="#">ACSFCCP_CallLogging_View</a>	<a href="#">ACSFCCP_CallLogging_View</a>	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. A new browser tab will open with the URL of this page. If you are using the "enhanced domains" update, it will be in this format:

`https://XXXXXXXX--amazonconnect.sandbox.vf.force.com/AC_ConsoleAdapter`

Otherwise, it will be in this format:

`https://XXXXXXXX--amazonconnect.visualforce.com/apex/AC_ConsoleAdapter`

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, then select "Approved origins" on the left-hand side:

Amazon Connect X

Amazon Connect > guidedsetuptest-instance-w3dgh2 > Approved origins

## Approved domains

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

**Domains**

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

Find resources

URL

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

## Add domain

X

Enter domain URL

https://f[REDACTED].visualforce.com

Cancel

Add domain

Click "Add" button

## Approved domains

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](#)

### Domains

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

Find resources



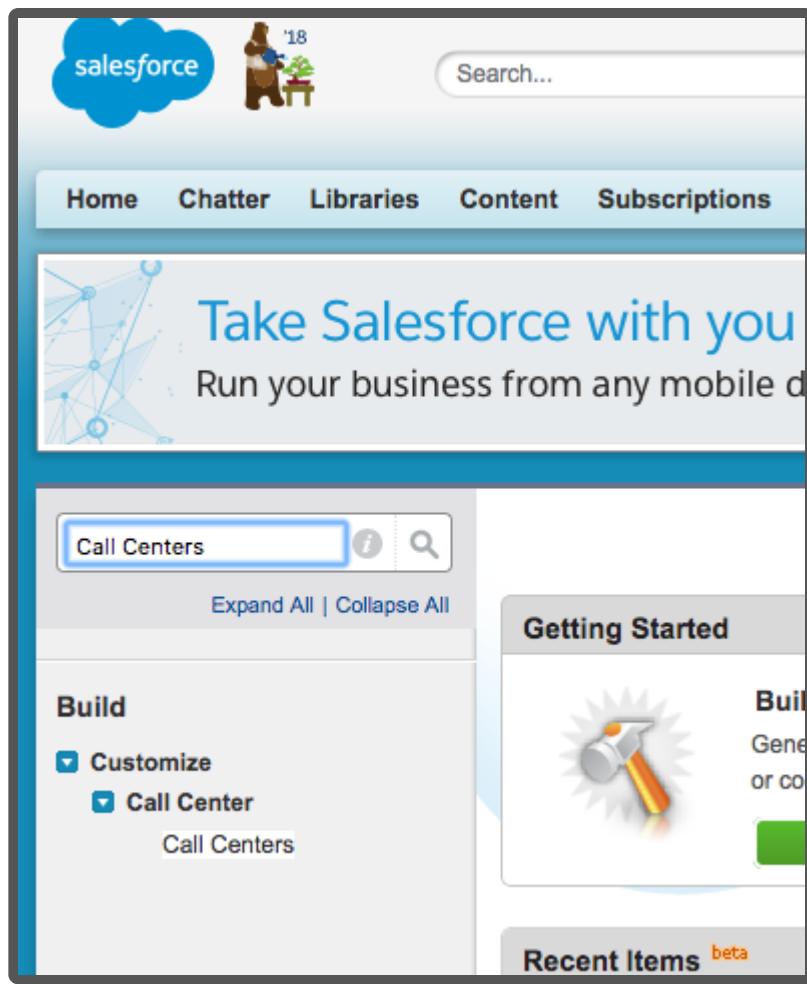
Delete

Add domain

URL

https://f[REDACTED].visualforce.com

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

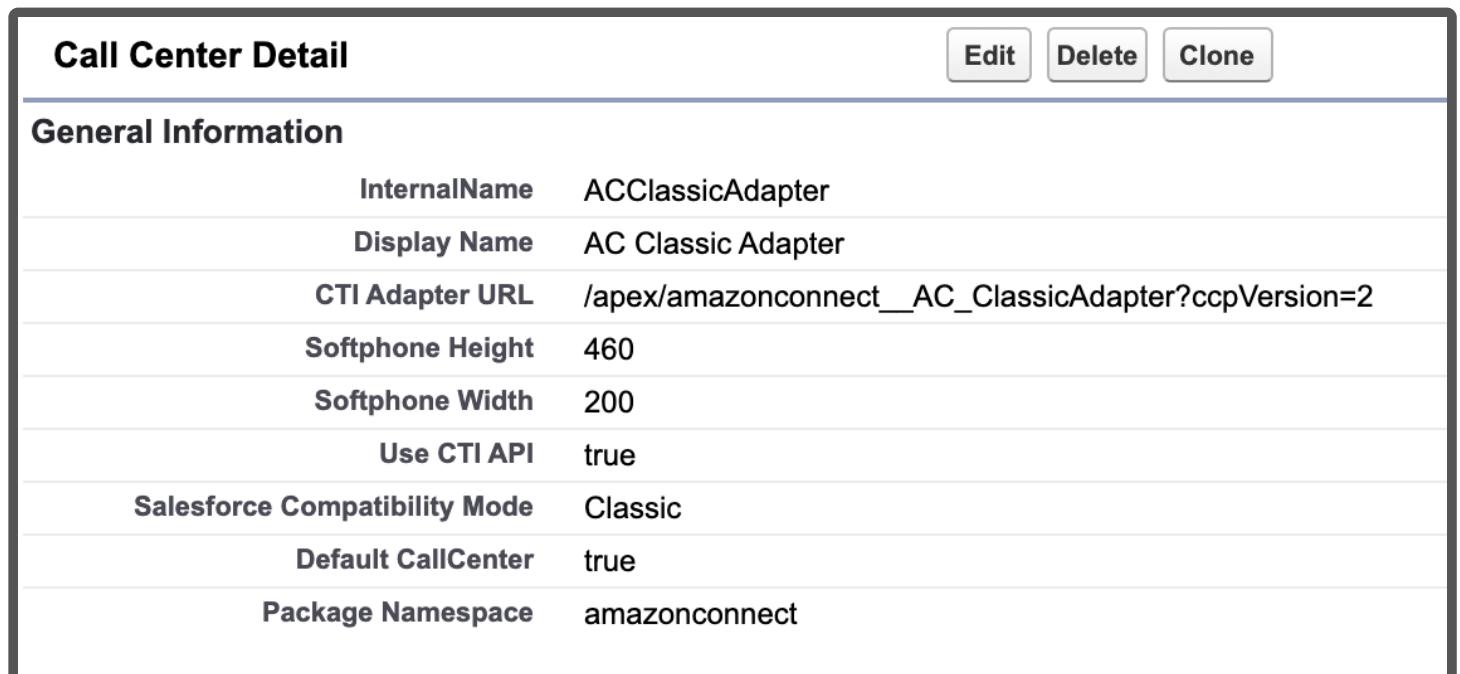


The screenshot shows the Salesforce home page. At the top, there's a blue cloud icon with the word "salesforce" and a user profile icon with the number '18'. A search bar is at the top right. Below the header, a navigation bar has links for Home, Chatter, Libraries, Content, and Subscriptions. A large banner with the text "Take Salesforce with you" and "Run your business from any mobile device" is displayed. On the left, a sidebar titled "Call Centers" includes a search bar, an "Expand All | Collapse All" button, and sections for "Build" (with "Customize" and "Call Center" checked), and "Recent Items" (beta). The main content area features a "Getting Started" section with a gear icon and a "Recent Items" section below it.

## All Call Centers

Action	Name	Import	Version
Edit   Del	<a href="#">Amazon Connect CCP Adapter Classic</a>		
Edit   Del	<a href="#">Amazon Connect CCP Adapter Console</a>		
Edit   Del	<a href="#">Amazon Connect CCP Adapter Lightning</a>		

Select "Amazon Connect CCP Adapter Classic 3.9"



The screenshot shows the "Call Center Detail" page for the "Amazon Connect CCP Adapter Classic". The title bar has "Edit", "Delete", and "Clone" buttons. Under "General Information", there are several configuration settings:

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

Replace the **CTI Adapter URL** with the AC Lightning Adapter visualforce page url you copied in the previous section. If you wish to specify your version of the ccp user interface, add "?ccpVersion=x", where x is the version of the ccp (either 1 or 2). Click on the Save button.

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

The screenshot shows the 'Call Center Users' page. At the top, there is a header with 'Call Center Users' and a 'Manage Call Center Users' button. Below this is a section titled 'Call Center Users by Profile' with a 'Total 0' message. The main area is titled 'Amazon Connect CCP Adapter Classic: Manage Users'. It includes a breadcrumb trail: 'All Call Centers > Amazon Connect CCP Adapter Classic > Manage Users'. Below the breadcrumb is a 'View:' dropdown set to 'All' and a 'Create New View' link. The main content area contains a table with columns 'Full Name', 'Alias', and 'Username'. A 'No records to display.' message is shown. At the top right of the table area are buttons for 'Add More Users' and 'Remove Users'.

Click on the "Add More Users" button.

The screenshot shows the 'Amazon Connect CCP Adapter Classic: Search for New Users' page. The title is 'Amazon Connect CCP Adapter Classic: Search for New Users' with a breadcrumb trail: 'All Call Centers > Amazon Connect CCP Adapter Classic > Manage Users > Search for New Users'. Below the title is a note: 'Set the search criteria below and then click Search to find salesforce.com users who should be enabled as'. The search form consists of five rows of dropdown filters. Each row has three dropdowns followed by an 'AND' connector. Below the filters is a section titled 'Filter By Additional Fields (Optional):' with instructions: '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', and 'For date/time fields, enter the value in following format: 23/05/2018 15:42'. At the bottom right is a 'Find' button.

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"/>	SFDCDryRun_AmazonConnect	ASfdc	acsfdcdryrun@00d0n000001bsn5uaa.com		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: All  Create New View

Action	Full Name ↑	Alias	Username
<input type="checkbox"/>   Remove	SFDCDryRun_AmazonConnect	ASfdc	acsfdcdryrun@00d0n000001bsn5uaa.com

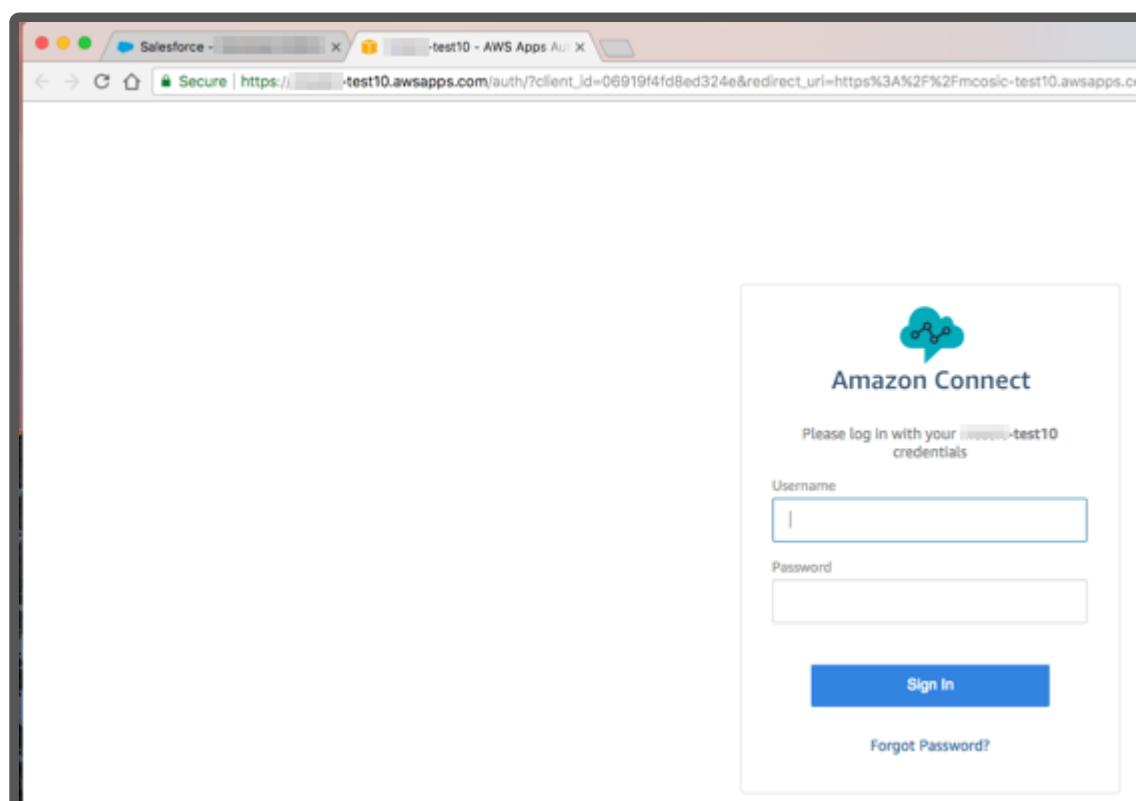
From the top-right corner, select Sales application.

The screenshot shows the 'Amazon Connect CCP Adapter Classic' interface. At the top left is the title 'AmazonConnect SF...'. To its right are 'Setup' and 'Help' buttons. On the right side, there is a 'Sample Console' dropdown menu. This menu lists several applications: Sales (which is highlighted with a blue background), Service, Marketing, App Launcher, Community, Site.com, Salesforce Chatter, Content, AppExchange, Developer Community, and Success Community. A vertical scroll bar is visible on the right side of the dropdown menu.

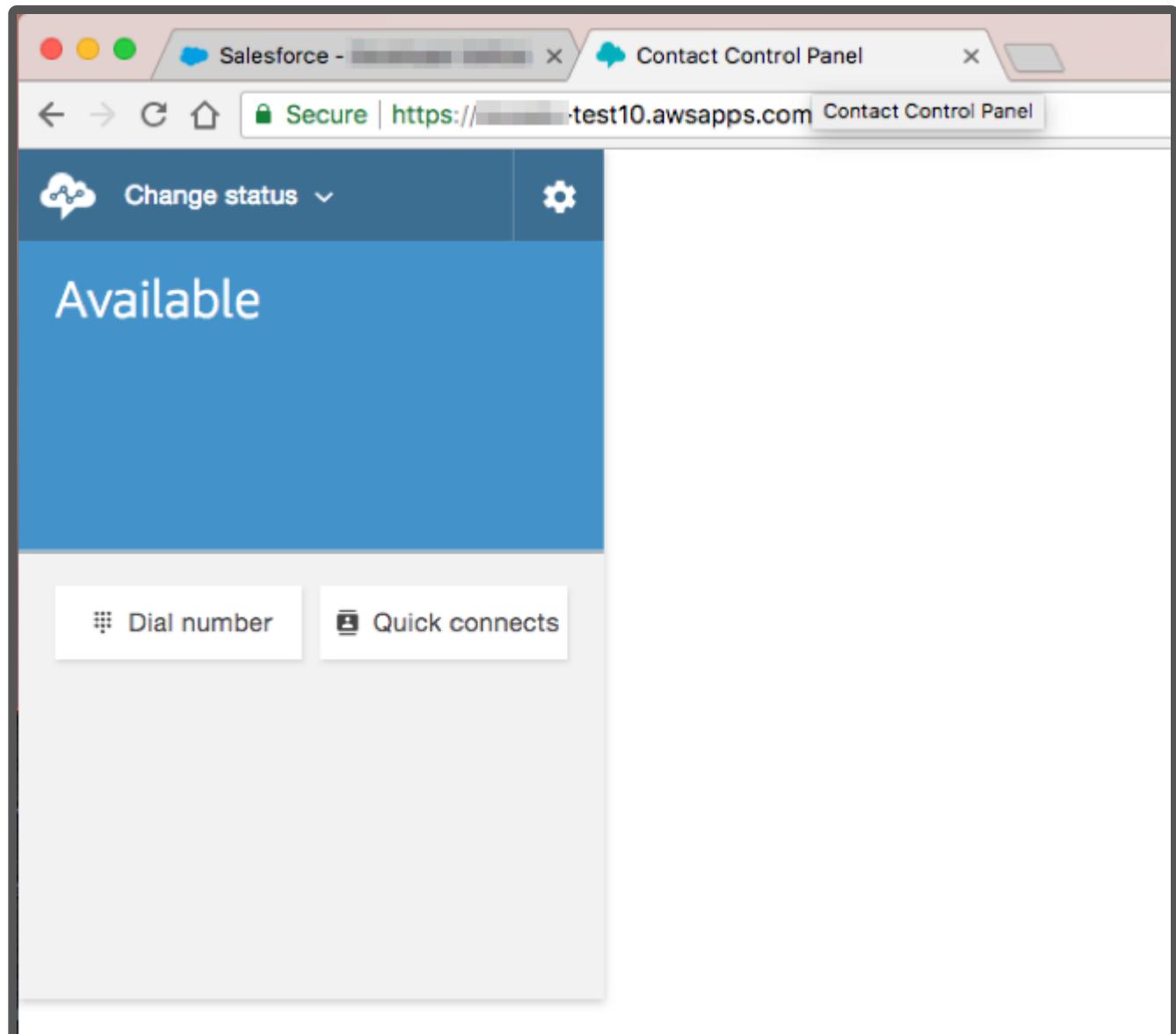
On the left-hand side, you will be able to see the Phone container.

The screenshot shows the Salesforce Home page. At the top, there is a search bar with the text "Search..." and a "Search" button. The navigation bar includes links for Home, Chatter, Campaigns, Leads, Accounts, Contacts, Opportunities, Forecasts, Contracts, Orders, and Cases. On the left, there is a sidebar with a "Sign in to CCP" button and a "Create New..." dropdown menu. The main content area displays the Chatter feed for a group named "AmazonConnect SFDCDryRun". The feed shows a post from Wednesday, May 23, 2018, with options to "Post", "File", "New Event", and "More". A text input field allows users to "Share an update, @mention someone...". Below the feed, there is a search bar and a sorting option "Sort By Latest Posts". A message states "There are no updates.".

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.



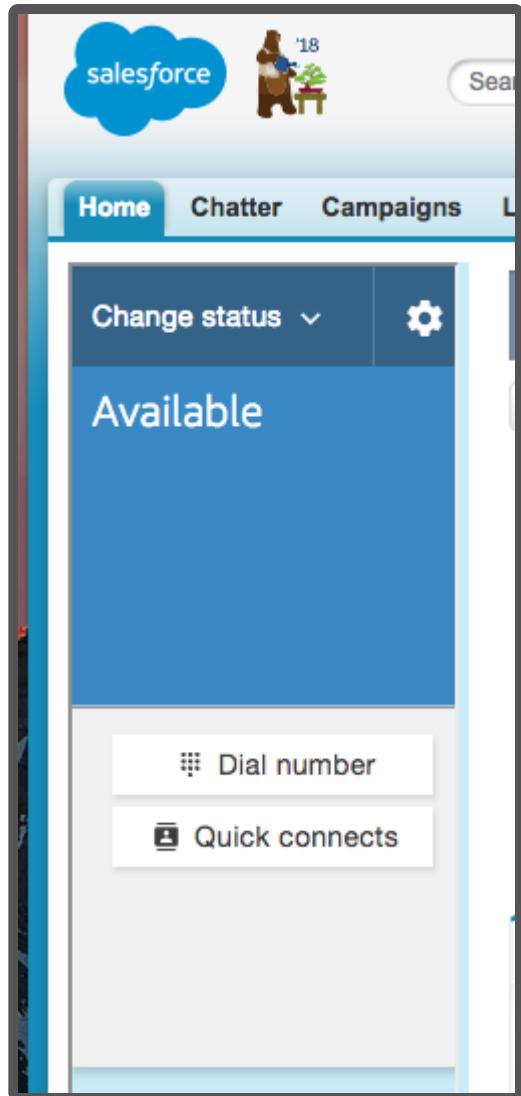
Enter your credentials and click Sign in. Allow Microphone access (if asked by browser). Once Login is successful, the new tab with CCP will stay open, as this tab is going to carry the audio for voice calls.



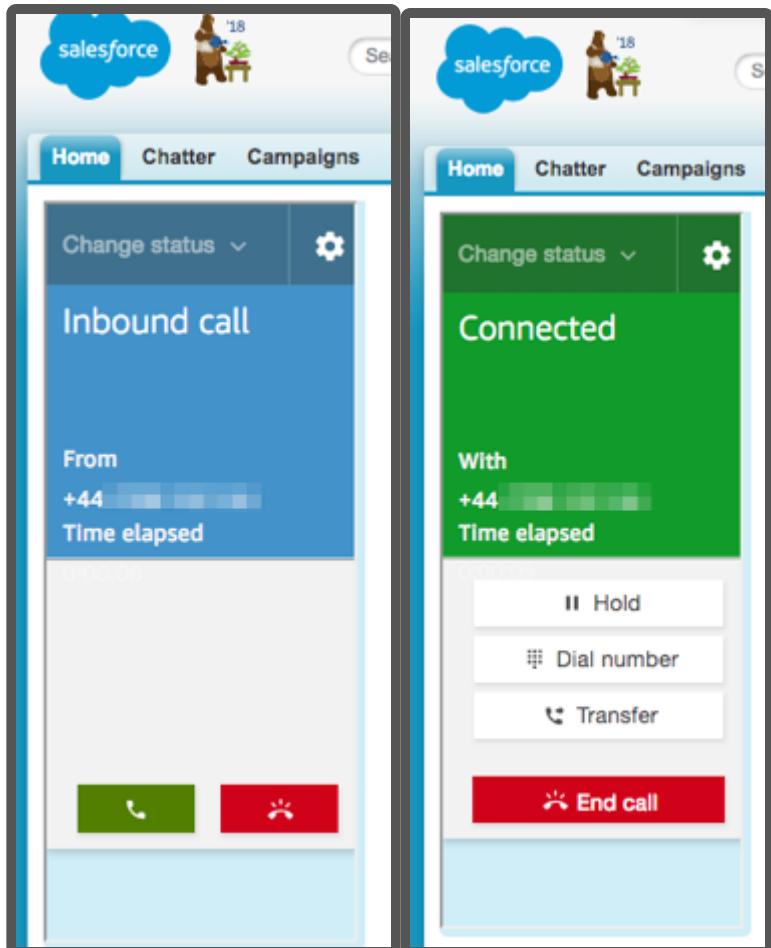
Switch back to Salesforce tab in your browser.

The screenshot shows the Salesforce Contact Control Panel interface. At the top, there are tabs for Home, Chatter, Campaigns, Leads, Accounts, Contacts, Opportunities, Forecasts, Contracts, Orders, and Cases. The Home tab is selected. On the left sidebar, under the 'Change status' section, the status is set to 'Offline'. There are buttons for 'Dial number' and 'Quick connects', and a large blue button labeled 'Set to Available'. The main content area displays a feed titled 'AmazonConnect SFCDryRun' from 'Wednesday 23 May 2018'. The feed includes options to 'Post', 'File', 'New Event', and 'More'. A text input field says 'Share an update, @mention someone...' with a 'Share' button. Below the feed, it says 'There are no updates.' In the bottom right corner of the main area, there is a 'Calendar' section with a 'New Event' button, showing 'Today 23/05/2018' and the message 'You have no events scheduled for the next 7 days.'

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.



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 2<sup>nd</sup> tab. If the 2<sup>nd</sup> tab is closed, the audio will be lost. The 2<sup>nd</sup> 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			
Action	Name ↑	Import	Version
Edit   Del	<a href="#">Amazon Connect CCP Adapter Classic</a>		
Edit   Del	<a href="#">Amazon Connect CCP Adapter Console</a>		
Edit   Del	<a href="#">Amazon Connect CCP Adapter Lightning</a>		

Select "Amazon Connect CCP Classic"

# Amazon Connect CCP Adapter Classic

[All Call Centers](#) » Amazon Connect CCP Adapter Classic

## Call Center Detail

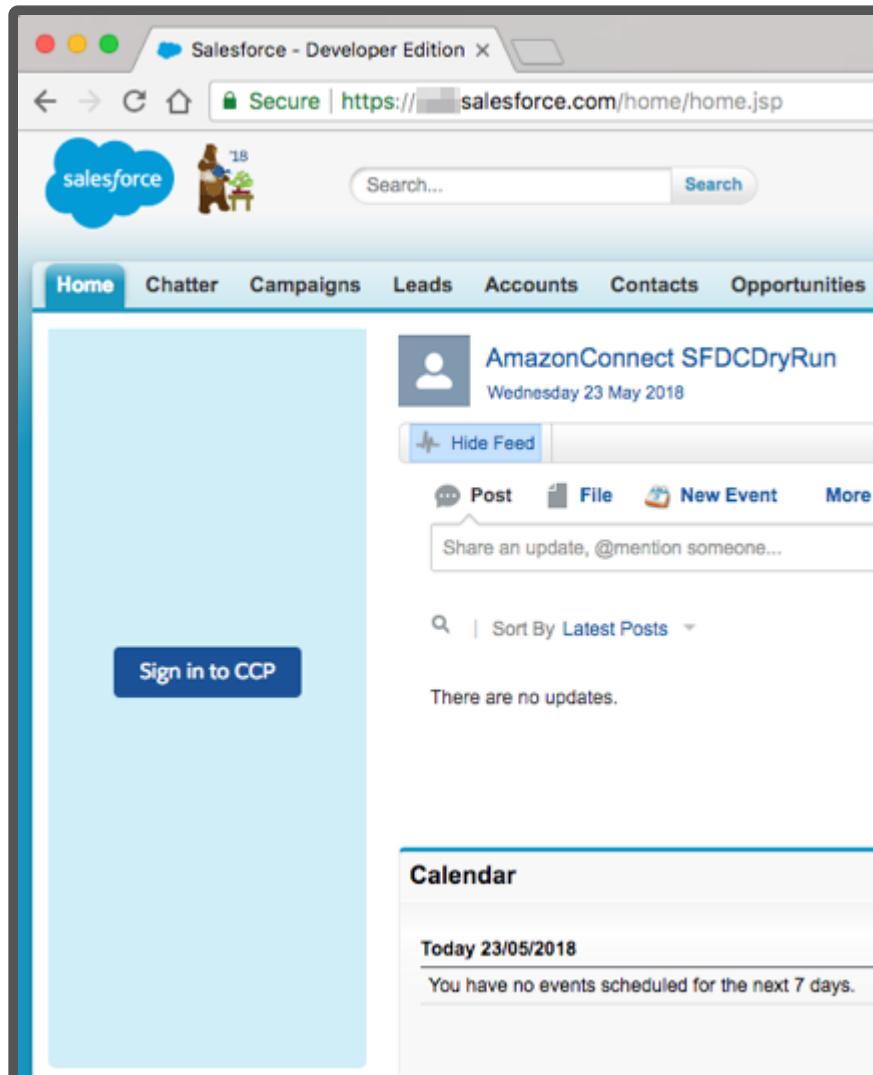
[Edit](#) [Delete](#) [Clone](#)

### Amazon Connect Salesforce CCP Adapter

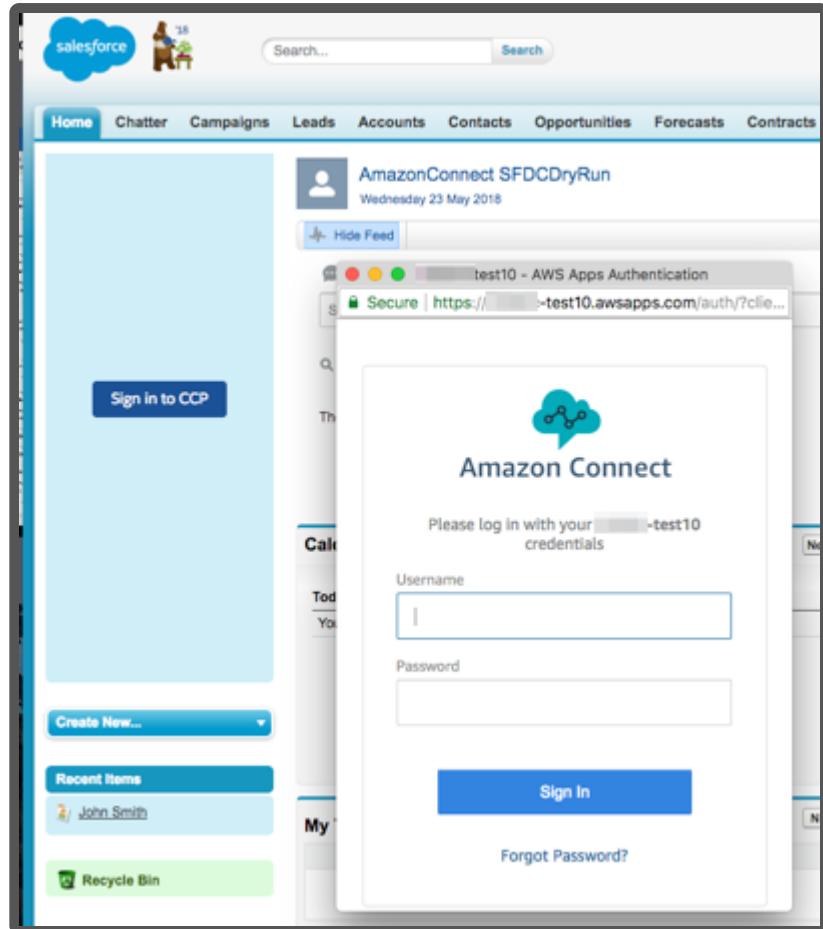
Internal Name	AmazonConnectSFCCPAdapterClassic
Display Name	Amazon Connect CCP Adapter Classic
Description	Amazon Connect Call Center
CTI Adapter URL	/apex/ACSFCCP_Classic
Use CTI API	true
Softphone Height	400
Softphone Width	250
Salesforce Compatibility Mode	Classic

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.

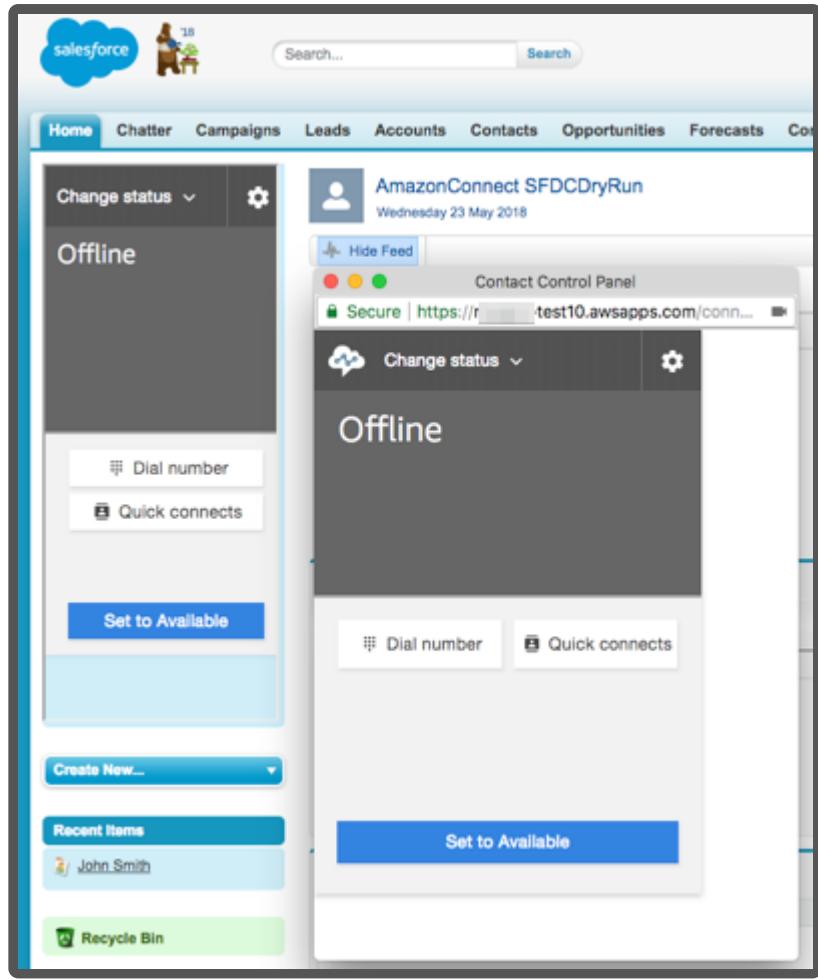
You may also notice that "Amazon Connect CCP Medialess" field is set to "true". This basically means that embedded CCP instance will not carry any media. Set the value to "true" and click on the Save button. Go back to Sales application. If CCP is already logged in, please log out.



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



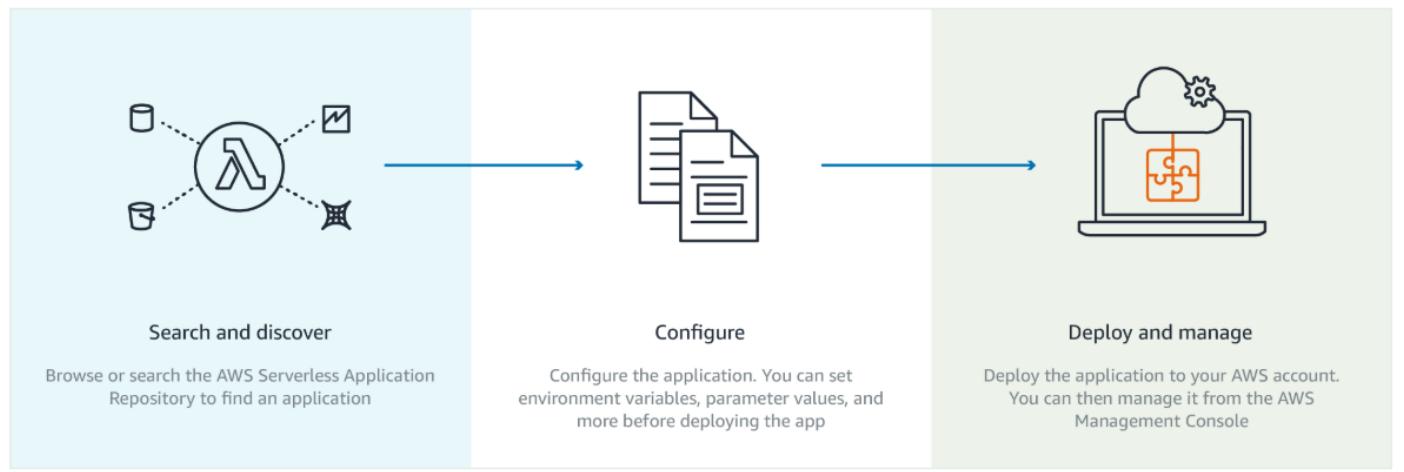
Enter your credentials and click Sign In. The CCP application will login, but popup window will stay open and it will host the 2<sup>nd</sup> CCP which will carry the audio stream. This window can be minimized or moved to 2<sup>nd</sup> screen.



## Setting Up The Salesforce Lambdas Manually

Below are manual setup instructions for the Salesforce Lambdas.

### 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 'Apps' page. At the top, there's a note about custom apps working with User Profile Tab Visibility settings. Below is a table for 'Apps' with columns for Action, App Label, Console, Custom, and Description. The 'Sample Console' app has a checked checkbox next to it. There are also sections for 'Subtab Apps' and 'Connected Apps' at the bottom.

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.

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.

The screenshot shows the 'New Connected App' form. At the top, there's a 'Basic Information' section with three fields: 'Connected App Name' (set to 'Amazon Connect Integration'), 'API Name' (set to 'Amazon\_Connect\_Integration'), and 'Contact Email' (empty). There are 'Save' and 'Cancel' buttons at the bottom right.

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. Set the **Callback URL** to your domain url. Find the domain at *Setup -> My Domain*.

Enable OAuth Settings

Enable for Device Flow

Callback URL

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

a. Access the identity URL service (id, profile, email, address, phone)

b. Manage user data via APIs (api)

8. Select the checkbox "Require Secret for Web Server Flow", and the checkbox "Require Secret For Refresh Token Flow"

Enable OAuth Settings

Enable for Device Flow

Callback URL

Use digital signatures

Selected OAuth Scopes

Available OAuth Scopes	Selected OAuth Scopes
Access Analytics REST API Charts Geodata resources (eclair_api) Access Analytics REST API resources (wave_api) Access Connect REST API resources (chatter_api) Access Lightning applications (lightning) Access Visualforce applications (visualforce) Access chatbot services (chatbot_api) Access content resources (content) Access custom permissions (custom_permissions) Access unique user identifiers (openid) Full access (full)	Access the identity URL service (id, profile, email, address, phone) Manage user data via APIs (api)

Add

Remove

Require Secret for Web Server Flow

Require Secret for Refresh Token Flow

Introspect All Tokens

Configure ID Token

Enable Asset Tokens

Enable Single Logout

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

The screenshot shows the "API (Enable OAuth Settings)" section of an application configuration page. It includes fields for "Consumer Key" (value: 3MVG9TSaZ8f...) and "Consumer Secret" (value: bOcgUMSvusvy). A link "Click to reveal" is present next to the consumer secret field.

- 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

The screenshot shows the "Connected App Name" section of an application configuration page. It displays the name "Amazon Connect Integration". Below it are links "« Back to List: Custom Apps" and buttons for "Edit", "Delete", and "Manage".

- On the page that appears, click "Edit Policies"

- Set "Permitted Users" to "Admin approved users are pre-authorized"

The screenshot shows the "OAuth policies" dialog. Under the "Permitted Users" dropdown, the option "Admin approved users are pre-authorized" is selected.

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

The screenshot shows the "IP Relaxation" dialog. Under the "Relax IP restrictions" dropdown, the option "Relax IP restrictions" is selected.

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

The screenshot shows the "IP Relaxation" dialog. Under the "Relax IP restrictions" dropdown, the option "Relax IP restrictions" is selected.

- 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"

4. Enter the Profile Name (i.e. "API Only")

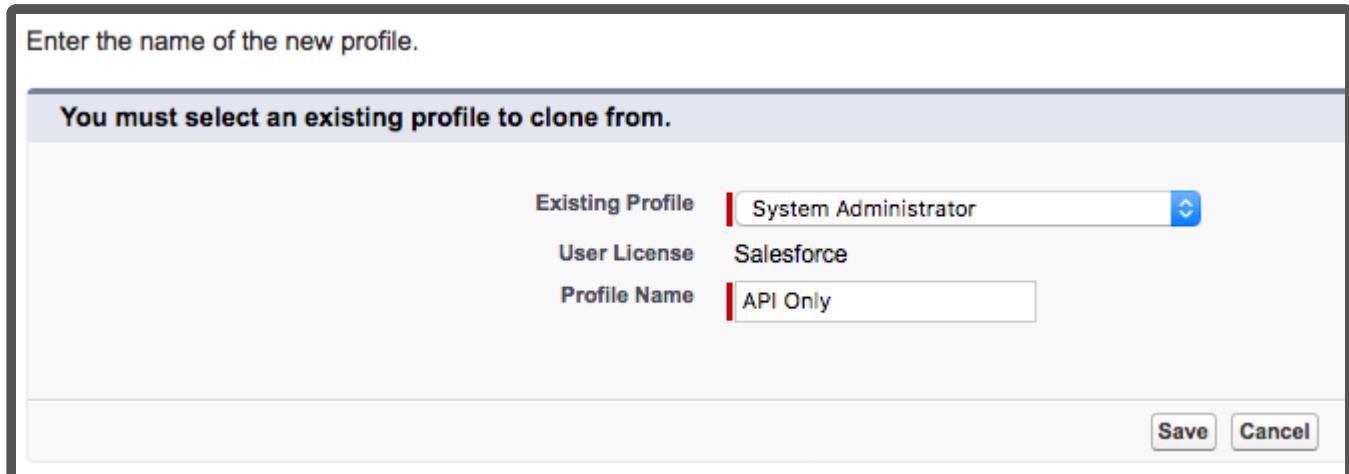
5. Select the existing profile to clone (The integration user's access to just those objects required for the integration)

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.

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

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

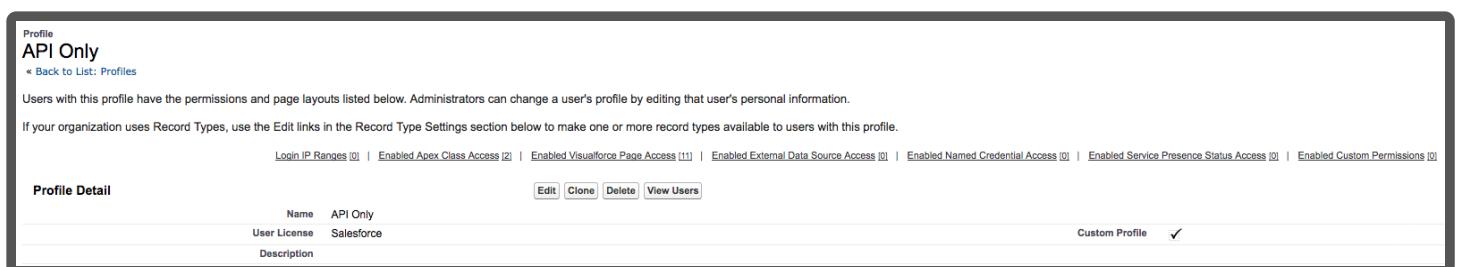
Users with this profile have the permissions and page layouts listed below. Administrators can change a user's profile by editing that user's personal information.

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** ✓



7. Once the new profile page opens, select the **System Permissions** button

**System**

**System Permissions**  
Permissions to perform actions t



8. If the Lightning Experience User checkbox is selected, clear it

**Lightning Experience User**



9. Save the system permissions, then go back to Profile Overview

10. Select the *Password Policies* link, click edit

## System

Settings that apply across all apps, such as record and user management  
[Learn More](#)

### System Permissions

Permissions to perform actions that

### Login Hours

Settings that control when users ca

### Login IP Ranges

Settings that control the IP address

### Service Providers

Permissions that let users switch to

### Session Settings

Settings that control required sessi

### Password Policies

Profile Based password policies

### Default Experience

Setting for assigning a default com

## 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](#)

11. Set **User password expire in** to **Never expires** **NOTE:** Failure to do this may lead to production outages.

## Password Policies

User passwords expire in	<input type="text" value="Never expires"/>
Enforce password history	<input type="text" value="No passwords remembered"/>
Minimum password length	<input type="text" value="8"/>
Password complexity requirement	<input type="text" value="Must mix alpha and numeric characters"/>
Password question requirement	<input type="text" value="Cannot contain password"/>
Maximum invalid login attempts	<input type="text" value="10"/>
Lockout effective period	<input type="text" value="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"/> <a href="#">i</a>

12. Select **Save**

13. Navigate to Setup > Manage Apps > Connected Apps

14. 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](#)

Allow users to install canvas personal apps

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

Action	Master Label ↑
<a href="#">Edit</a>	<a href="#">Amazon Connect Integration</a>

15. Click "Manage Profiles"

## Profiles

[Manage Profiles](#)

No profiles associated with this app.

16. 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"/>	<a href="#">Analytics Cloud Integration User</a>
<input type="checkbox"/>	<a href="#">Analytics Cloud Security User</a>
<input checked="" type="checkbox"/>	<a href="#">API Only</a>

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

18. Navigate to Setup > Manage Users > Users

19. 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](#)

<input type="checkbox"/> Action	Full Name ↑	Alias	Username	<a href="#">New User</a>	<a href="#">Reset Password(s)</a>	<a href="#">Add Multiple Users</a>
---------------------------------	-------------	-------	----------	--------------------------	-----------------------------------	------------------------------------

20. 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"/> <a href="#">i</a>
Title	<input type="text"/>
Company	<input type="text"/>
Department	<input type="text"/>
Division	<input type="text"/>

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

Role	<input type="text" value="&lt;None Specified&gt;"/> <a href="#">i</a>
User License	<input type="text" value="Salesforce"/> <a href="#">i</a>
Profile	<input type="text" value="API Only"/> <a href="#">i</a>

22. Click "Save"

23. In **Quick Find**, search for "Permission Sets". Select the **AC\_Administrator** permission set.

The screenshot shows the Salesforce Setup interface. In the top left, there's a blue cloud icon. The top navigation bar includes 'Setup' (selected), 'Home', and 'Object Manager'. A search bar at the top right says 'Search Setup'. On the left, a sidebar has a search field 'Perm' and sections for 'Users', 'Permission Set Groups', 'Permission Sets' (which is selected and highlighted in yellow), 'Custom Code', and 'Custom Permissions'. Below the sidebar is a note: ' Didn't find what you're looking for? Try using Global Search.' The main content area is titled 'Permission Sets' with a sub-section 'Permission Sets'. It says, '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'. Below this is a toolbar with 'All' (selected), 'Edit', 'Delete', and 'Create New View'. A table lists permission sets:

Action	Permission Set Label	Description
<input type="checkbox"/>	AC Administrator	Allows the user to configure Amazon Connect setup and provides ...
<input type="checkbox"/>	AC Agent	
<input type="checkbox"/>	AC_CallRecording	
<input type="checkbox"/>	AC_Manager	

A small note at the bottom right of the table says 'Licenses'.

24. Select **Manage Assignments**. Add the apiuser you just created to the permission set.

25. A confirmation email will be sent, with an activation link. Click the link to activate your user.

The screenshot shows a welcome email from Salesforce. At the top is a large blue cloud logo with the word 'salesforce' in white. Below it, the text 'Welcome to Salesforce!' is displayed in a large, bold, dark blue font. Underneath, it says 'Click below to verify your account.' followed by a large blue button with the text 'Verify Account' in white. At the bottom, it says 'To easily log in later, save this URL:' followed by a blue link '<https://login.salesforce.com/>'.

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@acsfdcdryrun.com.

Your password must have at least:

- 8 characters
- 1 letter
- 1 number

\* New Password

|

\* Confirm New Password

Security Question

▼ In what city were you born?

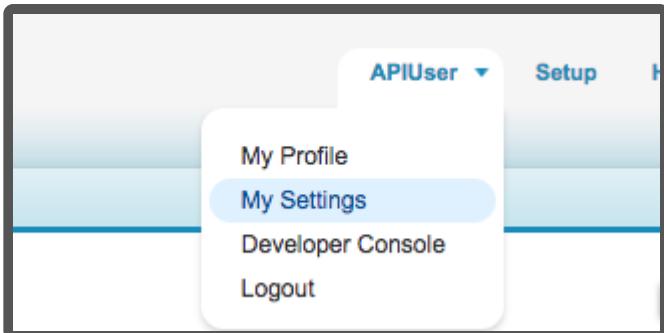
\* Answer

Change Password

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

26. Click "Change Password"

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



28. 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, you must reset your security token.

After you reset your token, you can't use your old token in API applications and desktop clients.

**Reset Security Token**

29. Your security token will be emailed to you

### Reset My Security Token

### Check Your Email

We sent a new security token to the email address for your account.

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

## Allowing the API user to authenticate using password

The api user created above authenticates using username-password flow in Salesforce. This flow needs to be unblocked and to do that, go to **Setup** and in the Quick Find box, search for **OAuth and OpenID Connect Settings**. After that, make sure that the toggles for **Allow OAuth Username-Password Flows** and **Allow OAuth User-Agent Flows** are turned ON, as shown in below image.



SETUP

## OAuth and OpenID Connect Settings

### OAuth and OpenID Connect Flows

Control which OAuth 2.0 and OpenID Connect flows your connected apps can use. These settings affect your entire org. Username-password flows are blocked by default in orgs created in Summer '23 or later. Blocking a flow can break managed packages, mobile apps, and other integrations that use the flow. We recommend testing changes in a sandbox before implementing in production.

Allow OAuth Username-Password Flows

On

Allow OAuth User-Agent Flows

On

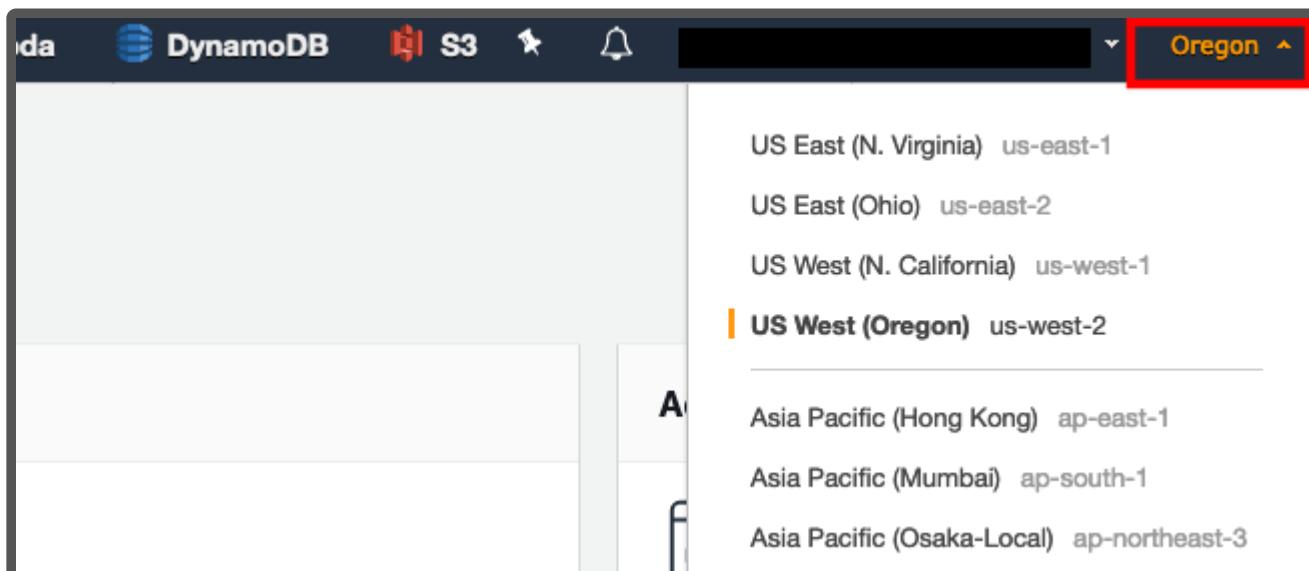
Allow Authorization Code and Credentials Flows

Off

## 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 **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

### Compatibility Table

The following table instructs users on the best CTI Adapter version to use with the corresponding lambda version. If a minor version for the CTI Adapter is not listed (ex. v5.21.1), it will be grouped with its major version unless otherwise specified

CTI Adapter Version	Lambda Version
v5.28	v5.22 - v5.25
v5.27	v5.22 - v5.24
v5.24	v5.22 - v5.23
v5.23.3	v5.22 - v5.23
v5.22	v5.22 - v5.23
v5.21	v5.19 - v5.19.7
v5.20	v5.19 - v5.19.7
v5.19	v5.19 - v5.19.7
v5.18	v5.18

v5.17	v5.17
v5.16	v5.16
v5.15	v5.15
v5.14	v5.14
v5.13	v5.13
v5.12	v5.11 - v5.12
v5.11	v5.11 - v5.12
v5.10	v5.10
v5.9	v5.9
v5.7	v5.7 - v5.8
v5.6	v5.7 - v5.8

## Instructions

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

AWS Serverless Application Repository

Contact Sales Support English ▾ My Account ▾

Products Solutions Pricing Learn Partner Network AWS Marketplace Explore More Q

Browse all applications

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

amazon connect salesforce



4. Select AmazonConnectSalesForceLambdas and click "Deploy"

AWS Lambda X

Lambda > Functions > Create function > Review, configure and deploy

## AmazonConnectSalesForceLambdas — Version

Review details and configure parameters below to deploy the application

Dashboard

**Functions**

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

## Configure application parameters

### Application name

The stack name of this application created via AWS CloudFormation

### SalesforceAccessToken

The security token of the Salesforce API user account used above.

### SalesforceConsumerKey

Your Salesforce consumer key

### SalesforceConsumerSecret

Your Salesforce consumer secret is available in Salesforce immediately to the right of your Salesforce Consumer Key

### SalesforceHost

Your Salesforce Host

### 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.

### SalesforceProduction

True for Production Environment, False for Sandbox

### SalesforceUsername

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

### SalesforceVersion

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

[Cancel](#)[Previous](#)[Deploy](#)

6. The Lambda package includes additional features which can be enabled or disabled, based on particular use-case:
- i. **Application name:** You can accept the default here or change it as desired
  - ii. **AmazonConnectInstanceId:** Your Amazon Connect Instance Id. Only required if you enable real time reporting
  - iii. **CTRKinesisARN:** This is the ARN for the Kinesis stream that was configured for Contact Trace Record streaming in Amazon Connect. This is the complete ARN. Amazon Kinesis Firehose is not supported.
  - iv. **ConnectReportingS3BucketName:** This is the name of the S3 bucket used to store exported reports for your Amazon Connect instance. This is ONLY the bucket name, no sub-folders or suffixes
  - v. **HistoricalReportingImportEnabled:** true | false - 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**
  - vi. **LambdaLogLevel:** DEBUG | INFO | WARNING | ERROR | CRITICAL - Logging level for Lambda functions
  - vii. **PrivateVpcEnabled:** Set to true if functions should be deployed to a private VPC. Set VpcSecurityGroupList and VpcSubnetList if this is set to true.
  - viii. **RealtimeReportingImportEnabled:** true | false - 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**
  - ix. **SalesforceAdapterNamespace:** This is the namespace for CTI Adapter managed package. The default value is **amazonconnect**. If a non-managed package is used, leave this field blank.
  - x. **SalesforceCredentialsKMSKeyARN:** This is the ARN for KMS customer managed key that you created in the previous section.
  - xi. **SalesforceCredentialsSecretsManagerARN:** This is the ARN for the Secrets Manager Secret that you created in the previous section.
  - xii. **SalesforceHost:** The full domain for your salesforce org. For example `https://mydevorg-dev-ed.my.salesforce.com`. Please make sure that the host starts with `https`, and that the url ends with `.my.salesforce.com`. This url can be found in `Setup` -> `My Domain`.
  - xiii. **SalesforceProduction:** true | false - True for Production Environment, False for Sandbox

- xiv. **SalesforceUsername:** The username for the API user that you configured in the previous section. Salesforce usernames are in the form of an email address.
- xv. **SalesforceVersion:** This is the Salesforce.com API version that you noted in the previous section. The pattern of this value is `vXX.X`.
- xvi. **TranscribeOutputS3BucketName:** This is the S3 bucket where Amazon Transcribe stores the output. Typically, this is the same bucket that call recordings are stored in, so you can use the same value as found in **ConnectRecordingS3BucketName**. Not required if PostcallRecordingImportEnabled, PostcallTranscribeEnabled, ContactLensImportEnabled set to false.
- xvii. **VpcSecurityGroupList:** The list of SecurityGroupIds for Virtual Private Cloud (VPC). Not required if PrivateVpcEnabled is set to false.
- xviii. **VpcSubnetList:** The list of Subnets for the Virtual Private Cloud (VPC). Not required if PrivateVpcEnabled is set to false.
- xix. **AmazonConnectQueueMaxRecords:** Enter record set size for list queue query. Max is 100.
- xx. **AmazonConnectQueueMetricsMaxRecords:** Enter record set size for queue metrics query. Max is 100.
- xi. **CTREventSourceMappingMaximumRetryAttempts:** Maximum retry attempts on failure for lambdas triggered by Kinesis Events.
- xxii. **ConnectRecordingS3BucketName:** This is the name of the S3 bucket used to store recordings for your Amazon Connect instance. This is ONLY the bucket name, no sub-folders or suffixes
- xxiii. **ContactLensImportEnabled:** true | false - Set to false if importing Contact Lens into Salesforce should not be enabled.
- xxiv. **PostcallCTRImportEnabled:** true | false - Set to false if importing CTRs into Salesforce should not be enabled on the package level. This setting can be disabled on a call-by-call basis.
- xxv. **PostcallRecordingImportEnabled:** true | false - Set to false if importing call recordings into Salesforce should not be enabled on the package level. This setting can be disabled on a call-by-call basis.
- xxvi. **PostcallTranscribeEnabled:** true | false - Set to false if post-call transcription should not be enabled on the package level. This setting can be disabled on a call-by-call basis.
- xxvii. **TranscriptionJobCheckWaitTime:** Time between transcription job checks

7. Once completed, click "Deploy" function:

The screenshot shows the AWS Lambda Functions list. At the top, there is a search bar with the placeholder "Add filter" and a search term "keyword : aws-serv". Below the search bar, a table lists functions. The columns are "Function name", "Description", and "Runtime". One function is listed: "aws-serverless-repository-AmazonConnec-sfInvokeAPI-2R3T34AMGSWS" with a Python 3.6 runtime. The "aws-serverless-repository-AmazonConnec-sfInvokeAPI" part of the function name is highlighted in blue.

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.

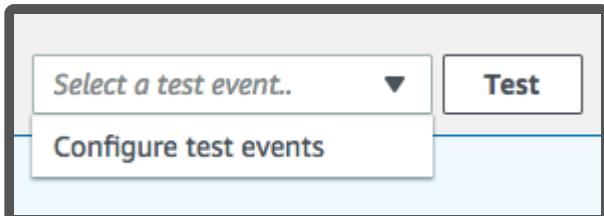
The screenshot shows the AWS Lambda function editor for the "sfInvokeAPI" function. On the left, there is a sidebar labeled "Environment" with a "File" tab selected. The main area shows the file structure of the function: "aws-serverless-repository-AI" folder containing "phonenumbers", "event-create.json", "event-lookup.json", "event-phoneLookup.json", "event-update.json", and "README.md".

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

The screenshot shows the AWS Lambda function editor for the "sfInvokeAPI" function. The "event-phoneLookup.json" file is open in the editor. The content of the file is:

```
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.

### 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

Event template

Hello World ▾

Event name

eventLookup

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

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

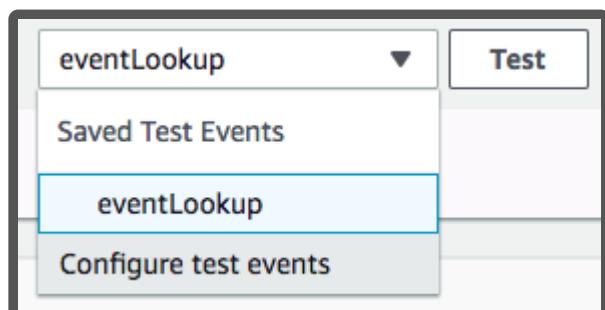
The area below shows the result returned by your function execution.

```
{  
  "Id": "0031r000026MVPIAA4",  
  "Name": "Milos Cosic",  
  "Email": "mcosic@amazon.com",  
  "sf_count": 1  
}
```

15. 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.

```
sfInvokeAPI.py x event-phoneLookup x event-create.json x  
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",  
0       "Priority": "Low"  
.1     }  
.2   }  
.3 }
```

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



17. 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

X

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.

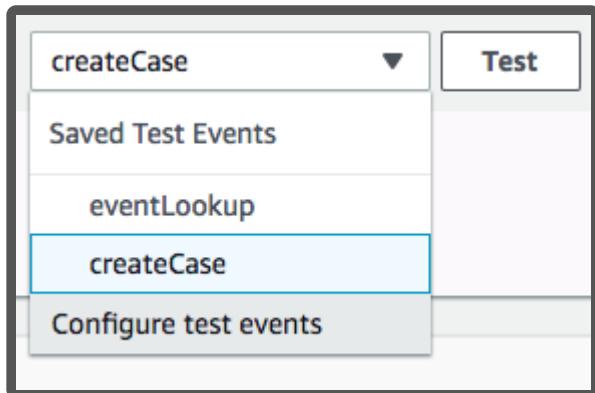
```
{  
  "Id": "5001r000023QcAcAAK"  
}
```

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:

A screenshot of a code editor window titled "sfInvokeAPI.py". The editor displays the following JSON code:

```
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.

A screenshot of a dialog box titled "Configure test event". The dialog has the following sections:

- Event name:** closeCase
- JSON payload:** (A large text area containing the same JSON code as in step 21.)

24. Click "Create" button

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

closeCase



Test

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.

**Note that you need to perform the following steps only if you are upgrading from 4.XX to 5.XX.**

1. Go to the **Setup** section and search for **Object Manager**.

2. In Object Manager section, search for "AC CTI"

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.



Details

Fields & Relationships

**Page Layouts**

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

Search Layouts for Salesforce

Classic

Triggers

Edit Page Layout Assignment  
**AC CTI Adapter**

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.

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

Save Cancel

Page Layout To Use: -- Select Page Layout -- 0 Selected 0 Changed

Details

Fields & Relationships

**Page Layouts**

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

Edit Page Layout Assignment  
**AC CTI Adapter**

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.

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

Save Cancel

Page Layout To Use: -- Select Page Layout -- 26 Selected 0 Changed

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**.



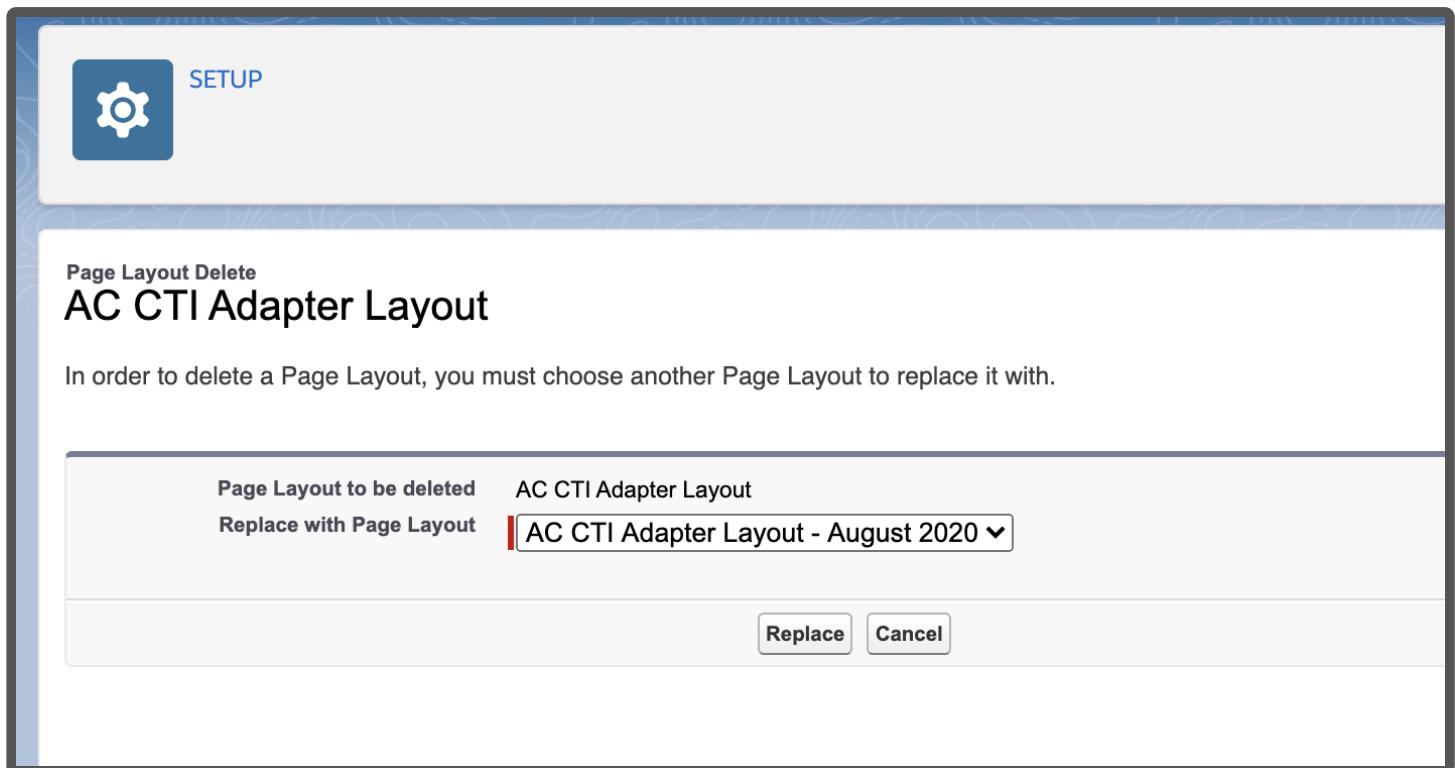
### Deletion problems

[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.



Details

Fields &amp; Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Deleted Layouts

Edit Page Layout Assignment  
**AC CTI Flow**

Help for this Page

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.

Save Cancel

Page Layout To Use: -- Select Page Layout -- 0 Selected 0 Changed

## Profiles

Analytics Cloud Integration User  
Analytics Cloud Security User  
Chatter External User  
Chatter Free User  
Chatter Moderator User  
Contract Manager  
Cross Org Data Proxy User  
Custom: Marketing Profile  
Custom: Sales Profile

## Page Layout

AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout

SETUP > OBJECT MANAGER  
**AC CTI Flow**

Details

Fields &amp; Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Edit Page Layout Assignment  
**AC CTI Flow**

Help for this Page

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.

Save Cancel

Page Layout To Use: -- Select Page Layout -- 26 Selected 0 Changed

## Profiles

Analytics Cloud Integration User  
Analytics Cloud Security User  
Chatter External User  
Chatter Free User  
Chatter Moderator User  
Contract Manager  
Cross Org Data Proxy User  
Custom: Marketing Profile  
Custom: Sales Profile

## Page Layout

AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout  
AC CTI Script Layout

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**.



SETUP

Page Layout Delete

## AC CTI Script Layout

In order to delete a Page Layout, you must choose another Page Layout to replace it with.

Page Layout to be deleted    AC CTI Script Layout  
Replace with Page Layout    **AC CTI Flow Layout ▾**

**Replace** **Cancel**

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**.

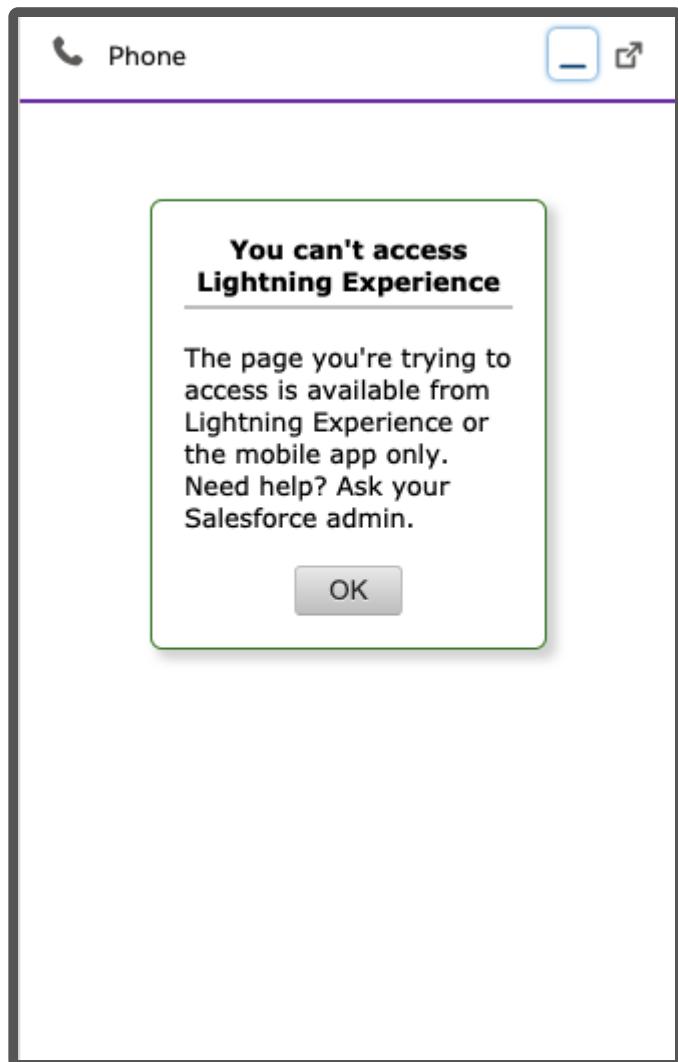
15. Use the CTI Block primitives in the editor to re-create your script as a CTI Flow.

16. Refer to the Sample Flows in the Appendix of this manual.

# CTI Adapter Installation Troubleshooting and Common Issues

## I upgraded my adapter to v5.10, but I cannot see the CCP Config changes

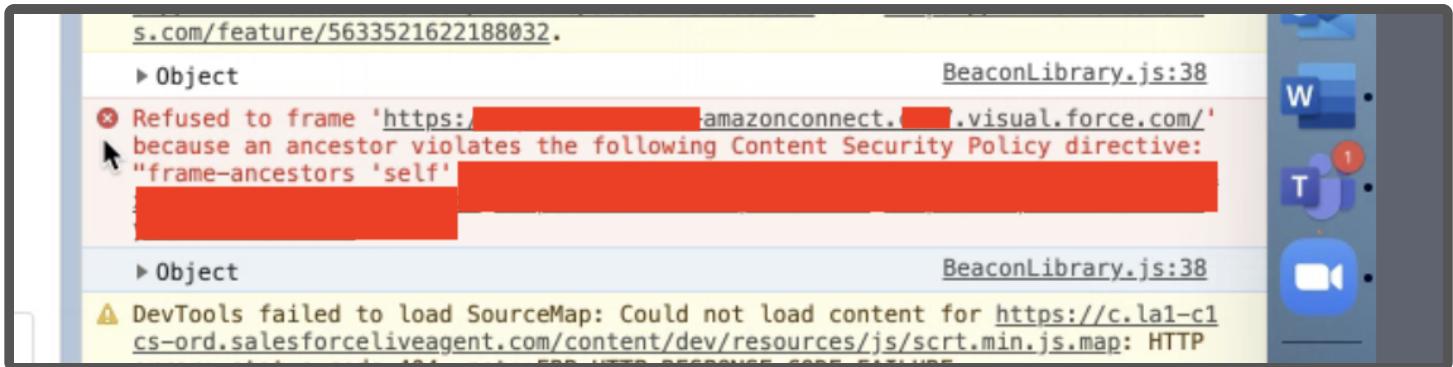
There is a bug with Salesforce that doesn't update a page layout when you upgrade a package. To fix this, go to Setup and search for **Objects** and click the option under **Create**. Once you're on the Custom Object page, search for the **AC CTI Adapter** object and click on it. Then go into **Page Layouts** and click **Edit** on the layout you are using (Typically **AC CTI Adapter Layout – August 2020**). Then, drag and drop the **Audio Device Settings** and **Page Layout Settings** into the desired spot on the page. Finally hit save.



## Error “refused to run the JavaScript URL because it violates the following Content Security Policy directive...”

This is an allowlisting issue, please review the installation and ensure that both URLs are properly allowlisted.

## Error “refused to frame” Visualforce page



This can happen if the customer has checked "Enable clickjack protection" on Salesforce session settings. The solution is to uncheck that.

Session Settings

Lightning Login

Clickjack Protection

Whitelisted Domains for Visualforce and Survey Inline Frames

Visualforce Pages: Allow iframes of Visualforce pages with clickjack protection on external domains. To enable this feature, whitelist external domains where you allow framing. Then, turn on one of the "Enable clickjack protection" checkboxes.

Enabling this feature is optional and doesn't change existing clickjack protection.

Surveys: Allow iframes of surveys to be embedded on external domains. To enable this feature, whitelist external domains where you allow framing.

Whitelisted Domains

Action	Domain
Edit   Del	https://equinix-uat2.my.salesforce.com
Edit   Del	https://equinixintest2.bigmachines.com
Edit   Del	https://uatbsc.equinix.com

## I upgraded my adapter to v5, but I don't see the CTI Flows feature.

See the [Upgrading from an Earlier Version](#) section of the installation guide.

## I upgraded my adapter from v3 to v5 and we lost some screenpop functionality.

All screenpop functionality native to v3 now needs to be recreated using CTI Flows. Please review the [CTI Flow Examples](#) for more details, all screenpop functionality from v3 has been recreated.

## Certain picklists are missing picklist items.

When upgrading from a version of the package to a higher version of the package in which new picklist items were added to a picklist, those new picklist items won't be installed. This is a [known Salesforce issue](#).

## How to remove permissions to Visualforce pages, Apex classes for a desired profile

1. Navigate to **Setup** and search for "Profiles".
2. Select the desired profile.
3. Select either **Visualforce Page Access** or **Apex Class Access**.

4. Select **Edit** and remove any desired permissions. All permissions can be removed because permissions are managed through permission sets, not through profiles.

## Browser refreshing when trying to open lightning components

This issue was first seen when trying to use the screenPop() method provided by Salesforce (this is the method we use for our Screenpop CTI Flow blocks).

### How do you fix it?

Remove the "&0.source=aloha" value from the browser. This can often be added to the current URL when a Salesforce page is navigated through the use of a bookmark.

### Why does this happen?

The cause of this issue is correlated with the presence of "&0.source=aloha" in the home page URL after logging into Salesforce. For context on what this value means, you can consult [this reference](#). This code is set by Salesforce to forcefully navigate a user to a url, which is needed in cases when a user tries to navigate to a salesforce page that can only be viewed by a logged in user. After logging in, this code is still present, and this is why this issue occurs. When this value is present, opening new tabs would result in the entire browser refreshing because it's still forcefully trying to navigate the user. This browser refresh eventually converts incoming calls to missed calls, which is the expected behavior while using the CTI Adapter.

### What are the Disable X Trigger options in the Custom Settings?

## Edit Toolkit for Amazon Connect

**Save** **Cancel**

### Toolkit for Amazon Connect Information

#### Location

- Disable the CCA Case Trigger**
- Disable the CCA Contact Trigger**
- Disable the Case Contact CCA Trigger**
- Disable the Task Trigger**

Url 

These are options we provide that allow you to toggle certain functionality in the adapter.

- CCA Case Trigger - This trigger looks for any ContactChannelAnalytics records that could be related to a updated/inserted Case, and creates a relationship between the two records. This trigger uses batching to process the update requests.
- CCA Contact Trigger - This trigger looks for any ContactChannelAnalytics records that could be related to a updated/inserted Contact, and creates a relationship between the two records. This trigger uses batching to process the update requests.
- Case Contact CCA Trigger - This trigger looks for any Case/Contact records that could be related to an updated/inserted ContactChannelAnalytics record, and creates a relationship between the records.
- Task Trigger - This trigger creates a ContactChannel record for any inserted/updated task that with a `CallObject` field that does not currently have a ContactChannel record created before.

## 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.

AC CTI Adapter Detail		<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Clone</a>	Owner
CTI Adapter Name	ACLightningAdapter		 [REDACTED]
Amazon Connect Instance	<a href="https://sfadAPTERtest.awsapps.com/">https://sfadAPTERtest.awsapps.com/</a>		Amazon Connect Instance Region
Custom Ringtone			us-east-1
Softphone Popout Enabled	<input checked="" type="checkbox"/>		Call Center Definition Name
Medialess	<input type="checkbox"/>		ACLightningAdapter
Audio Device Settings	<input type="checkbox"/>		Debug Level
			Off
			Presence Sync Enabled
			<input checked="" type="checkbox"/>
			Phone Type Settings
			<input checked="" type="checkbox"/>

## CTI Adapter Details

1. **CTI Adapter Name:** provide a unique name for this CTI adapter definition

- 2. Amazon Connect Instance:** This was configured in a previous section. This is the instance url 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. [See more information here](#)
- 9. Presence Sync Enabled:** This setting allows the adapter to use the presence rules to sync state from Amazon Connect to Salesforce Omni-Channel.
- 10. Early Get User Media (GUM):** When enabled, the CCP will capture the agent's browser microphone media stream before the contact arrives to reduce the call setup latency. If disabled, CCP will only capture agent media stream after the contact arrives.

Note: Enabling this feature may lead to draining in wireless headset batteries and/or impacted music/video audio quality when the agent is not on the call. [Link to streams documentation](#)
- 11. Audio Device Settings** Turning this setting on allows the Agent to setup a custom audio device for their speaker, microphone and ringer in the adapter (Speaker and Ringer settings not available on Firefox). You may have to add this field to the layout manually. [See troubleshooting](#).
- 12. Phone Type Settings** Turning this setting on allows the Agent to change their Phone Type in the CCP. You may have to add this field to the layout manually. [See troubleshooting](#)

# 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.

**Note:** With the new Amazon Connect instance urls (\*.my.connect.aws) you must put the full URL into the **Amazon Connect Instance** field in the AC CTI Adapter record for SSO to work. Ex: using <https://myinstance.my.connect.aws> instead of **my instance**.

## 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):

```
https://mXXXXXXrun-dev-ed.my.salesforce.com/idp/login?app=0sp0N000000Caid
```

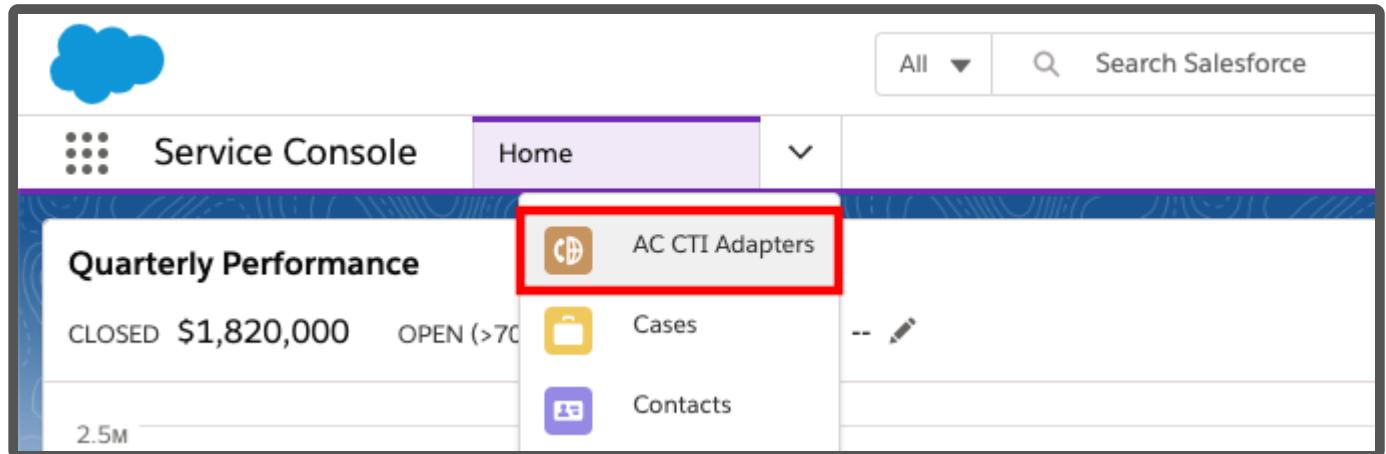
The 'RelayState' will be in the following format (replace **us-west-2** with the region you are using):

```
https://us-west-2.console.aws.amazon.com/connect/federate/InstanceId?destination=%2Fconnect%2Fccp
```

## 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



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://mXXXXXXrun-dev-ed.my.salesforce.com/idp/login?  
app=0sp0N000000Caid
```

Microsoft ADFS:

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

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:

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://us-west-  
2.console.aws.amazon.com/connect/federate/InstanceId?  
destination=%2Fconnect%2Fccp
```

If you did not have a Question Mark, then enter &RelayState= into the SSO Relay State field and append your relay state URL to it. For example:

```
&RelayState=https://us-west-  
2.console.aws.amazon.com/connect/federate/instanceId?  
destination=%2Fconnect%2Fccp
```

#### 8. Example of a completed SSO section (Salesforce is shown)

#### ✓ Single SignOn (SSO)

SSO Url

https://sample-dev-ed.my.salesforce.com/idp/login

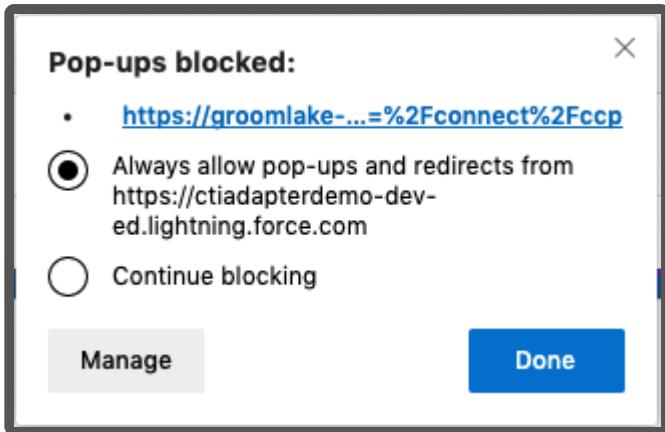
SSO Relay State

app=0sp6g000000XZyd&RelayState=https://us-west-2.console.aws.amazon.com/connect/federate/YOUR-INSTANCE-ID?  
destination=%2Fconnect%2Fccp

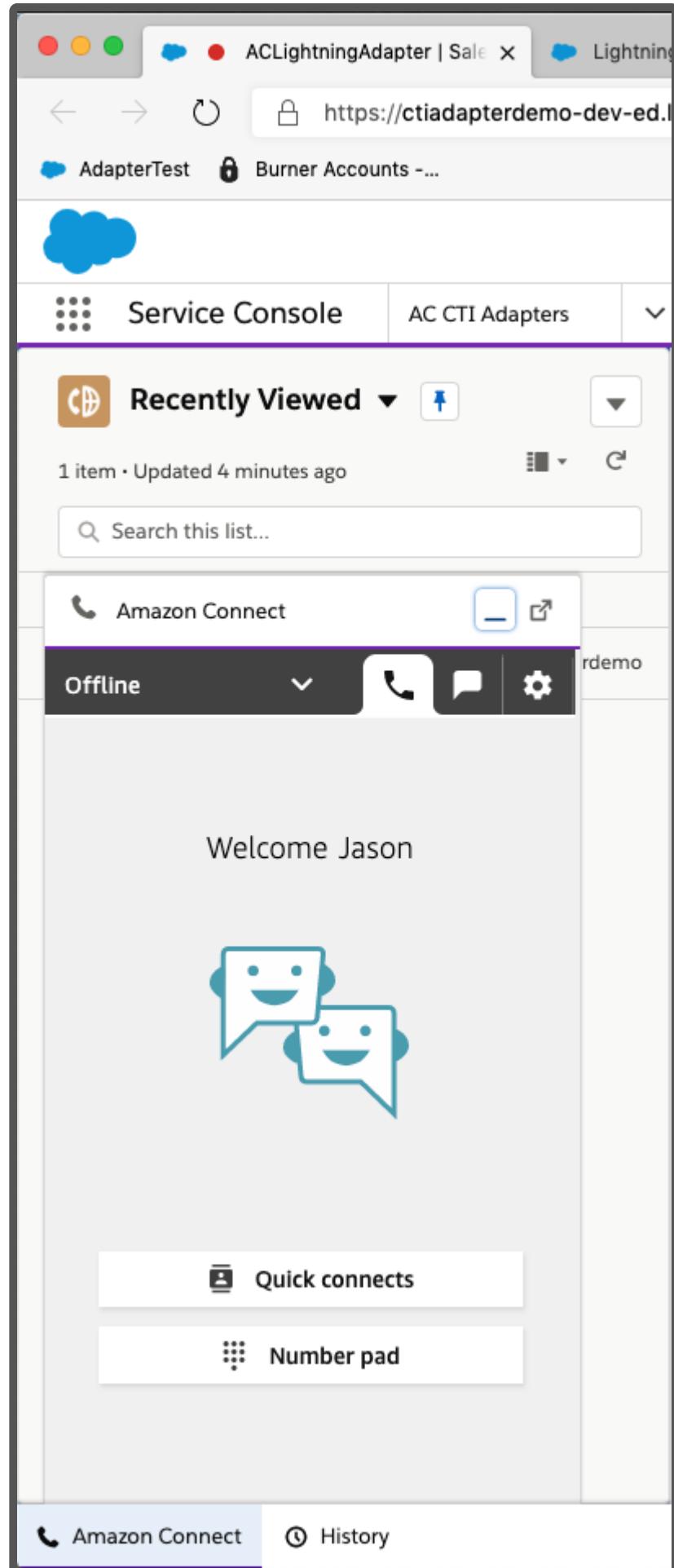
#### 9. Choose **Save**

#### 10. **Refresh** your browser to make the changes take effect

- 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. 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.
12. Click the Sign into CCP button
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

NOTE: After Salesforce Winter '22 Release, users need to have View Setup and Configuration OR View DeveloperName permission via a profile or permission set to use this feature. See [New Permission Requirements for DeveloperName Field](#) for more information.

## 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.

Note: Presence Sync is not supported for Salesforce Classic Adapters but it is supported for Salesforce Console Adapters. This feature is not turned on by default.

 omni

Feature Settings

Service

Omni-Channel

Agent Work

Agent Work Limits

Agent Work Triggers

Agent Work Validatio...

Limits

Omni-Channel Settings



Presence Configurations

Presence Decline Reaso...

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



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 agents. Omni-Channel lets you create work items from your Salesforce records—including cases, chats, leads, and 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 get 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 agents; instead, agents receive the most qualified available agent in real time!

Show diagram ▾

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

<input checked="" type="checkbox"/> Enable Omni-Channel		This must be checked
Use Skills-Based Routing		
<input type="button" value="Save"/>		<input type="button" value="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 metrics

Status name	Description
Available	Available
Wrap Up	Updating
Day Dreaming	Don't Disturb
Break	Taking a Break
Lunch	Gone
Offline	Offline

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	
Edit	<a href="#">Available</a>	
Edit	<a href="#">Break</a>	
Edit	<a href="#">Day_Dreaming</a>	
Edit	<a href="#">Lunch</a>	
Edit	<a href="#">Offline</a>	
Edit	<a href="#">Wrap_Up</a>	

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 service.

**Save** **Cancel**

## 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 agents receive work items.

- Online  
 Busy

## ▼ Service Channels

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

Available Channels	Selected Channels
<div style="border: 1px solid #ccc; padding: 5px; height: 150px;"></div>	<div style="border: 1px solid #ccc; padding: 5px; height: 150px;"><p>Live Agent Outbound Campaign Chan</p></div>
<b>Add</b>  <b>Remove</b> 	

**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".



SETUP  
**Profiles**

StdExceptionTemplate

Unauthorized

UnderConstruction

**Enabled External Data Source Access**

[Edit](#)

No External Data Sources enabled

**Enabled Named Credential Access**

[Edit](#)

No Named Credential enabled



**Enabled Service Presence Status Access**

[Edit](#)



**Service Presence Status Name**

Available

Day Dreaming

**Matches Connect Statuses**

Offline

On Break

**Enabled Custom Permissions**

[Edit](#)

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

The screenshot shows a configuration interface for enabling service presence status access. At the top right are 'Save' and 'Cancel' buttons. Below them are two lists: 'Available Service Presence Statuses' and 'Enabled Service Presence Statuses'. The 'Available' list contains a single item, '--None--'. The 'Enabled' list contains six items: Available, Break, Day Dreaming, Lunch, Offline, and Wrap Up. Between the lists are two buttons: 'Add' with a right-pointing arrow icon and 'Remove' with a left-pointing arrow icon.

Available Service Presence Statuses	Enabled Service Presence Statuses
--None--	Available Break Day Dreaming Lunch Offline Wrap Up

Add      Remove

## Amazon Connect System Statuses

The following Amazon Connect CCP statuses are system statuses that can be used in presence sync. Please note however that these statuses are restricted and you cannot set the Amazon Connect status to the below.

- Busy - agent is in a call
- Pending - agent is receiving a request for a queue callback
- PendingBusy - agent is receiving call
- CallingCustomer - agent is calling customer
- AfterCallWork - agent is in the after call work screen

## 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.
  - If a rule is set up with this event and the new state is set to "Offline", this will not trigger Salesforce Agent Logout
- **Salesforce Agent Logout:** The Salesforce agent has logged out
  - Logging out of Omnichannel does not automatically log you out of Connect or set CCP to offline. If you want this functionality, you will need to set up a Presence Sync rule.
  - Rules triggered by Salesforce Agent Logout will only work if the rule is set to trigger when Salesforce New Agent Status is equal to the exact value "Offline" (case sensitive without quotes)
- **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	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Clone</a>
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	
<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Clone</a>

**Attributes**

No records to display	<a href="#">New AC CTI Attribute</a>
-----------------------	--------------------------------------

**CTI Flows**

No records to display	<a href="#">New AC CTI Flow</a>
-----------------------	---------------------------------

**Presence Sync Rules**

No records to display	<a href="#">New AC Presence Sync Rule</a>
-----------------------	---

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 is titled 'Connect agent switches to Lunch'. The configuration fields include:

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

The 'Active' checkbox is checked. At the bottom 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.

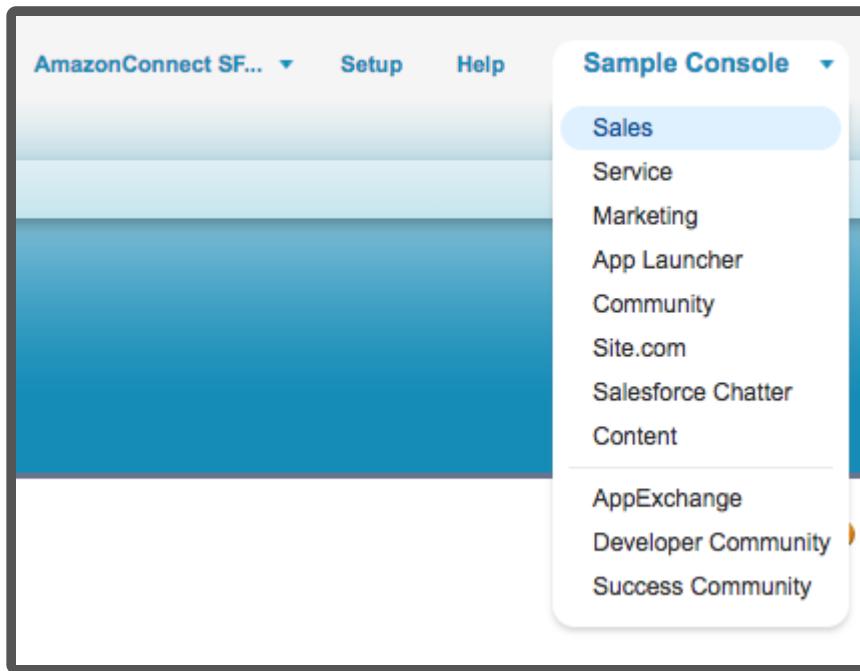
To configure a contact attribute for display within embedded CCP:

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.

**View:** [All Tabs](#) ▾

 <a href="#">AC Contact Channel Analytics</a>	 <a href="#">Documents</a>
 <a href="#">AC Contact Trace Records</a>	 <a href="#">Duplicate Record Sets</a>
 <a href="#">Accounts</a>	 <a href="#">Engagement Channel Types</a>
 <a href="#">AC CTI Adapters</a>	 <a href="#">External Managed Accounts</a>
 <a href="#">AC Real Time Queue Metrics</a>	 <a href="#">Files</a>
 <a href="#">AC Voicemail Drops</a>	 <a href="#">Forecasts</a>
 <a href="#">Analytics</a>	 <a href="#">Groups</a>
 <a href="#">App Launcher</a>	 <a href="#">Home</a>

3. Select \*\*AC CTI Adapters\*\* and select your adapter
4. Scroll down to the attributes section and select **New AC CTI Attribute**

**Attributes**

New AC CTI Attribute

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**

**AC CTI Attribute Edit**

Save Save & New Cancel

**Information** | = Required Information

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

Save Save & New 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:

## Set contact attributes

Stores key / value pairs as contact attributes.

Contact attributes are accessible by other areas of Amazon Connect, such as the Contact Control Panel (CCP) and Contact Trace Records (CTRs).

Attribute to save

Use text X

Destination key

authenticated

Value

true

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

[Home](#)   [Chatter](#)   [Campaigns](#)   [Leads](#)   [Accou](#)

## Attributes

Is Authenti... bfc5c3t



[« Back to List: e](#)

**AC CTI Ada**

Amazon C

Softp

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



## ACClassicAdapter

[« Back to List: Call Centers](#)

[Attributes \[1\]](#) | [CTI Flows \[0\]](#) | [Presence Sync Rules \[0\]](#) | [Features \[0\]](#)

### AC CTI Adapter Detail

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

Owner

CTI Adapter Name **ACClassicAdapter**

Amazon Connect Instance Region

Amazon Connect Instance Alias **ac-test-east-1**

Call Center Definition Name

Custom Ringtone

Debug Level

Softphone Popout Enabled

Medialess

Presence Sync Enabled

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

### Features

[New AC Feature](#)

No records to display

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

### AC Feature Edit

[Save](#)

[Save & New](#)

[Cancel](#)

#### Information

AC Feature Name

**FEATURE\_CTI\_ATTRIB**

Value

ShowAttributesIfEmpty: true  
ShowAllAttributes: true

Active



CTI Adapter

**ACClassicAdapter**

[Save](#)

[Save & New](#)

[Cancel](#)

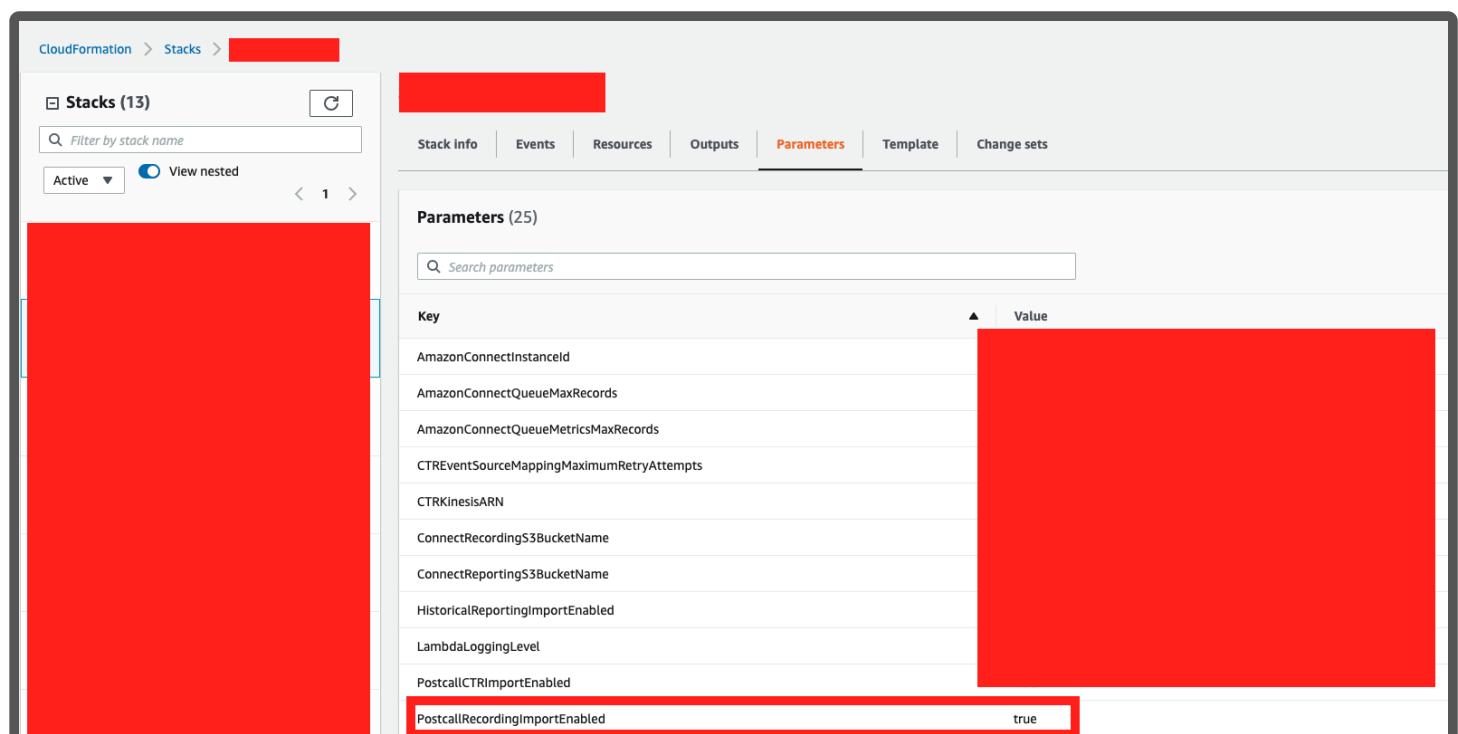
5. Select **Save**

# Call Recording Playback

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. You can play the call recordings on either the Contact Channel Analytics page or the Task page.

## Cloudformation Template

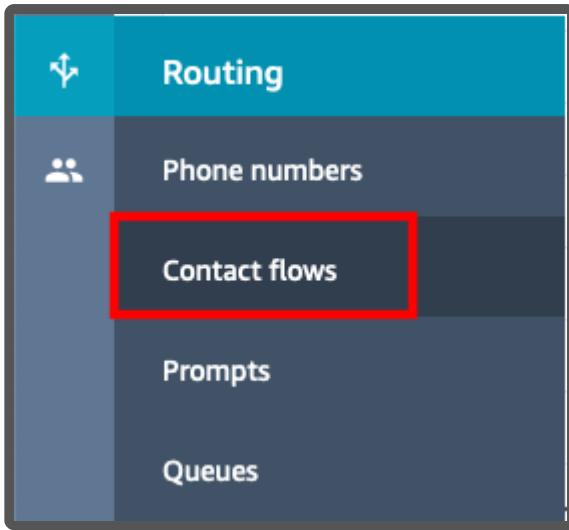
To make sure that the AWS resources are set up, make sure that the *PostcallRecordingImportEnabled* parameter is set to true in your Cloudformation stack:



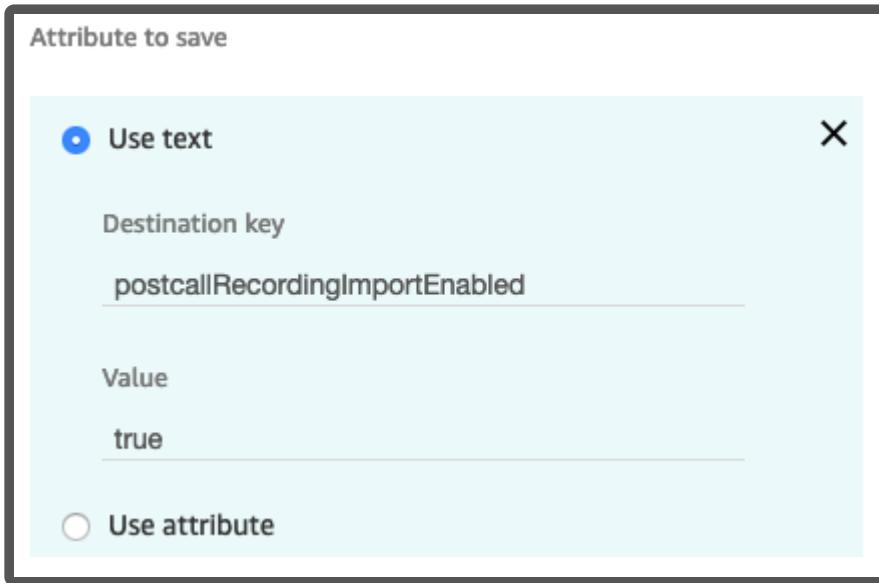
**Note:** If you are expecting more than 1000 concurrent calls, you may have to increase the timeout for the `sfCTRTrigger` lambda.

## Enabling call recording streaming

1. Login to your Amazon Connect instance as an Administrator
2. From the left navigation, choose **Routing** then select **Contact flows**



3. Open the contact flow that you want to use to enable call recording import. This contact flow must have Amazon Connect's native recording turned on.
4. In your contact flow, before you transfer to queue, add a new **Set contact attributes** block
5. Configure the block to set a contact attribute as follows:
  - a. **Destination key:** postcallRecordingImportEnabled
  - b. **Value:** true



6. **Save** the Set contact attributes block. Make sure it is appropriately connected to your contact flow, and **Publish** the flow.
7. Wait approximately 2 minutes to give the contact flow time to publish.
8. Place a call, connect to your agent, speak for a few moments to test the audio, then end the call. Make sure the agent exits after call work
9. After a minute or so, the recording should import.

## Adding users to the AC\_CallRecording permission set

This step is only necessary for non admin user accounts.

1. In the setup search box, search for "Permission sets". Select the "AC\_CallRecording" permission set. Select "Manage Assignments".

The screenshot shows the Salesforce Setup interface. On the left, the navigation bar includes 'Setup', 'Home', and 'Object Manager'. A search bar at the top left contains the text 'Perm'. The main content area is titled 'Permission Sets' and shows a permission set named 'AC\_CallRecording'. Below the title, there's a 'Permission Set Overview' section with fields for 'Description', 'License', 'Session Activation Required' (unchecked), and 'Last Modified By' (Bomi Lee, 10/12/2020, 5:07 PM). A red box highlights the 'Manage Assignments' button in the top right of the overview section. At the bottom, there's a 'Apps' section with 'Assigned Apps' and 'Assigned Connected Apps' settings.

2. Select "Add Assignments". Add the users that should have access to the audio recordings and select "assign".

The screenshot shows the 'Assign Users' page under 'Permission Sets'. The title is 'Assign Users' and the subtitle is 'All Users'. There are buttons for 'View: All Users' and 'Edit | Create New View'. The main area is a table with columns 'Action', 'Full Name', 'Alias', and 'Username'. The 'Action' column contains checkboxes and links like '| Edit' and '| Edit | Login'. The 'Full Name' column is sorted by 'Full Name'. The 'Assign' button in the top right corner is highlighted with a red box.

## Enable call recording streaming on the Contact Channel Analytics page

1. Navigate to the Sales Console, and select the + button on the top bar.



Search...

Search

Switch to Lightning Experience

[Home](#) [Getting Started](#) [Chatter](#) [Profile](#) [Groups](#) [Files](#) [Leads](#) [Accounts](#) [Contacts](#) [Opportunities](#) [Reports](#) [Dashboards](#) [Products](#) [+](#)

## 2. Select AC Contact Channel Analytics.

### 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](#) ▾

 <a href="#">AC Contact Channel Analytics</a>	 <a href="#">Individuals</a>
 <a href="#">AC Contact Trace Records</a>	 <a href="#">Knowledge</a>
 <a href="#">Accounts</a>	 <a href="#">Leads</a>
 <a href="#">AC CTI Adapters</a>	 <a href="#">Libraries</a>
 <a href="#">AC Guided Setup</a>	 <a href="#">Licenses</a>
 <a href="#">AC Voicemail Drops</a>	 <a href="#">List Emails</a>
 <a href="#">App Launcher</a>	 <a href="#">Locations</a>
 <a href="#">Article Management</a>	 <a href="#">Location Trust Measures</a>

## 3. Select into a record and then select **Edit Layout**.

AC Contact Channel Analytics  
CCA 000000 [Customize Page](#) [Edit Layout](#)

[Notes & Attachments \[0\]](#)

**AC Contact Channel Analytics Detail** [Edit](#) [Delete](#) [Clone](#)

Contact Channel Analytics Name	CCA 000000
Contact Id	512d2ff1-f9d6-4680-90fc-b4af0afa1008
Keywords	
Named Entities	
Sentiment	
Dominant Language	
Channel	

## 4. Select **Visualforce Pages** and then drag **AC\_RecordingViewer** into your desired location.

## AC Contact Channel Analytics Layout ▾

Save ▾

Quick Save

Preview As... ▾

Cancel

Undo

Buttons

Quick Actions

Mobile & Lightning Actions

Expanded Lookups

Related Lists

Report Charts

**Visualforce Pages**



Quick Find

Page Name

+ Section

+ Blank Space

AC\_RecordingViewer

**AC\_Something**

5. Select **Save**, and observe that the audio recording component in the Contact Channel Analytics page.

AC Contact Channel Analytics  
CCA 000000

[« Back to List: Permission Sets](#)

[Notes & Attachments \[0\]](#)

**AC Contact Channel Analytics Detail**

Contact Channel Analytics Name CCA 000000

Contact Id 512d2ff1-f9d6-4680-90fc-b4af0afa1008

Keywords

Named Entities

Sentiment

Dominant Language

Channel

▶ 0:00 / 0:02

## Enable call recording streaming on the Task page

The below steps will add an audio recording component to tasks created from [this CTI flow](#) (or any tasks with the CallObject field set to the contactId of the call).

1. Click into a task in your Salesforce org

2. Click "Edit Layout"

The screenshot shows the 'Task Layout' editor for a 'New Call' task. At the top right, there is a red box around the 'Edit Layout' button. Below it, the page title is 'Task New Call'. There are buttons for 'Click to add topics' and 'Attachments [0]'. A navigation bar at the bottom includes 'Task Detail' and buttons for 'Edit', 'Delete', 'Create Follow-Up Task', and 'Create Follow-Up Event'.

3. Drag the "ACSFCCP\_CallRecordingTask" item to the desired area of the layout to have that information appear on the agent's screen.

The screenshot shows the 'Task Layout' editor with the 'Visualforce Pages' section selected. On the left, there is a sidebar with options like 'Buttons', 'Quick Actions', 'Mobile & Lightning Actions', 'Expanded Lookups', 'Related Lists', 'Report Charts', and 'Visualforce Pages'. On the right, there is a 'Quick Find' search bar and a list of items. The 'AC\_CallRecordingTask' item is highlighted with a yellow background.

The screenshot shows the 'Task Detail' page for a 'New Call' task. It includes fields for 'Assigned To' (Bomi Lee), 'Subject' (New Call), and 'Due Date'. Below these fields is a media player interface showing a play button, the time '0:00 / 0:00', a progress bar, and a volume icon.

4. 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.

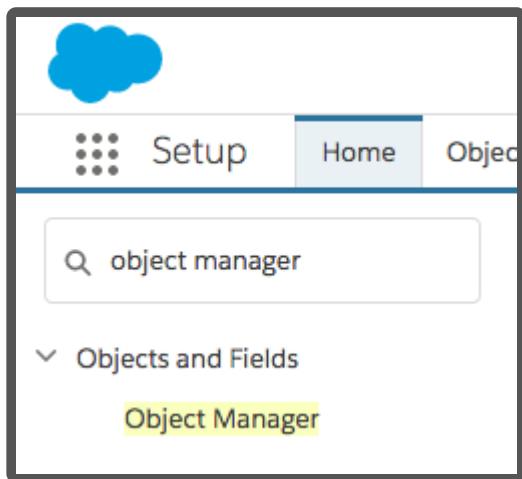
## Call Display on the Account Page

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

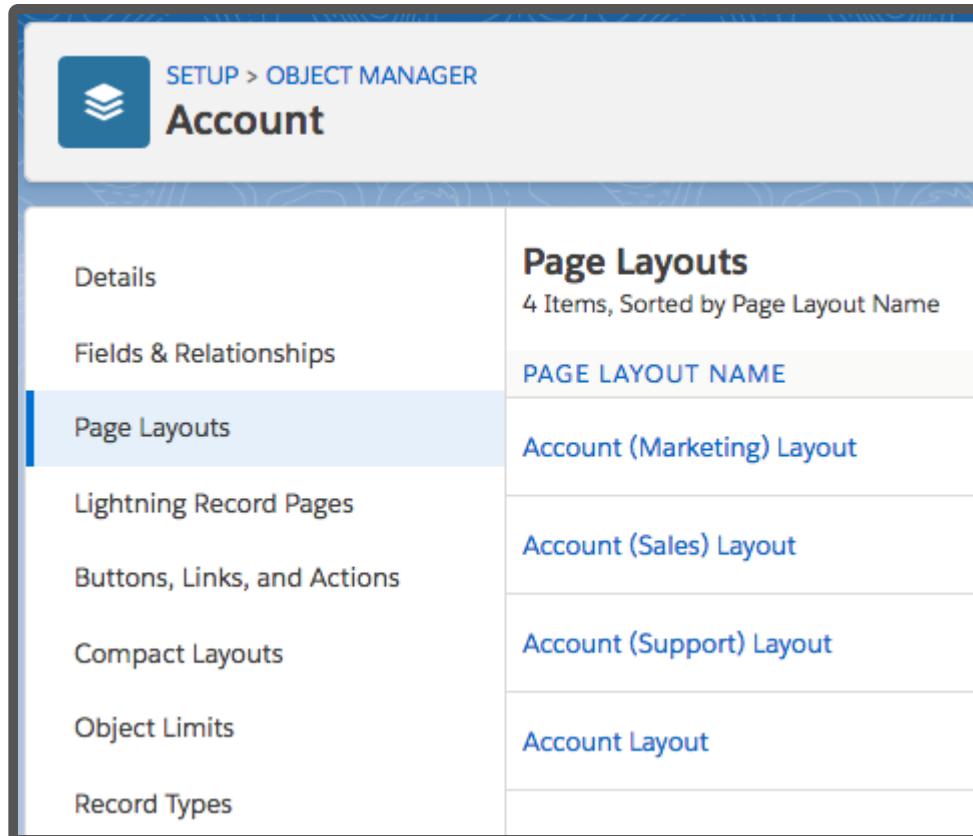
2. Navigate to **Setup** then in type Object Manager in Quick Find



3. Click on the "Account" object

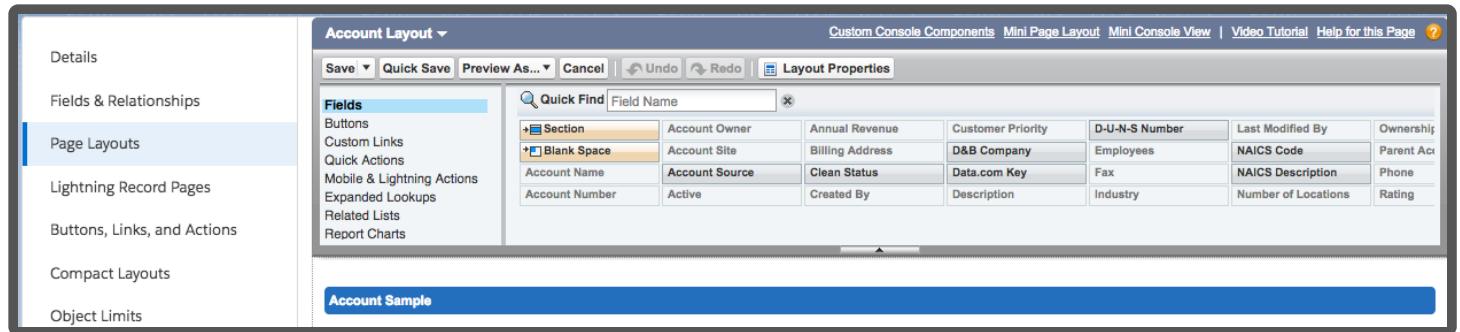
Object Manager		
LABEL	API NAME	DESCRIPTION
Account	Account	

4. Click on the "Page Layouts"



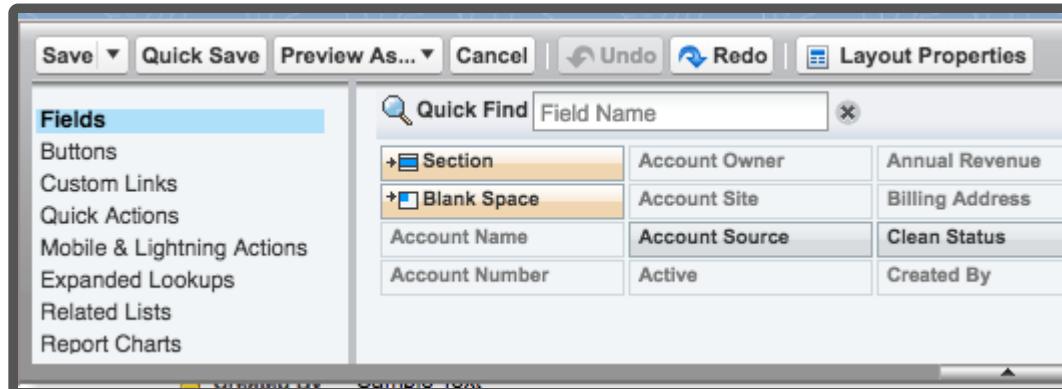
The screenshot shows the 'Object Manager' section for the 'Account' object. The left sidebar has links for 'Details', 'Fields & Relationships', 'Page Layouts' (which is selected and highlighted in blue), 'Lightning Record Pages', 'Buttons, Links, and Actions', 'Compact Layouts', 'Object Limits', and 'Record Types'. The main content area is titled 'Page Layouts' and shows a list of four items: 'Account (Marketing) Layout', 'Account (Sales) Layout', 'Account (Support) Layout', and 'Account Layout'. Each item is a link.

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



The screenshot shows the 'Account Layout' editor. The left sidebar has links for 'Details', 'Fields & Relationships', 'Page Layouts' (selected), 'Lightning Record Pages', 'Buttons, Links, and Actions', 'Compact Layouts', and 'Object Limits'. The main area is titled 'Account Layout' and contains a table of fields. The table has columns for 'Section' (with '+Section' and '+Blank Space' buttons), 'Account Owner', 'Annual Revenue', 'Customer Priority', 'D-U-N-S Number', 'Last Modified By', and 'Ownership'. Below the table is a 'Quick Find' field and a 'Layout Properties' button. At the bottom is a preview bar labeled 'Account Sample'.

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



The screenshot shows the 'Fields' section of the layout editor. The left sidebar has links for 'Details', 'Fields & Relationships', 'Page Layouts' (selected), 'Lightning Record Pages', 'Buttons, Links, and Actions', 'Compact Layouts', and 'Object Limits'. The main area shows a table of fields with sections for 'Section' and 'Blank Space'. The table columns are 'Section', 'Account Owner', 'Annual Revenue', 'Customer Priority', 'D-U-N-S Number', 'Last Modified By', and 'Ownership'. A 'Quick Find' field is also present.

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

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 Rev
→ Blank Space	Section	Billing Add
Account Name	Account Source	Clean Status
Account Number	Active	Created By

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	Customer Priority	D-U-N-S Number	Last Modified By	Ownership
Blank Space	Account Site	Billing Address	D&B Company	Employees	NAICS Code	Parent Acc
Account Name	Account Source	Clean Status	Data.com Key	Fax	NAICS Description	Phone
Account Number	Active	Created By	Description	Industry	Number of Locations	Rating

Customer Priority Sample Text

SLA SLA Serial Number Sample Text

SLA Expiration Date 20/09/2018

Number of Locations 518

Upsell Opportunity Sample Text

Active Sample Text

System Information (Header visible on edit only)

Created By Sample Text Last Modified By Sample Text

Description Information (Header visible on edit only)

Description Sample Text

Custom Links (Header not visible)

Billing

Section

Mobile Cards (Salesforce mobile only)

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

**Section Properties**

Section Name

Display Section Header On  Detail Page  Edit Page

**Layout**

1-Column  2-Column

OK Cancel

9. Click "OK"

... Description Information (Header visible on edit only)

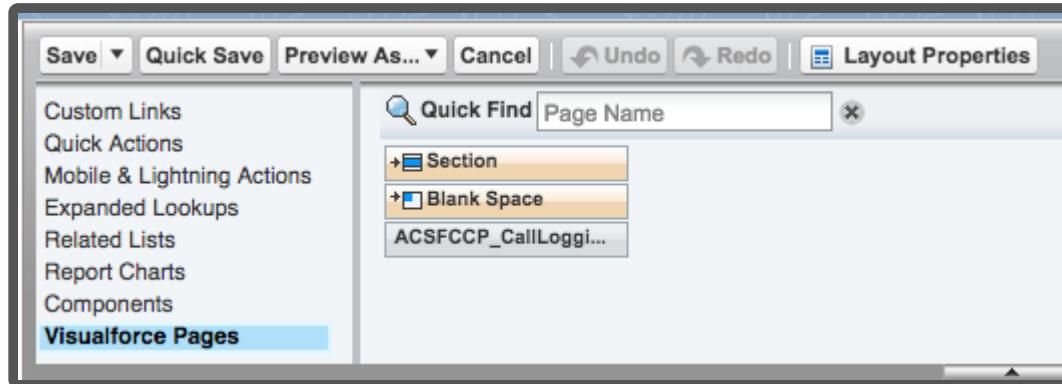
Description Sample Text

... Custom Links (Header not visible)

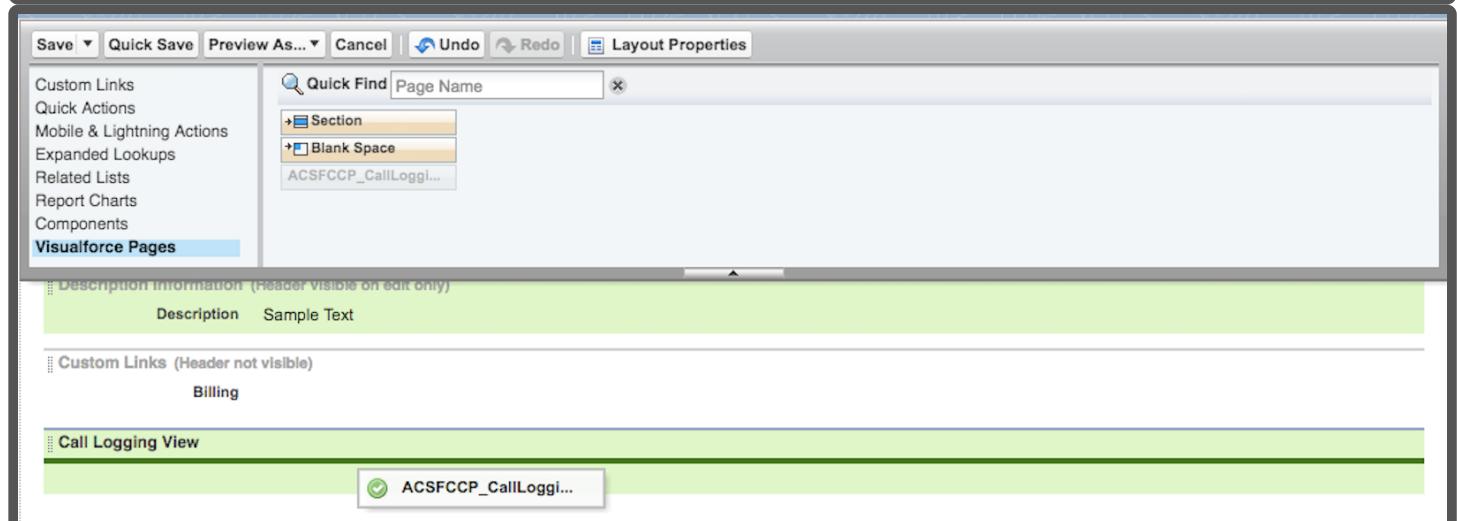
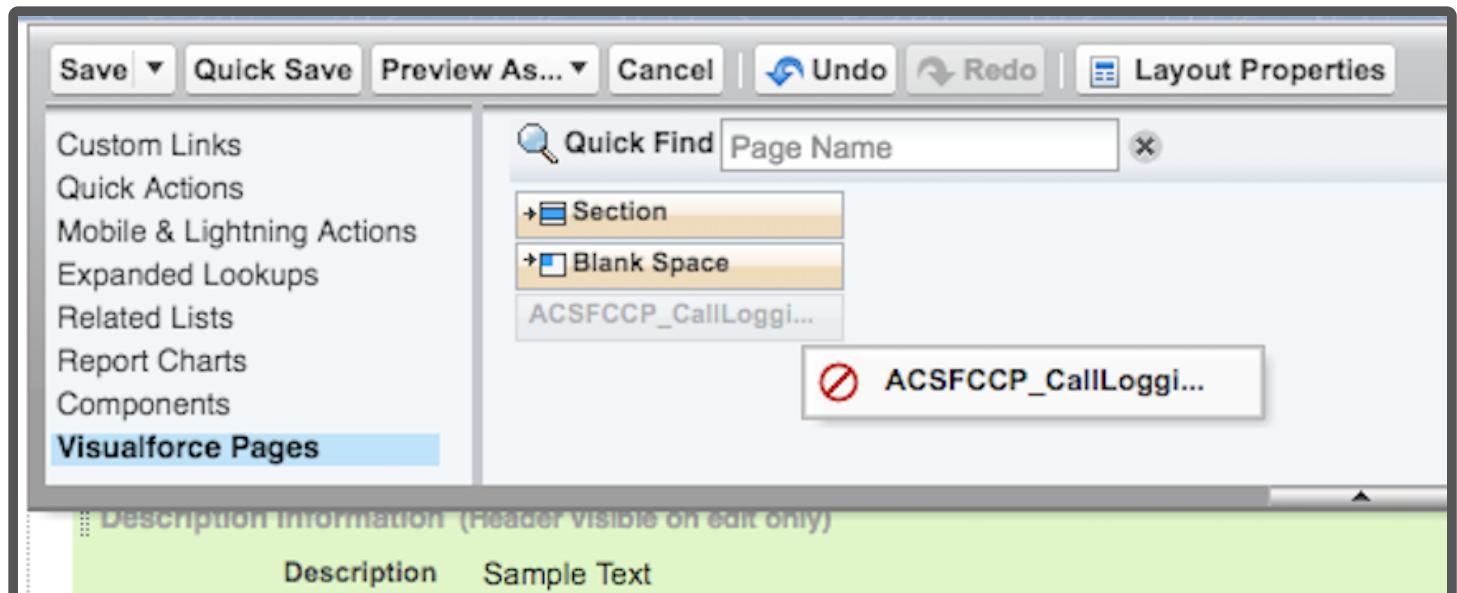
Billing

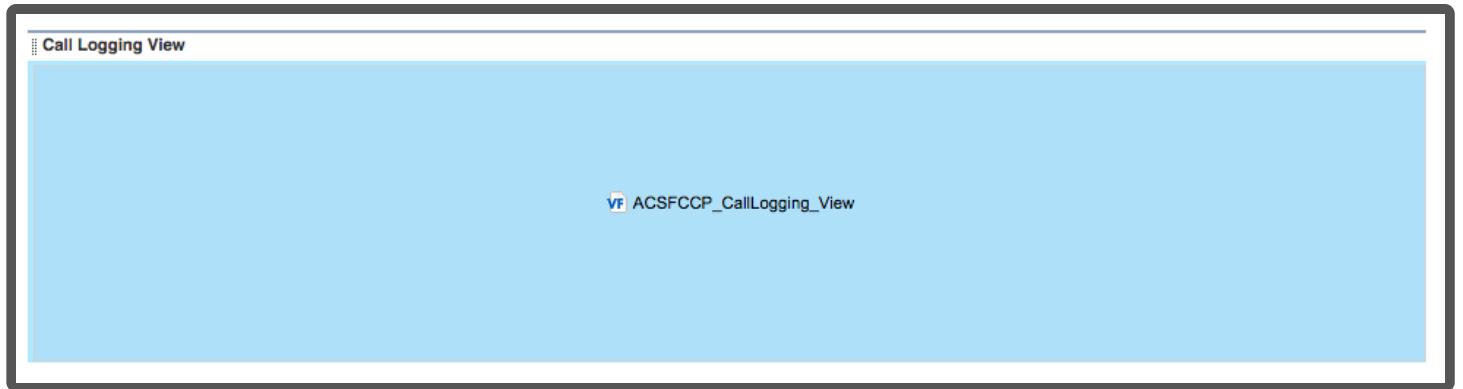
... Call Logging View

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

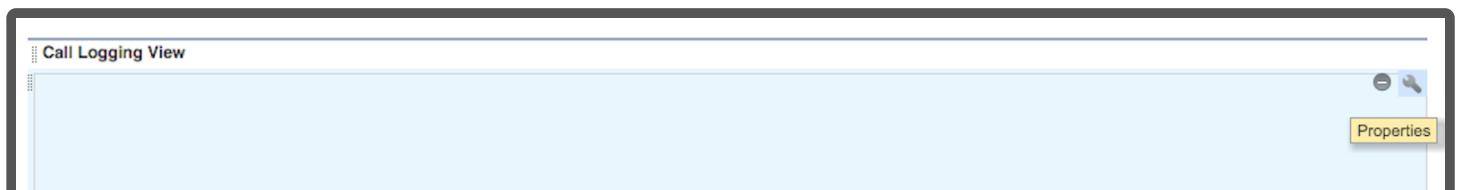


11. Drag and drop "ACSFCCP\_CallLogging\_View" item to the "Call Logging View" section

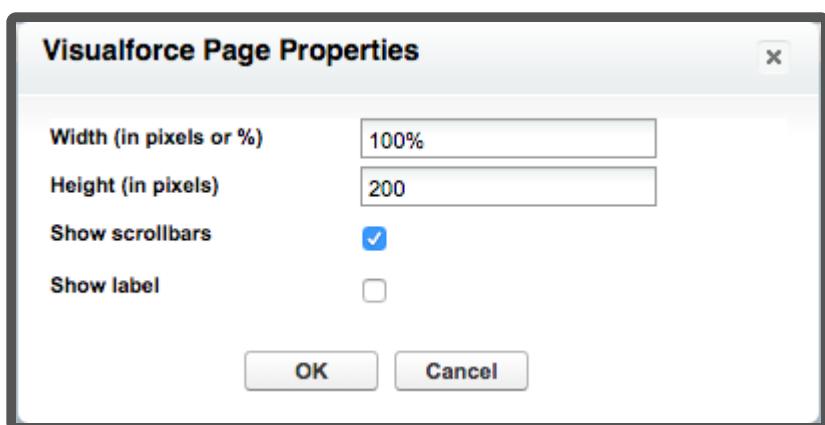




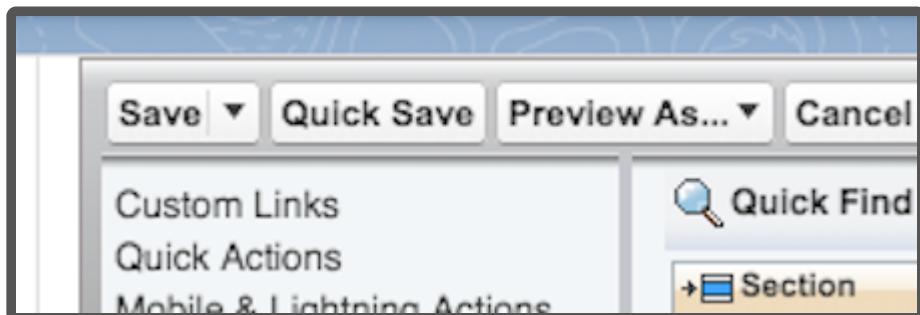
12. Hover the newly added component and click on the "Setting" icon



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\\_mobile\\_salesforce1\\_layouts\\_cards](https://trailhead.salesforce.com/en/modules/visualforce_mobile_salesforce1/units/visualforce_mobile_salesforce1_layouts_cards)

## 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.



Setup

Home

Object M

 omni

Feature Settings

Service

Omni-Channel

Agent Work

Agent Work Limits

Agent Work Triggers

Agent Work Validatio...

Limits

Omni-Channel Settings



Presence Configurations

Presence Decline Reaso...

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



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 agents. Omni-Channel lets you create work items from your Salesforce records—including cases, chats, leads, and 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 get 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 pick up work items manually from a queue, and managers no longer have to triage or dispatch work to agents; instead, agents receive the most qualified available agent in real time!

Show diagram ▾

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

<input checked="" type="checkbox"/> Enable Omni-Channel		This must be checked
Use Skills-Based Routing		
<input type="button" value="Save"/>		<input type="button" value="Cancel"/>

## 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. In the top navigation bar, 'Setup' is selected. Below it, there's a search bar with the query 'queues'. A sidebar on the left lists 'Users' and 'Queues', with 'Queues' being the active tab. 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 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.' Below this is a 'View' dropdown set to 'All' and a link to '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. At the top, there's a 'View' dropdown set to 'All' and a link to 'Edit | Create New View'. Below this 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 contains one row with the following data:

Action	Label	Queue Name	Queue Email	Supported Objects	Modified By	Last Modified
Edit   Del	<u>TestChatQueue</u>	<u>TestChatQueue</u>		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; Performance Cycle		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.



SETUP



## 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	
Case	
Goal	
Knowledge Article Version	
Lead	
Live Agent Session	
Live Chat Transcript	
Macro	
Metric	
Order	
Quick Text	
Scorecard	



1

2

### 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--

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

Search:  for:

#### Available Members

- User:
- User: 1
- User:
- User:

#### Selected Members

- None--

Add  
  
Remove

2

3

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



SETUP

Queues



## Queues

[Help for this Page](#)

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.

View: [All](#) [Edit](#) | [Create New View](#)[A](#) | [B](#) | [C](#) | [D](#) | [E](#) | [F](#) | [G](#) | [H](#) | [I](#) | [J](#) | [K](#) | [L](#) | [M](#) | [N](#) | [O](#) | [P](#) | [Q](#) | [R](#) | [S](#) | [T](#) | [U](#) | [V](#) | [W](#) | [X](#) | [Y](#) | [Z](#) | Other [All](#)[New](#)

Action	Label	Queue Name	Queue Email	Supported Objects	Modified By	Last Modified Date
<a href="#">Edit</a>   <a href="#">Del</a>	<a href="#">Call Campaign</a>	<a href="#">Call Campaign</a>		Amazon Connect Call Campaign Amazon Connect Historical Report Data; Amazon Connect Call Campaign; Agent Work; Case; Goal;		21/09/2018 04:07

## Create a Service Channel

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

 service channel

Feature Settings

Service

Omni-Channel

Service Channels



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

Click "New" to create our new Service Channel.



SETUP

# Queues

## Queues

Queues allow groups of queue until a user accept allowed to retrieve record

View: All ▼ Edit | Cr

Action	Label ↑
<a href="#">Edit   Del</a>	<a href="#">Call Campaign</a>



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 | O

Action	Service Channel Name	Developer Name
Edit	<a href="#">Live Agent</a>	[REDACTED]

New



SETUP

### 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 set up Omni-Channel for your organization.

[Create Service Channels](#)  
Need help creating your first Service Channel? Visit the Salesforce help.

[Service Channel Settings](#)  
Learn more about what individual service channels can do.

[Set Up Omni-Channel - implementation](#)  
Snuggle up with a cup of cocoa and learn the end-to-end process of setting up Omni-Channel.

Basic Information	
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"/> 3

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).



SETUP

# Service Channels

[« Back to List: Service Channels](#)

## Basic Information

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

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

Custom Console Footer Component

## 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".

 routing

## Feature Settings

## Service

## Omni-Channel

Routing Configurations

Didn't find what you're looking for?

Try using Global Search.



SET

## Service

[« Back to List:](#)

## Basic Info

Custom Conso

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



SETUP

## Routing Configurations

### 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.

View: [All ▾](#) [Create New View](#)

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

Action	Routing Configuration Name ↑	Developer Name	Routing Priority	Routing Model
<a href="#">Edit</a>   <a href="#">Del</a>	<a href="#">TestRouting</a>	<a href="#">TestRouting</a>	1	Most Available

New



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.

[Save](#) [Cancel](#)

#### Basic Information

Routing Configuration Name

Call Campaign Routing

1

Developer Name

Call\_Campaign\_Routing\_C

Overflow Assignee

If you don't give the overflow assignee access to the object types in your queues and set an overflow assignment, 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 items are pushed first. Higher-priority items are pushed last.

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 a work item.

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.

The screenshot shows the 'Routing Settings' configuration page. At the top, there is a dropdown menu labeled 'User' and a search bar. Below the header, the section title 'Routing Settings' is followed by a descriptive text about routing priority and model. Three input fields are present: 'Routing Priority' (set to 2), 'Routing Model' (set to 'Most Available'), and 'Push Time-Out (seconds)'. Orange numbers 1, 2, and 3 are placed near the first three input fields respectively, with orange arrows pointing from each number to its corresponding field. Below this section is another titled 'Work Item Size' with a note about specifying item size. It contains two input fields: 'Units of Capacity' (set to 5) and 'Percentage of Capacity'. An orange number 4 is placed near the bottom left of the page, with an orange arrow pointing towards the 'Save' and 'Cancel' buttons at the bottom right.

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 2

Routing Model Most Available

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 5

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).

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"/>
Add to Members	<input type="button" value=""/>

## Configuration with Omni-Channel Routing

If your organization uses Omni-Channel, you can link queues to a routing configuration. This Configurations.

## Routing Configuration

## Supported Objects

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



# Lookup

**Go!**

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	Percentage
TestRouting	<a href="#">TestRouting</a>	1	Most Available	5.00	
Call Campaign Routing Config	<a href="#">Call_Campaign_Routing_Config</a>	2	Most Available	5.00	

Copyright © 2000-2018 salesforce.com, inc. All rights reserved.

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 case 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:

Send Email to Members:

**Configuration with Omni-Channel Routing**

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

Routing Configuration: [Campaign\\_Routing\\_Config](#)

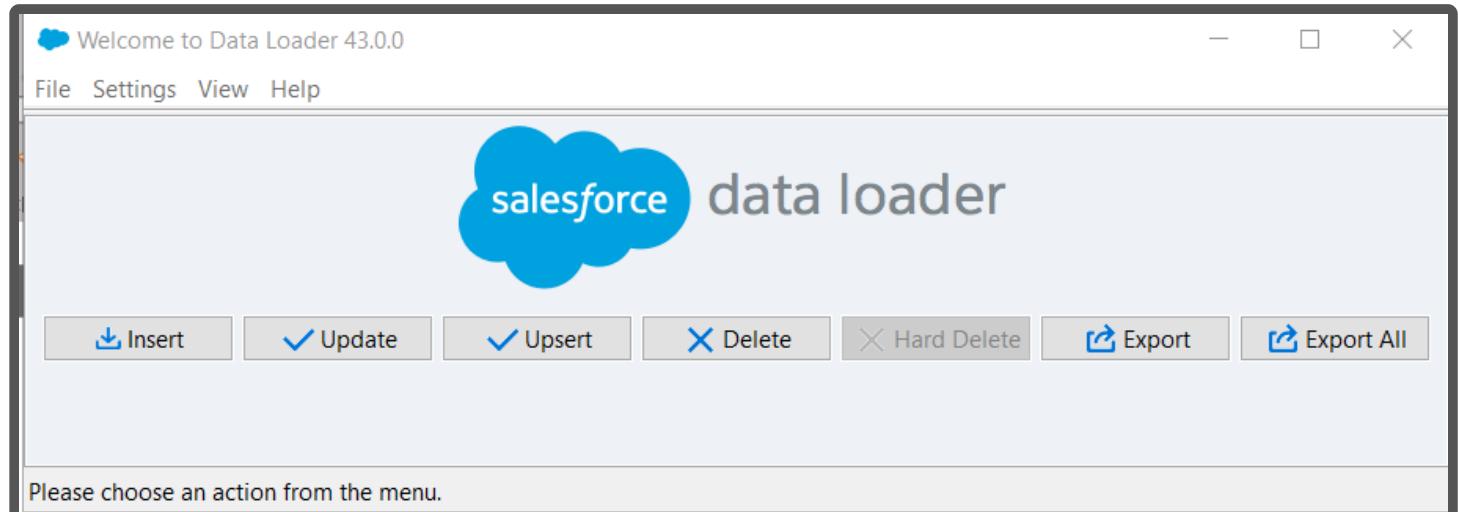
**Supported Objects**

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://dataloader.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

Next >

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.

Choose the query fields below.

<input checked="" type="checkbox"/> Id	^
<input checked="" type="checkbox"/> QueueId	
<input type="checkbox"/> SObjectType	
<input type="checkbox"/> CreatedById	
<input type="checkbox"/> SystemModstamp	v

[Select all fields](#) [Clear all fields](#)

Create the where clauses to your query below.

Fields	Operation	Value

[Add condition](#) [Clear all conditions](#)

---

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

```
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.

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)
- Price Book (Pricebook2)

Choose a target for extraction:  [Browse...](#)

[< Back](#) Next > [Finish](#) [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"/> Name	<input type="checkbox"/> RecordType	<input type="checkbox"/> SystemModstamp
<input type="checkbox"/> AccountId	<input type="checkbox"/> ContactId	<input type="checkbox"/> LastModifiedDate
<input type="checkbox"/> CaseId	<input type="checkbox"/> LeadId	<input type="checkbox"/> ParentRecordId
<input type="checkbox"/> Email	<input type="checkbox"/> LastName	<input type="checkbox"/> RecordTypeId
<input type="checkbox"/> FirstName	<input type="checkbox"/> MailingAddress	<input type="checkbox"/> SystemName
<input type="checkbox"/> LastName	<input type="checkbox"/> MailingCity	<input type="checkbox"/> Type
<input type="checkbox"/> MiddleName	<input type="checkbox"/> MailingCountry	
<input type="checkbox"/> Nickname	<input type="checkbox"/> MailingPostalCode	
<input type="checkbox"/> Prefix	<input type="checkbox"/> MailingState	
<input type="checkbox"/> Suffix	<input type="checkbox"/> MailingZip	
<input type="checkbox"/> Title	<input type="checkbox"/> Phone	
<input type="checkbox"/> WorkPhone	<input type="checkbox"/> MobilePhone	
<input type="checkbox"/> HomePhone	<input type="checkbox"/> Fax	
<input type="checkbox"/> OtherPhone	<input type="checkbox"/> Email2	
<input type="checkbox"/> Email3	<input type="checkbox"/> Email4	
<input type="checkbox"/> Email5	<input type="checkbox"/> Email6	
<input type="checkbox"/> Email7	<input type="checkbox"/> Email8	
<input type="checkbox"/> Email9	<input type="checkbox"/> Email10	
<input type="checkbox"/> Email11	<input type="checkbox"/> Email12	
<input type="checkbox"/> Email13	<input type="checkbox"/> Email14	
<input type="checkbox"/> Email15	<input type="checkbox"/> Email16	
<input type="checkbox"/> Email17	<input type="checkbox"/> Email18	
<input type="checkbox"/> Email19	<input type="checkbox"/> Email20	
<input type="checkbox"/> Email21	<input type="checkbox"/> Email22	
<input type="checkbox"/> Email23	<input type="checkbox"/> Email24	
<input type="checkbox"/> Email25	<input type="checkbox"/> Email26	
<input type="checkbox"/> Email27	<input type="checkbox"/> Email28	
<input type="checkbox"/> Email29	<input type="checkbox"/> Email30	
<input type="checkbox"/> Email31	<input type="checkbox"/> Email32	
<input type="checkbox"/> Email33	<input type="checkbox"/> Email34	
<input type="checkbox"/> Email35	<input type="checkbox"/> Email36	
<input type="checkbox"/> Email37	<input type="checkbox"/> Email38	
<input type="checkbox"/> Email39	<input type="checkbox"/> Email40	
<input type="checkbox"/> Email41	<input type="checkbox"/> Email42	
<input type="checkbox"/> Email43	<input type="checkbox"/> Email44	
<input type="checkbox"/> Email45	<input type="checkbox"/> Email46	
<input type="checkbox"/> Email47	<input type="checkbox"/> Email48	
<input type="checkbox"/> Email49	<input type="checkbox"/> Email50	
<input type="checkbox"/> Email51	<input type="checkbox"/> Email52	
<input type="checkbox"/> Email53	<input type="checkbox"/> Email54	
<input type="checkbox"/> Email55	<input type="checkbox"/> Email56	
<input type="checkbox"/> Email57	<input type="checkbox"/> Email58	
<input type="checkbox"/> Email59	<input type="checkbox"/> Email60	
<input type="checkbox"/> Email61	<input type="checkbox"/> Email62	
<input type="checkbox"/> Email63	<input type="checkbox"/> Email64	
<input type="checkbox"/> Email65	<input type="checkbox"/> Email66	
<input type="checkbox"/> Email67	<input type="checkbox"/> Email68	
<input type="checkbox"/> Email69	<input type="checkbox"/> Email70	
<input type="checkbox"/> Email71	<input type="checkbox"/> Email72	
<input type="checkbox"/> Email73	<input type="checkbox"/> Email74	
<input type="checkbox"/> Email75	<input type="checkbox"/> Email76	
<input type="checkbox"/> Email77	<input type="checkbox"/> Email78	
<input type="checkbox"/> Email79	<input type="checkbox"/> Email80	
<input type="checkbox"/> Email81	<input type="checkbox"/> Email82	
<input type="checkbox"/> Email83	<input type="checkbox"/> Email84	
<input type="checkbox"/> Email85	<input type="checkbox"/> Email86	
<input type="checkbox"/> Email87	<input type="checkbox"/> Email88	
<input type="checkbox"/> Email89	<input type="checkbox"/> Email90	
<input type="checkbox"/> Email91	<input type="checkbox"/> Email92	
<input type="checkbox"/> Email93	<input type="checkbox"/> Email94	
<input type="checkbox"/> Email95	<input type="checkbox"/> Email96	
<input type="checkbox"/> Email97	<input type="checkbox"/> Email98	
<input type="checkbox"/> Email99	<input type="checkbox"/> Email100	
<input type="checkbox"/> Email101	<input type="checkbox"/> Email102	
<input type="checkbox"/> Email103	<input type="checkbox"/> Email104	
<input type="checkbox"/> Email105	<input type="checkbox"/> Email106	
<input type="checkbox"/> Email107	<input type="checkbox"/> Email108	
<input type="checkbox"/> Email109	<input type="checkbox"/> Email110	
<input type="checkbox"/> Email111	<input type="checkbox"/> Email112	
<input type="checkbox"/> Email113	<input type="checkbox"/> Email114	
<input type="checkbox"/> Email115	<input type="checkbox"/> Email116	
<input type="checkbox"/> Email117	<input type="checkbox"/> Email118	
<input type="checkbox"/> Email119	<input type="checkbox"/> Email120	
<input type="checkbox"/> Email121	<input type="checkbox"/> Email122	
<input type="checkbox"/> Email123	<input type="checkbox"/> Email124	
<input type="checkbox"/> Email125	<input type="checkbox"/> Email126	
<input type="checkbox"/> Email127	<input type="checkbox"/> Email128	
<input type="checkbox"/> Email129	<input type="checkbox"/> Email130	
<input type="checkbox"/> Email131	<input type="checkbox"/> Email132	
<input type="checkbox"/> Email133	<input type="checkbox"/> Email134	
<input type="checkbox"/> Email135	<input type="checkbox"/> Email136	
<input type="checkbox"/> Email137	<input type="checkbox"/> Email138	
<input type="checkbox"/> Email139	<input type="checkbox"/> Email140	
<input type="checkbox"/> Email141	<input type="checkbox"/> Email142	
<input type="checkbox"/> Email143	<input type="checkbox"/> Email144	
<input type="checkbox"/> Email145	<input type="checkbox"/> Email146	
<input type="checkbox"/> Email147	<input type="checkbox"/> Email148	
<input type="checkbox"/> Email149	<input type="checkbox"/> Email150	
<input type="checkbox"/> Email151	<input type="checkbox"/> Email152	
<input type="checkbox"/> Email153	<input type="checkbox"/> Email154	
<input type="checkbox"/> Email155	<input type="checkbox"/> Email156	
<input type="checkbox"/> Email157	<input type="checkbox"/> Email158	
<input type="checkbox"/> Email159	<input type="checkbox"/> Email160	
<input type="checkbox"/> Email161	<input type="checkbox"/> Email162	
<input type="checkbox"/> Email163	<input type="checkbox"/> Email164	
<input type="checkbox"/> Email165	<input type="checkbox"/> Email166	
<input type="checkbox"/> Email167	<input type="checkbox"/> Email168	
<input type="checkbox"/> Email169	<input type="checkbox"/> Email170	
<input type="checkbox"/> Email171	<input type="checkbox"/> Email172	
<input type="checkbox"/> Email173	<input type="checkbox"/> Email174	
<input type="checkbox"/> Email175	<input type="checkbox"/> Email176	
<input type="checkbox"/> Email177	<input type="checkbox"/> Email178	
<input type="checkbox"/> Email179	<input type="checkbox"/> Email180	
<input type="checkbox"/> Email181	<input type="checkbox"/> Email182	
<input type="checkbox"/> Email183	<input type="checkbox"/> Email184	
<input type="checkbox"/> Email185	<input type="checkbox"/> Email186	
<input type="checkbox"/> Email187	<input type="checkbox"/> Email188	
<input type="checkbox"/> Email189	<input type="checkbox"/> Email190	
<input type="checkbox"/> Email191	<input type="checkbox"/> Email192	
<input type="checkbox"/> Email193	<input type="checkbox"/> Email194	
<input type="checkbox"/> Email195	<input type="checkbox"/> Email196	
<input type="checkbox"/> Email197	<input type="checkbox"/> Email198	
<input type="checkbox"/> Email199	<input type="checkbox"/> Email200	
<input type="checkbox"/> Email201	<input type="checkbox"/> Email202	
<input type="checkbox"/> Email203	<input type="checkbox"/> Email204	
<input type="checkbox"/> Email205	<input type="checkbox"/> Email206	
<input type="checkbox"/> Email207	<input type="checkbox"/> Email208	
<input type="checkbox"/> Email209	<input type="checkbox"/> Email210	
<input type="checkbox"/> Email211	<input type="checkbox"/> Email212	
<input type="checkbox"/> Email213	<input type="checkbox"/> Email214	
<input type="checkbox"/> Email215	<input type="checkbox"/> Email216	
<input type="checkbox"/> Email217	<input type="checkbox"/> Email218	
<input type="checkbox"/> Email219	<input type="checkbox"/> Email220	
<input type="checkbox"/> Email221	<input type="checkbox"/> Email222	
<input type="checkbox"/> Email223	<input type="checkbox"/> Email224	
<input type="checkbox"/> Email225	<input type="checkbox"/> Email226	
<input type="checkbox"/> Email227	<input type="checkbox"/> Email228	
<input type="checkbox"/> Email229	<input type="checkbox"/> Email230	
<input type="checkbox"/> Email231	<input type="checkbox"/> Email232	
<input type="checkbox"/> Email233	<input type="checkbox"/> Email234	
<input type="checkbox"/> Email235	<input type="checkbox"/> Email236	
<input type="checkbox"/> Email237	<input type="checkbox"/> Email238	
<input type="checkbox"/> Email239	<input type="checkbox"/> Email240	
<input type="checkbox"/> Email241	<input type="checkbox"/> Email242	
<input type="checkbox"/> Email243	<input type="checkbox"/> Email244	
<input type="checkbox"/> Email245	<input type="checkbox"/> Email246	
<input type="checkbox"/> Email247	<input type="checkbox"/> Email248	
<input type="checkbox"/> Email249	<input type="checkbox"/> Email250	
<input type="checkbox"/> Email251	<input type="checkbox"/> Email252	
<input type="checkbox"/> Email253	<input type="checkbox"/> Email254	
<input type="checkbox"/> Email255	<input type="checkbox"/> Email256	
<input type="checkbox"/> Email257	<input type="checkbox"/> Email258	
<input type="checkbox"/> Email259	<input type="checkbox"/> Email260	
<input type="checkbox"/> Email261	<input type="checkbox"/> Email262	
<input type="checkbox"/> Email263	<input type="checkbox"/> Email264	
<input type="checkbox"/> Email265	<input type="checkbox"/> Email266	
<input type="checkbox"/> Email267	<input type="checkbox"/> Email268	
<input type="checkbox"/> Email269	<input type="checkbox"/> Email270	
<input type="checkbox"/> Email271	<input type="checkbox"/> Email272	
<input type="checkbox"/> Email273	<input type="checkbox"/> Email274	
<input type="checkbox"/> Email275	<input type="checkbox"/> Email276	
<input type="checkbox"/> Email277	<input type="checkbox"/> Email278	
<input type="checkbox"/> Email279	<input type="checkbox"/> Email280	
<input type="checkbox"/> Email281	<input type="checkbox"/> Email282	
<input type="checkbox"/> Email283	<input type="checkbox"/> Email284	
<input type="checkbox"/> Email285	<input type="checkbox"/> Email286	
<input type="checkbox"/> Email287	<input type="checkbox"/> Email288	
<input type="checkbox"/> Email289	<input type="checkbox"/> Email290	
<input type="checkbox"/> Email291	<input type="checkbox"/> Email292	
<input type="checkbox"/> Email293	<input type="checkbox"/> Email294	
<input type="checkbox"/> Email295	<input type="checkbox"/> Email296	
<input type="checkbox"/> Email297	<input type="checkbox"/> Email298	
<input type="checkbox"/> Email299	<input type="checkbox"/> Email300	
<input type="checkbox"/> Email301	<input type="checkbox"/> Email302	
<input type="checkbox"/> Email303	<input type="checkbox"/> Email304	
<input type="checkbox"/> Email305	<input type="checkbox"/> Email306	
<input type="checkbox"/> Email307	<input type="checkbox"/> Email308	
<input type="checkbox"/> Email309	<input type="checkbox"/> Email310	
<input type="checkbox"/> Email311	<input type="checkbox"/> Email312	
<input type="checkbox"/> Email313	<input type="checkbox"/> Email314	
<input type="checkbox"/> Email315	<input type="checkbox"/> Email316	
<input type="checkbox"/> Email317	<input type="checkbox"/> Email318	
<input type="checkbox"/> Email319	<input type="checkbox"/> Email320	
<input type="checkbox"/> Email321	<input type="checkbox"/> Email322	
<input type="checkbox"/> Email323	<input type="checkbox"/> Email324	
<input type="checkbox"/> Email325	<input type="checkbox"/> Email326	
<input type="checkbox"/> Email327	<input type="checkbox"/> Email328	
<input type="checkbox"/> Email329	<input type="checkbox"/> Email330	
<input type="checkbox"/> Email331	<input type="checkbox"/> Email332	
<input type="checkbox"/> Email333	<input type="checkbox"/> Email334	
<input type="checkbox"/> Email335	<input type="checkbox"/> Email336	
<input type="checkbox"/> Email337	<input type="checkbox"/> Email338	
<input type="checkbox"/> Email339	<input type="checkbox"/> Email340	
<input type="checkbox"/> Email341	<input type="checkbox"/> Email342	
<input type="checkbox"/> Email343	<input type="checkbox"/> Email344	
<input type="checkbox"/> Email345	<input type="checkbox"/> Email346	
<input type="checkbox"/> Email347	<input type="checkbox"/> Email348	
<input type="checkbox"/> Email349	<input type="checkbox"/> Email350	
<input type="checkbox"/> Email351	<input type="checkbox"/> Email352	
<input type="checkbox"/> Email353	<input type="checkbox"/> Email354	
<input type="checkbox"/> Email355	<input type="checkbox"/> Email356	
<input type="checkbox"/> Email357	<input type="checkbox"/> Email358	
<input type="checkbox"/> Email359	<input type="checkbox"/> Email360	
<input type="checkbox"/> Email361	<input type="checkbox"/> Email362	
<input type="checkbox"/> Email363	<input type="checkbox"/> Email364	
<input type="checkbox"/> Email365	<input type="checkbox"/> Email366	
<input type="checkbox"/> Email367	<input type="checkbox"/> Email368	
<input type="checkbox"/> Email369	<input type="checkbox"/> Email370	
<input type="checkbox"/> Email371	<input type="checkbox"/> Email372	
<input type="checkbox"/> Email373	<input type="checkbox"/> Email374	
<input type="checkbox"/> Email375	<input type="checkbox"/> Email376	
<input type="checkbox"/> Email377	<input type="checkbox"/> Email378	
<input type="checkbox"/> Email379	<input type="checkbox"/> Email380	
<input type="checkbox"/> Email381	<input type="checkbox"/> Email382	
<input type="checkbox"/> Email383	<input type="checkbox"/> Email384	
<input type="checkbox"/> Email385	<input type="checkbox"/> Email386	
<input type="checkbox"/> Email387	<input type="checkbox"/> Email388	
<input type="checkbox"/> Email389	<input type="checkbox"/> Email390	
<input type="checkbox"/> Email391	<input type="checkbox"/> Email392	
<input type="checkbox"/> Email393	<input type="checkbox"/> Email394	
<input type="checkbox"/> Email395	<input type="checkbox"/> Email396	
<input type="checkbox"/> Email397	<input type="checkbox"/> Email398	
<input type="checkbox"/> Email399	<input type="checkbox"/> Email400	
<input type="checkbox"/> Email401	<input type="checkbox"/> Email402	
<input type="checkbox"/> Email403	<input type="checkbox"/> Email404	
<input type="checkbox"/> Email405	<input type="checkbox"/> Email406	
<input type="checkbox"/> Email407	<input type="checkbox"/> Email408	
<input type="checkbox"/> Email409	<input type="checkbox"/> Email410	
<input type="checkbox"/> Email411	<input type="checkbox"/> Email412	
<input type="checkbox"/> Email413	<input type="checkbox"/> Email414	
<input type="checkbox"/> Email415	<input type="checkbox"/> Email416	
<input type="checkbox"/> Email417	<input type="checkbox"/> Email418	
<input type="checkbox"/> Email419	<input type="checkbox"/> Email420	
<input type="checkbox"/> Email421	<input type="checkbox"/> Email422	
<input type="checkbox"/> Email423	<input type="checkbox"/> Email424	
<input type="checkbox"/> Email425	<input type="checkbox"/> Email426	
<input type="checkbox"/> Email427	<input type="checkbox"/> Email428	
<input type="checkbox"/> Email429	<input type="checkbox"/> Email430	
<input type="checkbox"/> Email431	<input type="checkbox"/> Email432	
<input type="checkbox"/> Email433	<input type="checkbox"/> Email434	
<input type="checkbox"/> Email435	<input type="checkbox"/> Email436	
<input type="checkbox"/> Email437	<input type="checkbox"/> Email438	
<input type="checkbox"/> Email439	<input type="checkbox"/> Email440	
<input type="checkbox"/> Email441	<input type="checkbox"/> Email442	
<input type="checkbox"/> Email443	<input type="checkbox"/> Email444	
<input type="checkbox"/> Email445	<input type="checkbox"/> Email446	
<input type="checkbox"/> Email447	<input type="checkbox"/> Email448	
<input type="checkbox"/> Email449	<input type="checkbox"/> Email450	
<input type="checkbox"/> Email451	<input type="checkbox"/> Email452	
<input type="checkbox"/> Email453	<input type="checkbox"/> Email454	
<input type="checkbox"/> Email455	<input type="checkbox"/> Email456	
<input type="checkbox"/> Email457	<input type="checkbox"/> Email458	
<input type="checkbox"/> Email459	<input type="checkbox"/> Email460	
<input type="checkbox"/> Email461	<input type="checkbox"/> Email462	
<input type="checkbox"/> Email463	<input type="checkbox"/> Email464	
<input type="checkbox"/> Email465	<input type="checkbox"/> Email466	
<input type="checkbox"/> Email467	<input type="checkbox"/> Email468	
<input type="checkbox"/> Email469	<input type="checkbox"/> Email470	
<input type="checkbox"/> Email471	<input type="checkbox"/> Email472	
<input type="checkbox"/> Email473	<input type="checkbox"/> Email474	
<input type="checkbox"/> Email475	<input type="checkbox"/> Email476	
<input type="checkbox"/> Email477	<input type="checkbox"/> Email478	
<input type="checkbox"/> Email479	<input type="checkbox"/> Email480	
<input type="checkbox"/> Email481	<input type="checkbox"/> Email482	
<input type="checkbox"/> Email483	<input type="checkbox"/> Email484	
<input type="checkbox"/> Email485	<input type="checkbox"/> Email486	
<input type="checkbox"/> Email487	<input type="checkbox"/> Email488	
<input type="checkbox"/> Email489	<input type="checkbox"/> Email490	
<input type="checkbox"/> Email491	<input type="checkbox"/> Email492	
<input type="checkbox"/> Email493	<input type="checkbox"/> Email494	
<input type="checkbox"/> Email495	<input type="checkbox"/> Email496	
<input type="checkbox"/> Email497	<input type="checkbox"/> Email498	
<input type="checkbox"/> Email499	<input type="checkbox"/> Email500	
<input type="checkbox"/> Email501	<input type="checkbox"/> Email502	
<input type="checkbox"/> Email503	<input type="checkbox"/> Email504	
<input type="checkbox"/> Email505	<input type="checkbox"/> Email506	
<input type="checkbox"/> Email507	<input type="checkbox"/> Email508	
<input type="checkbox"/> Email509	<input type="checkbox"/> Email510	
<input type="checkbox"/> Email511	<input type="checkbox"/> Email512	
<input type="checkbox"/> Email513	<input type="checkbox"/> Email514	
<input type="checkbox"/> Email515	<input type="checkbox"/> Email516	
<input type="checkbox"/> Email517	<input type="checkbox"/> Email518	
<input type="checkbox"/> Email519	<input type="checkbox"/> Email520	
<input type="checkbox"/> Email521	<input type="checkbox"/> Email522	
<input type="checkbox"/> Email523	<input type="checkbox"/> Email524	
<input type="checkbox"/> Email525	<input type="checkbox"/> Email526	
<input type="checkbox"/> Email527	<input type="checkbox"/> Email528	
<input type="checkbox"/> Email529	<input type="checkbox"/> Email530	
<input type="checkbox"/> Email531	<input type="checkbox"/> Email532	
<input type="checkbox"/> Email533	<input type="checkbox"/> Email534	
<input type="checkbox"/> Email535	<input type="checkbox"/> Email536	
<input type="checkbox"/> Email537	<input type="checkbox"/> Email538	
<input type="checkbox"/> Email539	<input type="checkbox"/> Email540	
<input type="checkbox"/> Email541	<input type="checkbox"/> Email542	
<input type="checkbox"/> Email543	<input type="checkbox"/> Email544	
<input type="checkbox"/> Email545	<input type="checkbox"/> Email546	
<input type="checkbox"/> Email547	<input type="checkbox"/> Email548	
<input type="checkbox"/> Email549	<input type="checkbox"/> Email550	
<input type="checkbox"/> Email551	<input type="checkbox"/> Email552	
<input type="checkbox"/> Email553	<input type="checkbox"/> Email554	
<input type="checkbox"/> Email555	<input type="checkbox"/> Email556	
<input type="checkbox"/> Email557	<input type="checkbox"/> Email558	
<input type="checkbox"/> Email559	<input type="checkbox"/> Email560	
<input type="checkbox"/> Email561	<input type="checkbox"/> Email562	
<input type="checkbox"/> Email563	<input type="checkbox"/> Email564	
<input type="checkbox"/> Email565	<input type="checkbox"/> Email566	
<input type="checkbox"/> Email567	<input type="checkbox"/> Email568	
<input type="checkbox"/> Email569	<input type="checkbox"/> Email570	
<input type="checkbox"/> Email571	<input type="checkbox"/> Email572	
<input type="checkbox"/> Email573	<input type="checkbox"/> Email574	
<input type="checkbox"/> Email575	<input type="checkbox"/> Email576	
<input type="checkbox"/> Email577	<input type="checkbox"/> Email578	
<input type="checkbox"/> Email579	<input type="checkbox"/> Email580	
<input type="checkbox"/> Email581	<input type="checkbox"/> Email582	
<input type="checkbox"/> Email583	<input type="checkbox"/> Email584	
<input type="checkbox"/> Email585	<input type="checkbox"/> Email586	
<input type="checkbox"/> Email587	<input type="checkbox"/> Email588	
<input type="checkbox"/> Email589	<input type="checkbox"/> Email590	
<input type="checkbox"/> Email591	<input type="checkbox"/> Email592	
<input type="checkbox"/> Email593	<input type="checkbox"/> Email594	
<input type="checkbox"/> Email595	<input type="checkbox"/> Email596</td	

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)

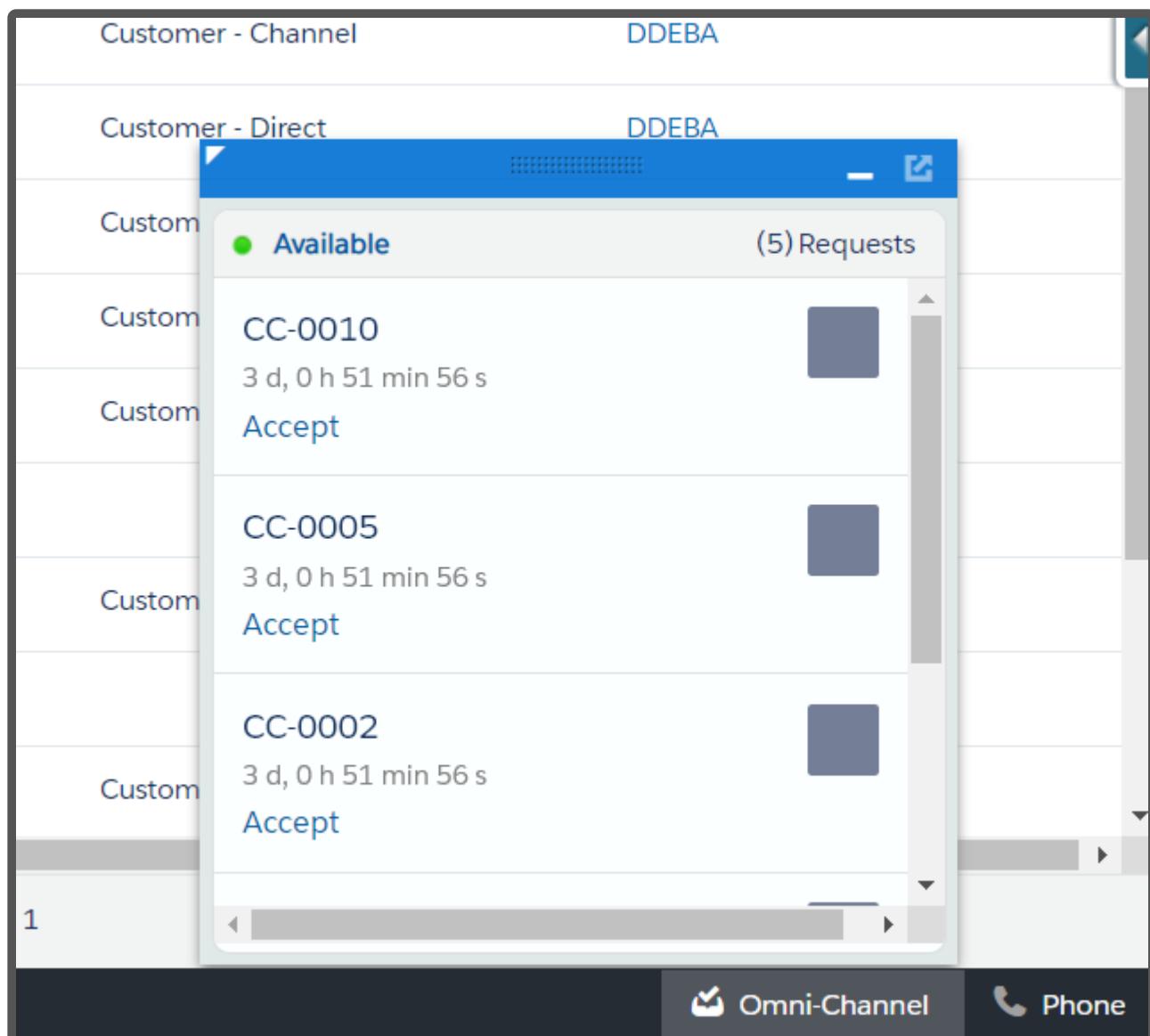
Contact (Contact)

Event (Event)

Lead (Lead)

Opportunity (Opportunity)

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.

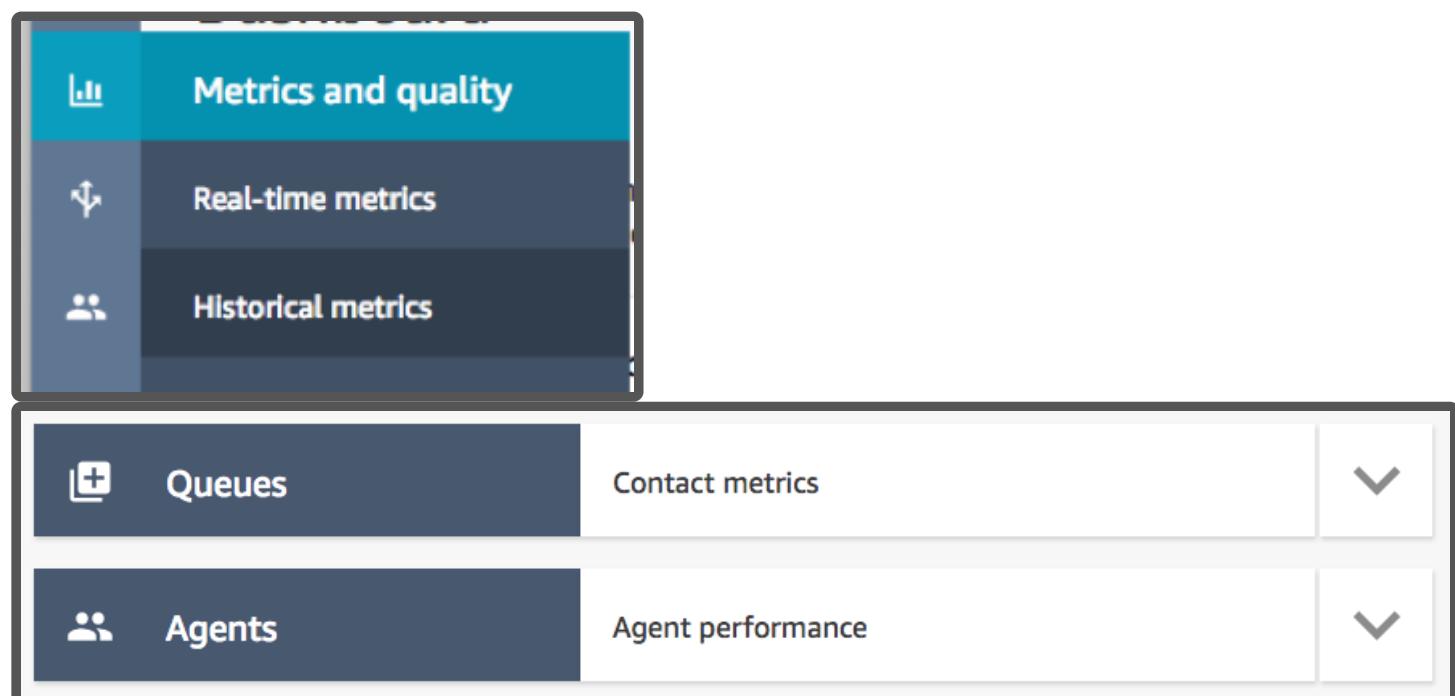
Amazon Connect provides you the ability to export reports to the S3 bucket of your choice, in comma separated value (CSV) format. This enables broad compatibility across many analytics and WFM tools. Encryption is enabled by default for all saved reports, using S3 server-side encryption with KMS. Disabling 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".



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 a configuration interface for historical metrics. At the top left, it says "Historical metrics: Queues". On the far 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"). In the top right corner of the main area, there is a small gear icon.

Set the report configuration by following the screenshots below:

## Table Settings

X

### Interval & Time range

### Groupings

### Filters

### Metrics

Interval

30 Minutes ▾

Time Zone

UTC ▾

Time range

Last 24 hours ▾

## Table Settings

X

### 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

+

Queue

-

Agent Hierarchy Level One

+

i

2

Agent Hierarchy Level Two

+

i

3

Agent Hierarchy Level Three

+

i

4

Agent Hierarchy Level Four

+

i

5

Agent Hierarchy Level Five

+

i

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

Queue

Routing profile

Agent hierarchy

Phone number

Queue

Show metrics only for contacts handled in these queues:

 Search

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 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 Contacts abandoned in 180 seconds Contacts abandoned in 240 seconds Contacts abandoned in 300 seconds Contacts abandoned in 600 seconds Contacts agent hung up first Contacts consulted Contacts handled 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   |
| <hr/>   |  |
| <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 <span style="color: red;">!</span> |
| <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"/> Agent interaction time                   |
| <input checked="" type="checkbox"/> Average outbound agent interaction time | <input checked="" type="checkbox"/> Average outbound after contact work time |
| <input type="checkbox"/> Lunch time <span style="color: red;">!</span>      | <input type="checkbox"/> Break time <span style="color: red;">!</span>       |

[Cancel](#)

[Apply](#)

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

**Save**



Save as

Download CSV

Share report

**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

SFDC/Queue



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



# Metrics and quality



Real-time metrics



Historical metrics

Contact search

Login/Logout report

Saved reports

Dashboard

Real-time metrics

Historical metrics

Login/Logout report

Search by report name

Name

sflIntervalQueue

Schedule report



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]12/connect/[REDACTED]-test8/Reports/SFDC/Queue/sflIntervalQueue-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 'Metrics and quality' navigation bar with 'Historical metrics' selected. Below it, two sections are visible: 'Queues' and 'Agents'. Each section has a dropdown arrow icon on the right.

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.

The screenshot shows the 'Historical metrics' configuration screen for 'Agents'. It includes fields for 'Interval' (Total), 'Time range' (Nov 16, 2018, 12:00 AM - Nov 23, 2018, 12:00 AM), 'Time Zone' (UTC), and a 'Save' button with a dropdown menu.

Set the report configuration by following the screenshots below:

## Table Settings

X

### Interval & Time range

### Groupings

### Filters

### Metrics

0  
Interval

30 Minutes ▾

Time Zone

UTC ▾

07  
Time range

Last 24 hours ▾

## Table Settings

X

### 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 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

Queue

Routing profile

Agent hierarchy

Phone number

Queue

Show metrics only for contacts handled in these queues:

 Search

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 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 Contacts abandoned in 180 seconds Contacts abandoned in 240 seconds Contacts abandoned in 300 seconds Contacts abandoned in 600 seconds Contacts agent hung up first Contacts consulted Contacts handled 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.

Save



Save as

Download CSV

Share report

Schedule

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

## Schedule report

First, name your report.

Name sflIntervalAgent

Cancel

Continue

## Schedule report

### 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 ▾ UTC

Time zone

For the previous

0.5 ▾ hour(s)

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

## Recurrence

## Delivery Options

Default location

connect-627[REDACTED]d2/connect/r[REDACTED]-test8/Reports

Prefix

SFDC/Agent



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



# Metrics and quality



Real-time metrics



Historical metrics

Contact search

Login/Logout report

Saved reports

Dashboard

Real-time metrics

Historical metrics

Login/Logout report

Search by report name

Name

sflIntervalQueue

Schedule report

SflIntervalAgent



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

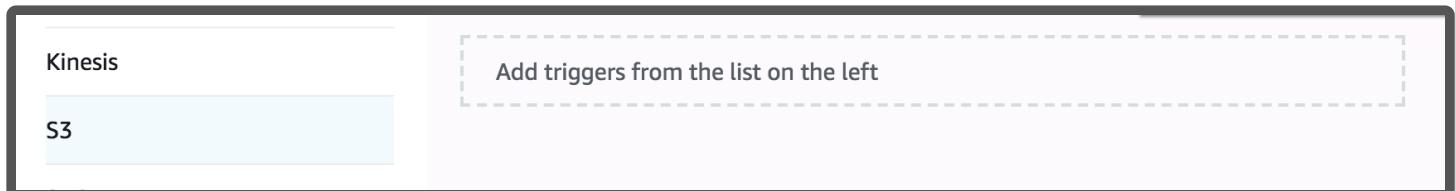
Last run: Friday, November 23, 2018 5:45:07 PM UTC

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.

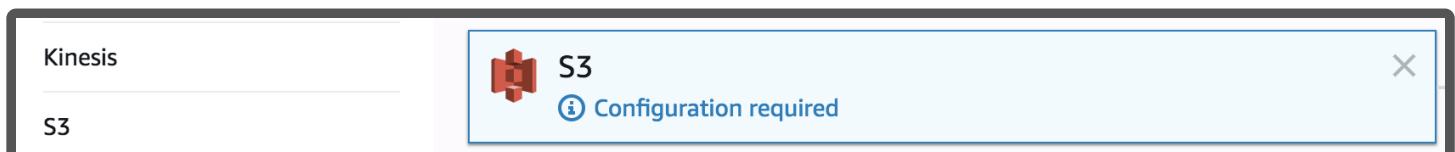
Viewing 1 to 98			
Name	Last modified	Size	Storage class
[REDACTED] SfIntervalAgent-2018-11-21T17:00:00Z.csv	Nov 21, 2018 5:15:08 PM GMT+0000	413.0 B	Standard
[REDACTED] SfIntervalAgent-2018-11-21T17:30:00Z.csv	Nov 21, 2018 5:45:07 PM GMT+0000	413.0 B	Standard
[REDACTED] SfIntervalAgent-2018-11-21T18:00:00Z.csv	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: *sfnIntervalQueue* and *sfnIntervalAgent*. In the next step, we are going to set Triggers for these functions.

From the AWS Console, select Lambda service and choose *sfnIntervalQueue* 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 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 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/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).

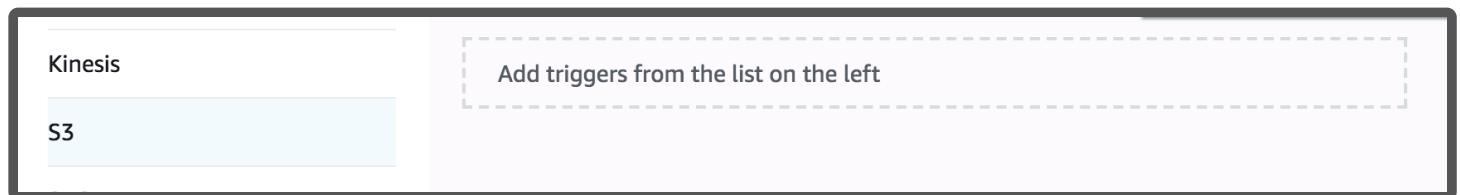
Cancel Add

The final configuration should look like this:

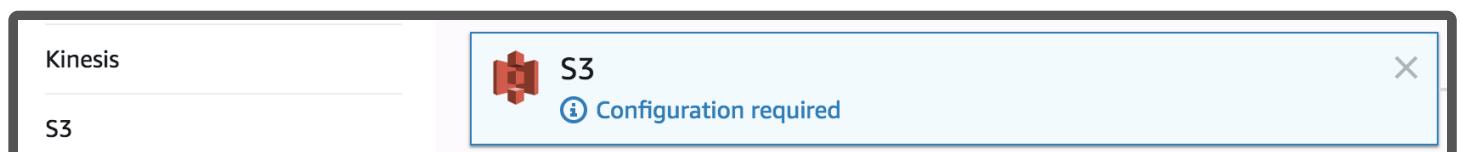


This Lambda function transfers the Queue reporting data to your SFDC instance. Next, we have to repeat steps for Agent reporting Lambda function.

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 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

Add

The final configuration should look like this:

The screenshot shows the AWS Lambda function configuration interface. On the left, there's a sidebar with options like AWS IoT, Alexa Skills Kit, Alexa Smart Home, CloudFront, and CloudWatch Events. The main area is titled 'S3' and contains a trigger configuration for an S3 bucket named 'connect-62[REDACTED]d2'. The trigger is set to 'Enabled' and is configured to respond to 'ObjectCreatedByPut' events. A prefix is specified as 'connect/[REDACTED]-test8/Reports/SFDC/Agent/'. Below the trigger, there's a section for 'Resources that the function's role has access to appear here' which is currently empty. At the bottom right of the trigger card, there are 'Enabled' and 'Delete' buttons.

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.

The screenshot shows the Salesforce App Launcher. At the top, there's a search bar with the placeholder 'Search apps or items...'. Below the search bar, there are several app cards: Service, Marketing, Sample Console, Community, Salesforce Chatter, Content, Sales Console, Service Console, Sales, Lightning Usage App, and Amazon Connect Toolkit Console. In the bottom section, there's a grid of links categorized under 'All Items'. The 'Reports' link in the 'User Provisioning Requests' row is highlighted with a red box.

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		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
TREND		Trend of Calls Abandoned This Week		Amazon Connect Reports
FOLDERS		Agent Service Level 60 Today		Amazon Connect Reports
All Folders		Contacts Transferred In This Week		Amazon Connect Reports
Created by Me		Contacts Transferred Out This Week		Amazon Connect Reports
Shared with Me		Contacts Handled Outbound This W...		Amazon Connect Reports
FAVORITES		Contacts Handled Incoming/Outgo...		Amazon Connect Reports
All Favorites		Average Occupancy Today		Amazon Connect Reports
		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																		Switch to Enhanced Run Page (Beta)	Edit		
STARTINTERVAL	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				
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																		Switch to Enhanced Run Page (Beta)	Edit	
STARTINTERVAL	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 PUT ON HOLD	CONTACTS HOLD DISCONNECT	CONTACTS HOLD AGENT DISCONNECT	CONTACTS HOLD CUSTOMER DISCONNECT		
23/11/2018 16:00	-	mcosic	461	991	18	-	461	992	-	531	531	1	-	1	1	0	0	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 consists 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 return values, that you can use from other actions.

## Create CTI Flow

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

The screenshot shows the "CTI Flows" page with a "New AC CTI Flow" button. Below it, a message says "No records to display". The "AC CTI Flow Edit" form is open, showing fields for CTI Flow Name (Create Screenpop), Source (Amazon Connect Voice Contact), CTI Adapter (ACLightningAdapter), Event (onConnecting), Active (checked), and Debug (unchecked). Buttons at the top right include Save, Save & New, and Cancel.

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."

The screenshot shows the "AC CTI Flow Edit" form with fields for CTI Flow Name, Source, and Description. The Source field has a dropdown menu open, listing the following options: --None--, Initialization, Amazon Connect Agent, Amazon Connect Voice Contact, Amazon Connect Queue Callback Contact, Amazon Connect Chat Contact, Salesforce Agent, and Salesforce UI. The "Initialization" option is selected.

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

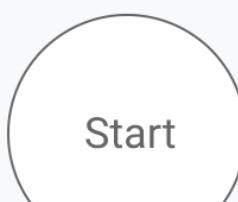
[Save](#)

---

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

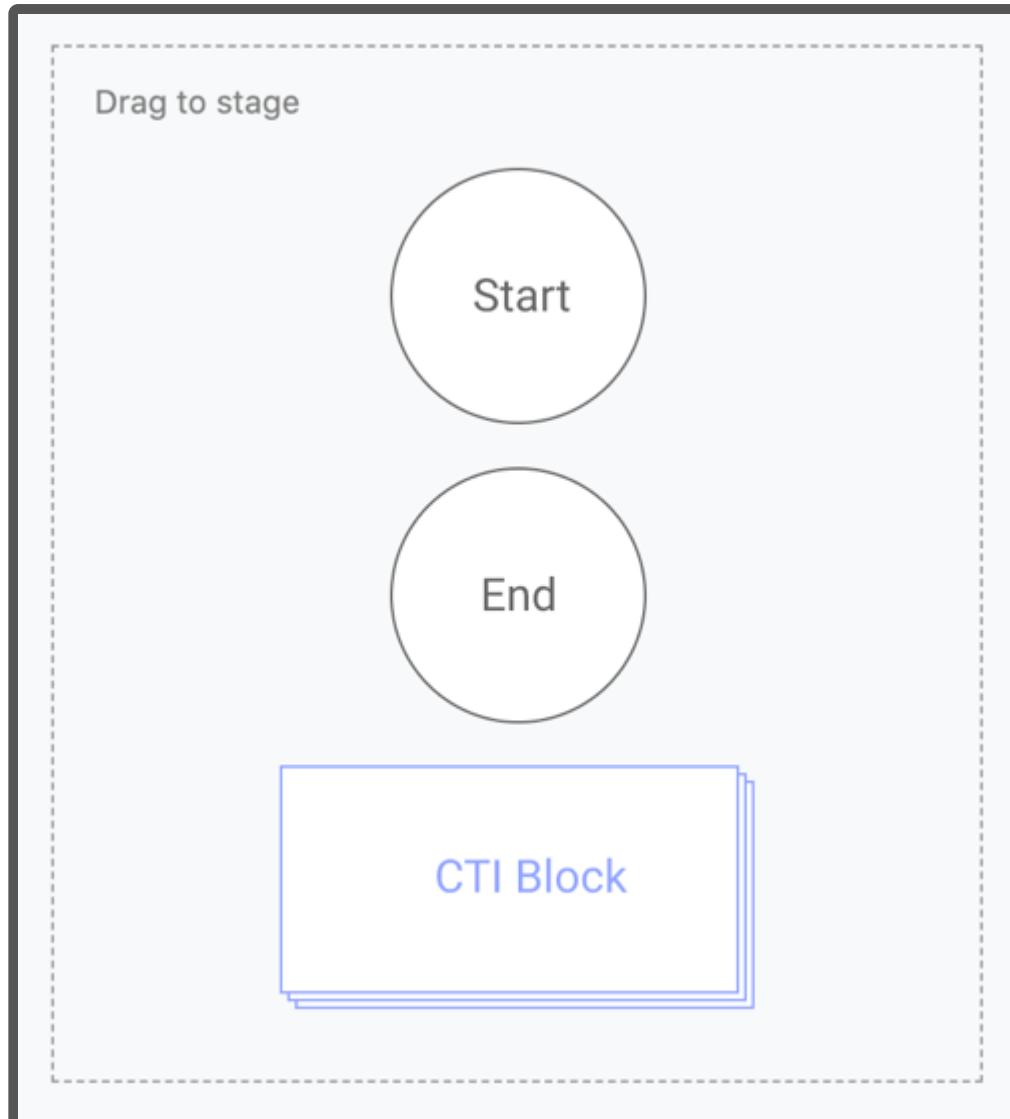
---

Drag to stage



```
graph TD; Start((Start))
```

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.

Action	Description	Code Call	Action
Format Phone Number	Formats a phone number for a country code.	ac.Utils.Common.formatPhoneNumber(...)	Select
Format Phone Number (E164)	Formats a phone number for a country code in E164 format.	ac.Utils.Common.formatPhoneNumberE164(...)	Select
Get Softphone Layout	The query to get softphone layout.	ac.Utils.Salesforce.getSoftphoneLayout()	
Show Softphone Panel	The command to show softphone panel.	ac.Utils.Salesforce.showSoftphonePanel()	

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

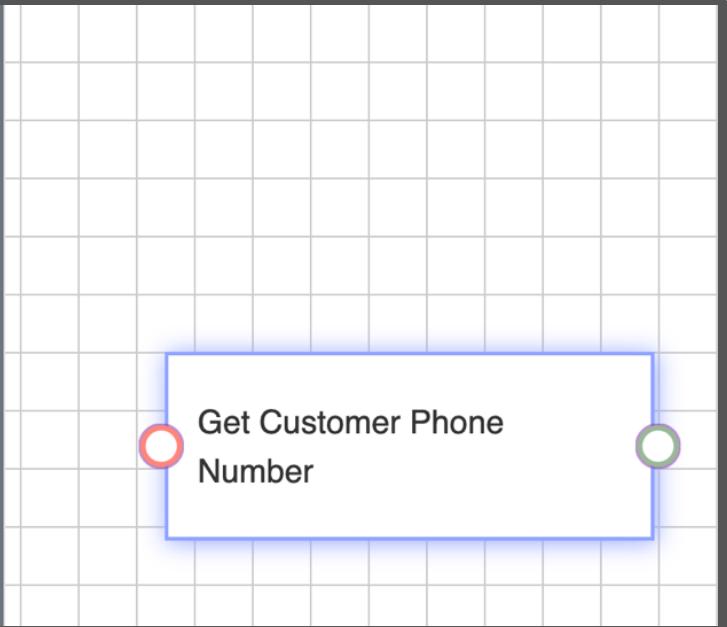
ID: uid-0

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 i

Enter a value

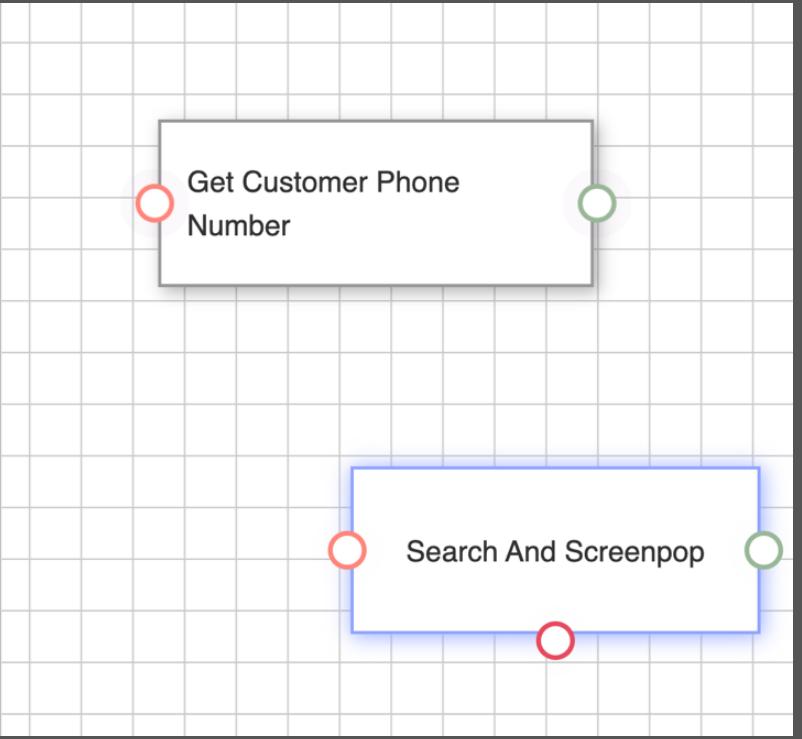
queryParams i

Enter a value

defaultFieldValues i

Add a field

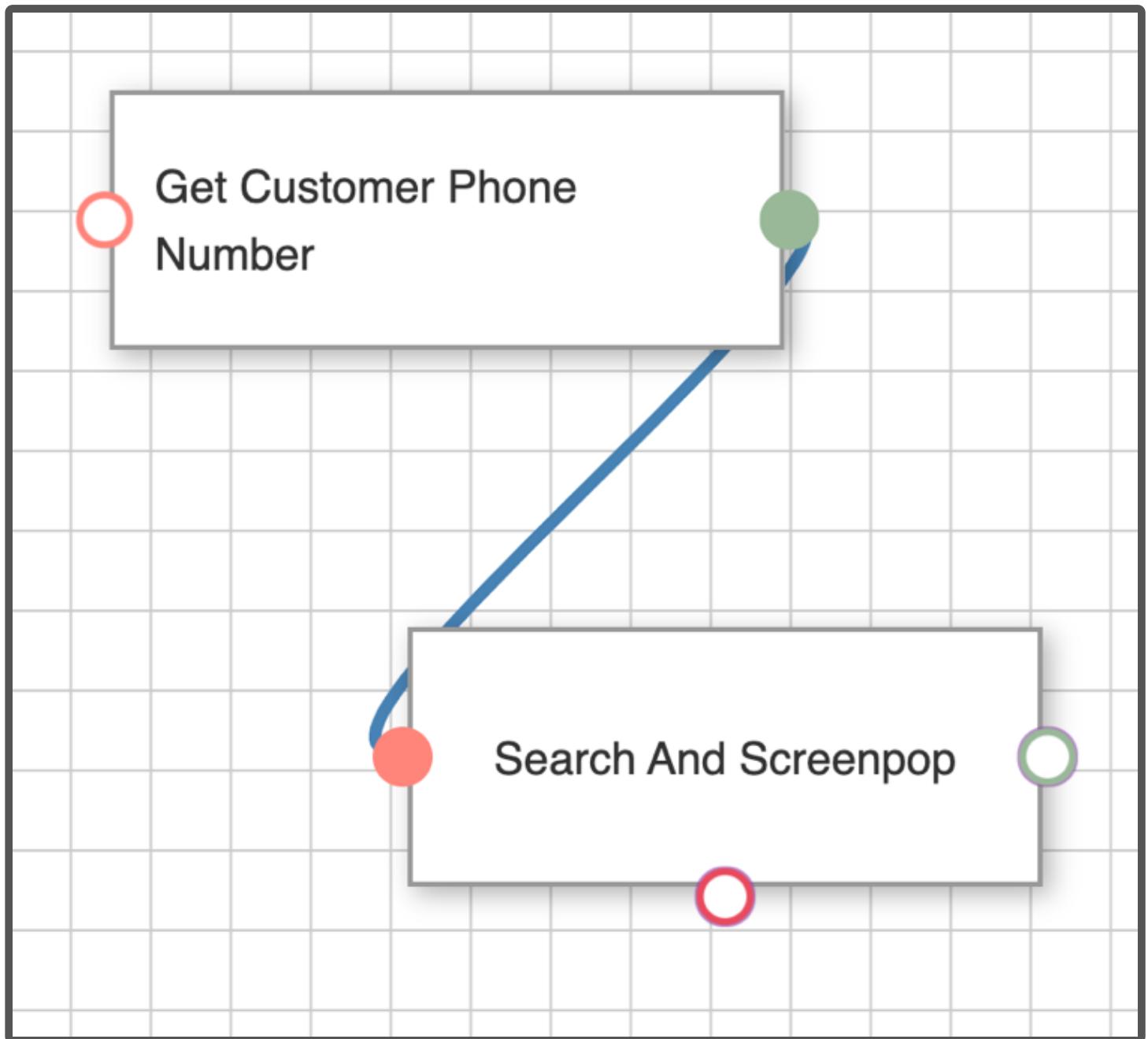
deferred i



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 fill 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

GET CUSTOMER PHONE NUMBER (UID-0)

phone

country

Add a field

deferred

callType

## Search And Screenpop

ID: uid-9

Remove

About this action

### Arguments

searchParams

ValueOf

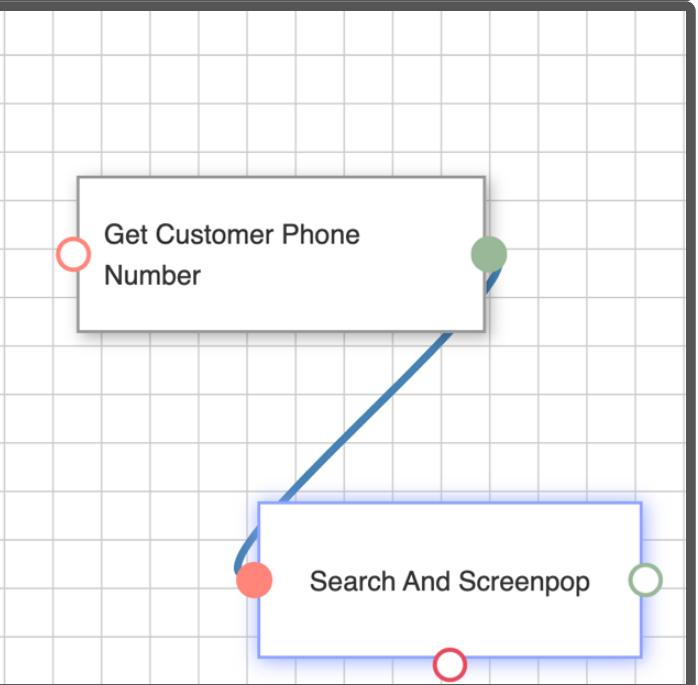
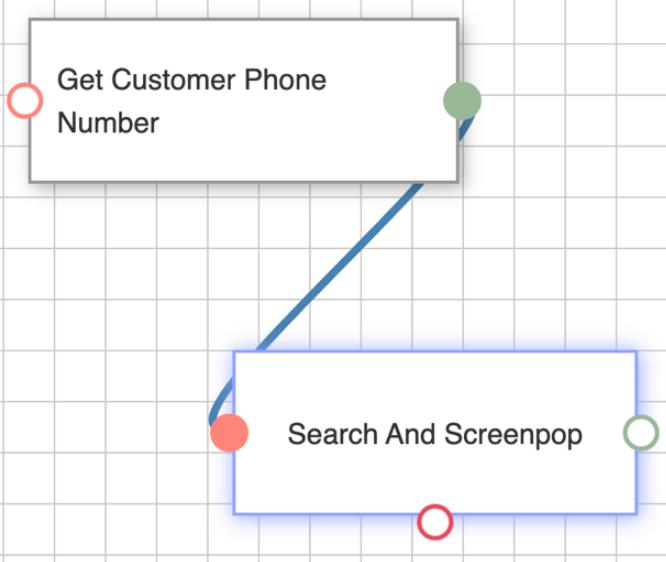
queryParams

Add New Value

Add a field

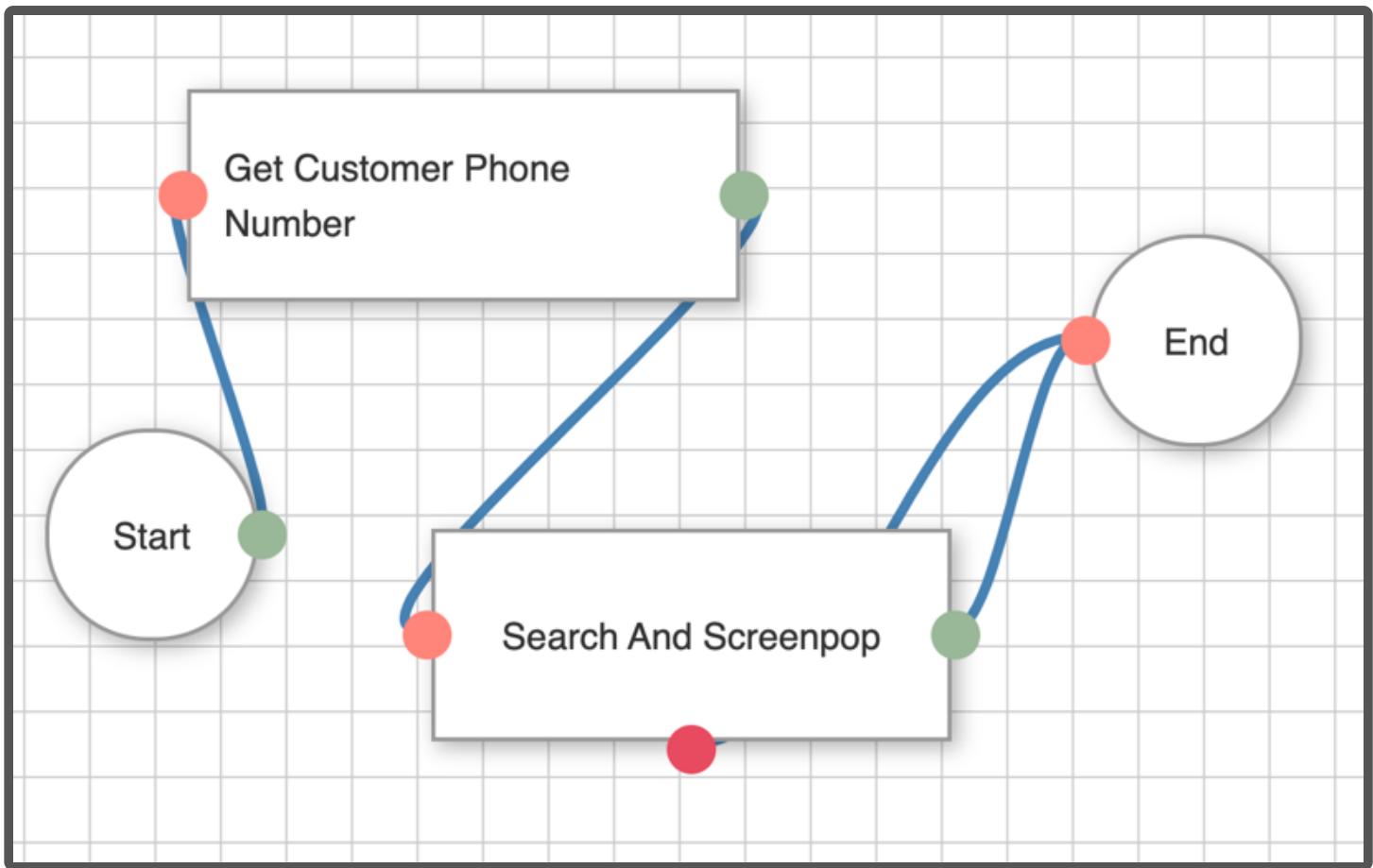
deferred

callType



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.

## Accessing CTI Flow Block Values

Internally, CTI flows are organized as JavaScript Object Notation (JSON) objects, and access to them is facilitated through JSON Paths.

### JSON Paths

JSON paths help you find specific data within a JSON structure, similar to giving directions to locate hidden treasure on a map.

Basic Syntax:

- Use dot notation (.) to traverse through object properties.
- Use square brackets ([] ) to index into arrays.

### Accessing Object Properties

Consider this JSON object below:

```
{  
  "name": "John",  
  "age": 25,  
  "address": {  
    "city": "New York",  
    "zip": "10001"  
  }  
}
```

To retrieve the value of the "name" field in this JSON object, you would utilize `$.name`. The same approach applies to accessing the value of "age" through `$.age`. If you wish to access the "city" value, you would use `$.address.city`.

Consider this next JSON Object:

```
{  
  "fruits": ["apple", "orange", "banana"]  
}
```

To access the different fruits, you should use the following format: `$.fruits[0]` or `$.fruits[2]`. It's important to note that the first element (apple) is accessed with "0" rather than "1" due to arrays starting their indexing from 0.

## Accessing CTI Flow Object Properties

Having covered the fundamental concepts of accessing JSON objects, here is an illustration of a CTI flow JSON:

```
LogUtils.ts:41 [CTI ADAPTER]: [FLOW] [AC_clickToDialFlow]: actions: {"uid-0": {"success":true,"results": {"value": {"number": "+12345678900"}}, "exception": null}, {"success":true,"results": {"value": "+12345678900"}, "exception": null}, "uid-54": {"endpointARN": null, "endpointId": null, "type": "phone_number", "name": null, "phone": null}, {"uid-44": {"success": true, "results": null, "exception": null}, "uid-18": {"success": true, "results": null, "exception": null}, {"type": "Task", "Id": null, "CustomField__c": "RandomMessage"}, "uid-20": {"success": true, "results": null, "exception": null}}
```

It is presented in this format typically, but for this demo, it will be more convenient to conceptualize it like this (condensed for brevity):

```
{
  "actions": {
    "uid-39": {
      "success": true,
      "results": {
        "value": {
          "number": "+12345678900"
        }
      },
      "exception": null
    },
    "uid-29": {
      "success": true,
      "results": true,
      "exception": null
    },
    "uid-54": {
      "success": true,
      "results": {
        "endpointARN": null,
        "endpointId": null,
        "type": "phone_number",
        "name": null,
        "phoneNumber": "+12345678900",
        "agentLogin": null,
        "queue": null
      },
      "exception": null
    },
    "uid-17": {
      "success": true,
      "results": {
        "value": {
          "type": "Task",
          "Id": null,
          "CustomField__c": "RandomMessage"
        }
      }
    }
  }
}
```

Similar to the approach used for accessing values in smaller JSON objects, you can apply the same methodology here. To retrieve the phone number in the CTI flow block with "uid-54," you can use the following syntax: `$.actions.uid-54.results.phoneNumber`.

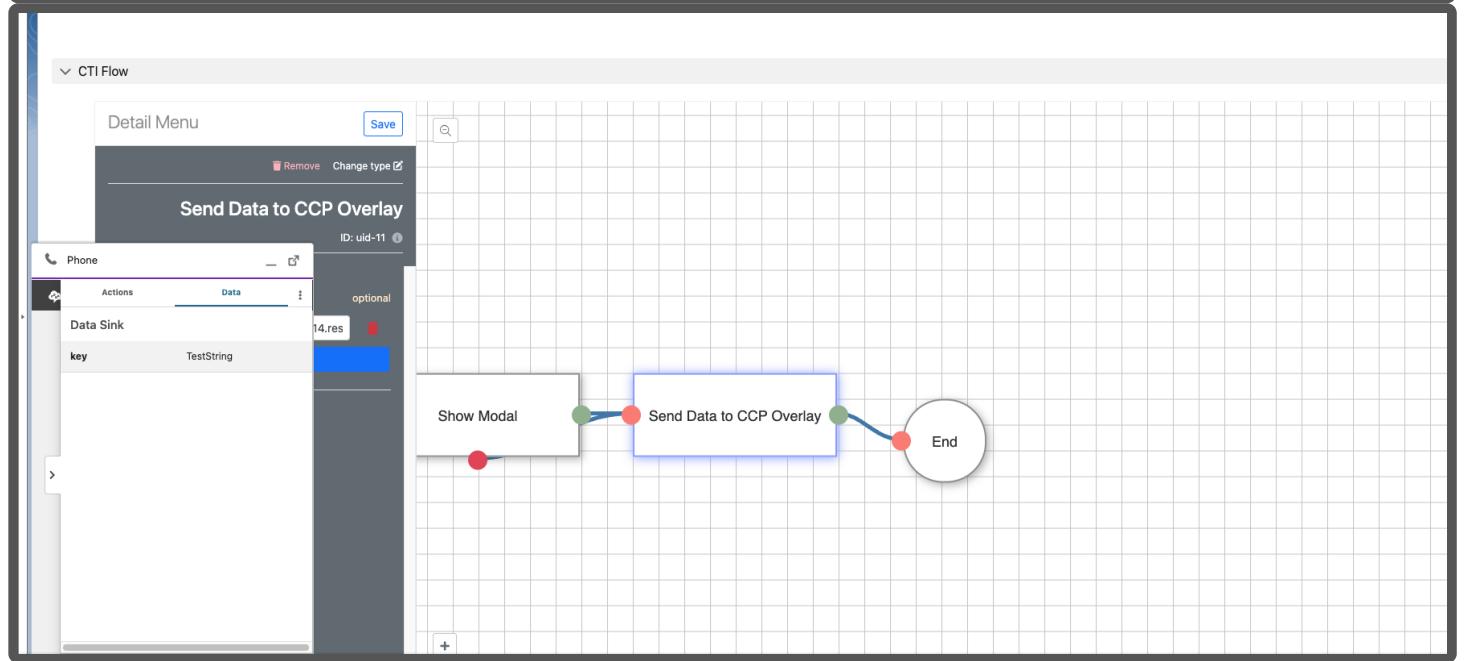
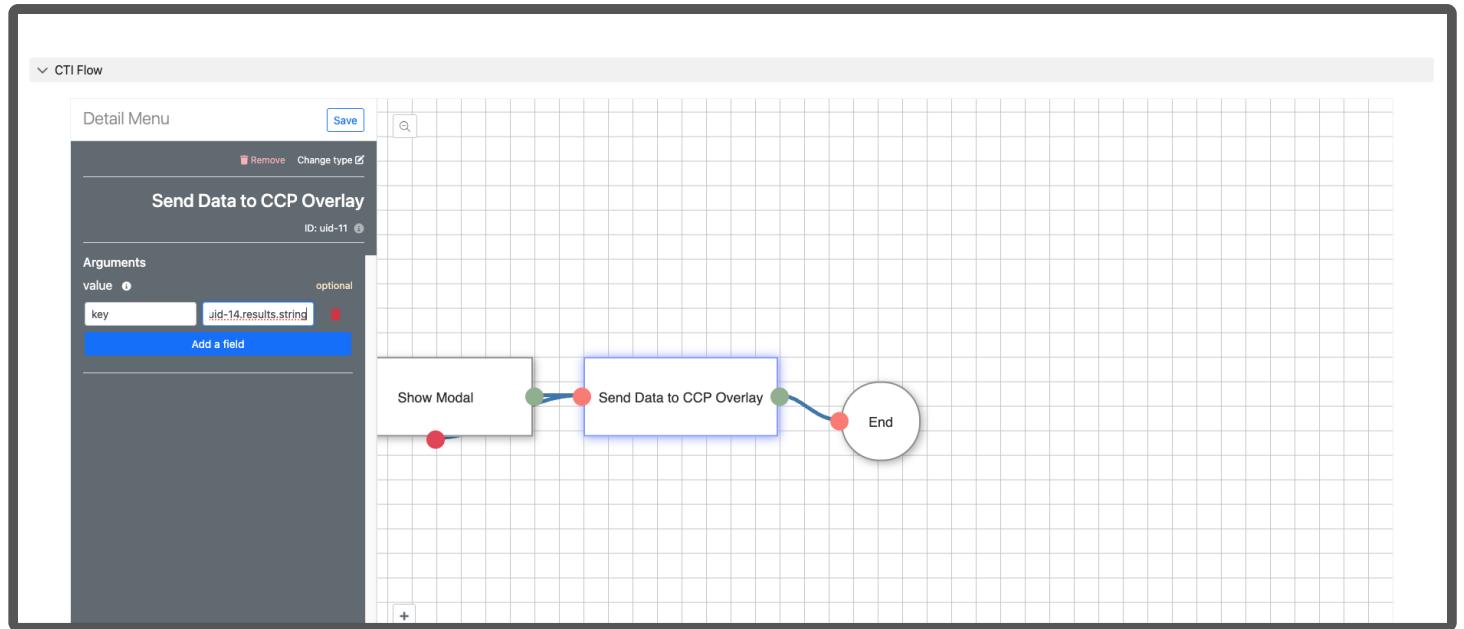
For certain CTI flow blocks, the return values can be more intricate. Take, for instance, the CTI flow block with "uid-17," which generates a Task record in Salesforce. To access the values `type`, `Id`, or `CustomField__c`, you need to use the format: `$.actions.uid-17.results.value.[0].CustomField__c`. The use of "[0]" is essential in this case, as the particular CTI flow block can return multiple Task objects stored as an array.

Note: It's crucial to verify the return values of a CTI flow object before attempting to access its value, as not every CTI flow block returns a value. Otherwise, you may receive `undefined`, indicating the requested value does not exist.

## Why Would I Use This?

In most instances, direct access to CTI flow values is unnecessary, as return values are selectable through a dropdown menu in the CTI flow block.

However, for scenarios where the dropdown menu is inaccessible, such as with CTI flow blocks like "Send Data to CCP Overlay," accessing the value directly becomes more practical.



# Localization

## Prerequisites

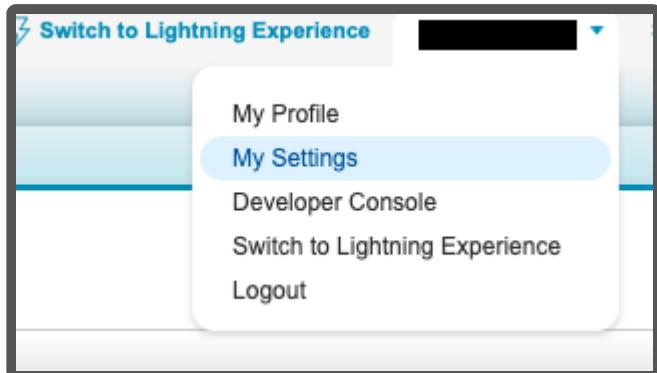
CTI Adapter will use Translation Workbench to maintain translated values for metadata and data labels in your Salesforce org. In order for that to work, you need to enable Translation Workbench in your org.

1. From Setup, in the Quick Find box, enter Translation Language Settings, and then select Translation Language Settings.
2. On the welcome page, click Enable.

## Setting your preferred language

Starting from v5.6, Amazon Connect Salesforce CTI adapter is localized in nine new languages: Spanish, French, Brazilian Portuguese, Korean, Italian, German, (Simplified/Traditional) Chinese, and Japanese.

Change the language by selecting the username in the top right corner, then click on "My Settings".



On the setting page on the left panel go to "Personal" and then select "Language & Time Zone".

A screenshot of the "My Settings" page in the Salesforce interface. On the left, there is a sidebar with a "Quick Find" search bar at the top. Below it, under the heading "My Settings", is a list of categories: "Personal", "Personal Information", "Change My Password", "Language &amp; Time Zone" (which is highlighted with a blue background), "Grant Account Login Access", "My Groups", "Reset My Security Token", "Connections", "Login History", "Approver Settings", "Advanced User Details", and "Authentication Settings for External Systems".

You can then select your preferred language. Note that CTI adapter only have nine languages built within the package.

## Language & Time Zone

### Settings

Time Zone (GMT-07:00) Pacific Daylight Time (America/Los\_Angeles) ▾

Locale English (United States) ▾ i

Language

✓ English

Deutsch  
Español  
Français  
Italiano  
日本語  
Svenska  
한국어  
中文 (繁體)  
中文 (简体)  
Português (Brasil)  
Nederlands  
Dansk  
ภาษาไทย  
Suomi  
Русский  
Español (México)  
Norsk (bokmål)

Email Encoding Europe (ISO-8859-1, ISO-LATIN-1) ▾ i

Save Cancel

Click save and the page will reload. That's it. You can check in other pages to see if it actually applies your change. For example here is a screenshot of CTI Flow Editor in Spanish.



## Explorer



### Buscar

Buscar por nombre

### Categorías

Filtrar por categoría

### Etiquetas

Filtrar por etiqueta

Mostrar 100 acciones

[Guardar búsqueda](#)

### If-else

Cambie el flujo del script en función del valor de los campos que obtenga o almacene. Se trata de una utilidad "if-else" sencilla para el flujo.

[Parámetros >](#)

#### Qué llama:

`ac.Utils.Common.decision(..  
.)`

[Seleccionar](#)

### CoreCast

Cast an input value to a Javascript type, such as Number or String.

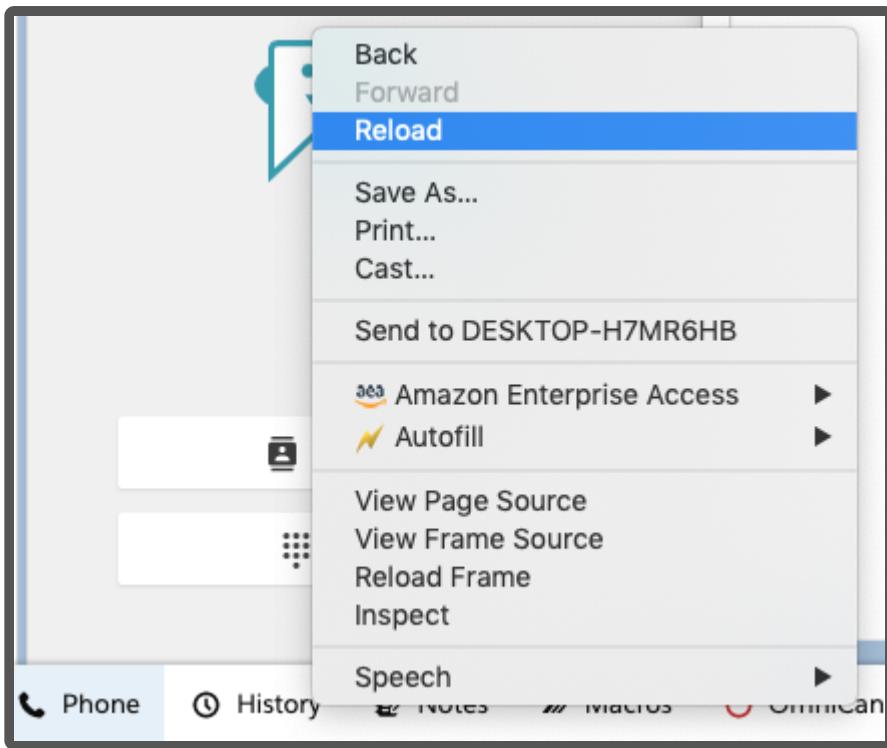
[Parámetros >](#)

[Seleccionar](#)

### Solicitud HTTP

### Obtener la propiedad

Click on Phone pannel on the bottom to see if CCP has been localized. If not right click on CCP and reload.



## Additional Notes

Please note that not all fields can be localized to different languages due to a couple reasons. Here are places that cannot be localized:

- Dashboard. Salesforce dashboards do not support localization.
- Flexipages. This means the page with tabs that you can find in AC CTI Adapter page in lightning.

A screenshot of the AC CTI Adapter page in Lightning. The page has a header with tabs: Attributes (underlined in blue), CTI Flows, Presence Sync Rules, and Features. Below the header, there is a section with a brown icon and the text "Attributes (0)".

- Reports. This is a missing functionality in Salesforce.

## CTI Actions

Customers can now extend their Contact Control Panel (CCP) with customizable buttons called CTI Actions. These buttons can be configured in Salesforce and used to simplify common agent actions. For example, you can add a button that starts and stops recordings, automate case creation, or start a customer refund process. CTI Actions are configured in the CTI Adapter's Actions Admin panel to execute [CTI Flows](#) which are process blocks that enable you to easily design agent workflows within our Salesforce integration.

You can configure a CTI Action in the CCP Element Editor page.

The screenshot shows the CCP Element Editor interface with the title 'CCP Element Editor' and a toolbar with icons for Service Console, CCP Element Editor, and a dropdown. The main area is titled 'Actions' and contains three steps: Step 1: Name and Flow, Step 2: Payload (optional), and Step 3: Additional Data (optional). Step 1 is active, showing a 'Save' button, a 'Quick Save' link, a 'Delete' button (which is highlighted with a red border), and a 'Cancel' link. A note below says: 'This section asks you for some required information about your action. It is the only required section you need to fill to create an action.' Below this is a form field for 'Action Name' containing 'Leave Voicemail'. A note next to it says: 'The name agents will see.' Below the action name is a dropdown menu labeled 'CTI Flow' with 'Leave a Voicemail' selected. A note next to the dropdown says: 'In this field, you will see all CTI Flows in this account whose source field is CCP Overlay.' At the bottom is another form field for 'Order' with '0' entered. A note next to it says: 'Position of the action in the overlay.'

Make sure that you have created a CTI Flow and it uses the source "CTI Action." Only these CTI Flows will be displayed in the dropdown field.

You can optionally specify a payload to pass to the CTI Flow. This allows your agents to enter additional data about the customer or information about the call to pass into the CTI Flow. The CCP Element Editor gives you the ability to add input fields into your form. These fields can be accessed in the CTI Flow through `$.payload.fieldKey`.

## Actions

Step 1: Name and Flow	
Step 2: Payload	(optional)
Step 3: Additional Data	(optional)

**Save** Quick Save **Delete** Cancel

In this section, you will build a form that will be displayed to the agents prior to triggering the CTI Flow. The form data will be passed as a payload to the executed flow.

[Overview](#) [Form fields](#)

New field +

This section collects some basic information about the form, such as title and instructions. Both fields are optional.

(optional)

**Title**

Enter a short title for the form.

(optional)

**Instructions**

Enter a few lines about how to fill out this form.

[Form fields ▶](#)

## Actions

Step 1: Name and Flow	
Step 2: Payload	(optional)
Step 3: Additional Data	(optional)

**Save** Quick Save **Delete** Cancel

In this section, you will build a form that will be displayed to the agents prior to triggering the CTI Flow. The form data will be passed as a payload to the executed flow.

[Overview](#) [Form fields](#)

New field +

**Field Name**

This is the name of the field in your payload. It should be a [camelCased](#) word.

**Label**

The label is a human readable text shown to the agent next to the input field.

**Field Type**

Text

▼

Order

0

You have the option to select a text input or a dropdown.

Field Required

Cancel

Finish

[◀ Overview](#)

## CCP Overlay

The **Actions** panel in the CCP overlay drawer displays the CTI Action buttons where your agents have easy access to them as they are interacting with customers.

*The screenshots below are showcasing the CTI Actions and their behavior in the CCP Overlay panel, not the individual CTI Flows shown.*



## Phone



## Attributes

## Actions



Send Customer Giftcard



Activate Customer Account

Execute

Transfer to Manager

Execute

Give customer refund

Execute

Open a Case

Execute



Find Cases for Customer

Execute

Create Task and Contact and  
Screenpop

Execute

VIP

Execute

Transfer to Manager

Execute

Transfer to Peer

Execute

If a CTI Action requires additional input by the agent, its name will be followed by an arrow and when the agent clicks on this button, it will open the configured form. Otherwise, it will be shown with an "Execute" button next to its name.

Phone

Attributes Actions

Go back

## Customer Gift Card

Please fill in these details about the user.

First name\*

John

Last name\*

Doe

Telephone

Submit



## Example

In this section we demonstrate how to use CTI Actions and how they interact with CTI Flows through an example.

Here we setup a CTI Action and Flow to create a Salesforce Task to callback a customer and pop it. The end goal is to have a Task with the subject *Callback - FirstName - LastName* and the number to callback in the comments section of the Task. If a contact exists for that number, we will also link it in the Task. We use a CTI Action to do this to let the agent enter the customer's first and last name and callback number if it is different from the number used to call in. This action looks like this in the CCP Overlay.



Go back

## Customer Callback Information

If the callback number is the different from the number used to dial in enter it in the form, otherwise keep it empty.

### First Name\*

- is a required property

### Last Name\*

- is a required property

### Callback Number

**Submit**

To achieve this, we need to setup a CTI Action then a CTI Flow.

First, we setup the CTI Action. To do that we need to have created a CTI Flow with the **CTI Actions** as source. For now we create an empty Flow, which we will build later, just to reference it in the Action.

The first step is to name and link the Action to a Flow.

**Actions**

**Step 1: Name and Flow**

**Step 2: Payload** (optional)

**Step 3: Additional Data** (optional)

**Save** Quick Save **Delete** Cancel

This section asks you for some required information about your action. It is the only required section you need to fill to create an action.

Action Name  
Create Callback Task

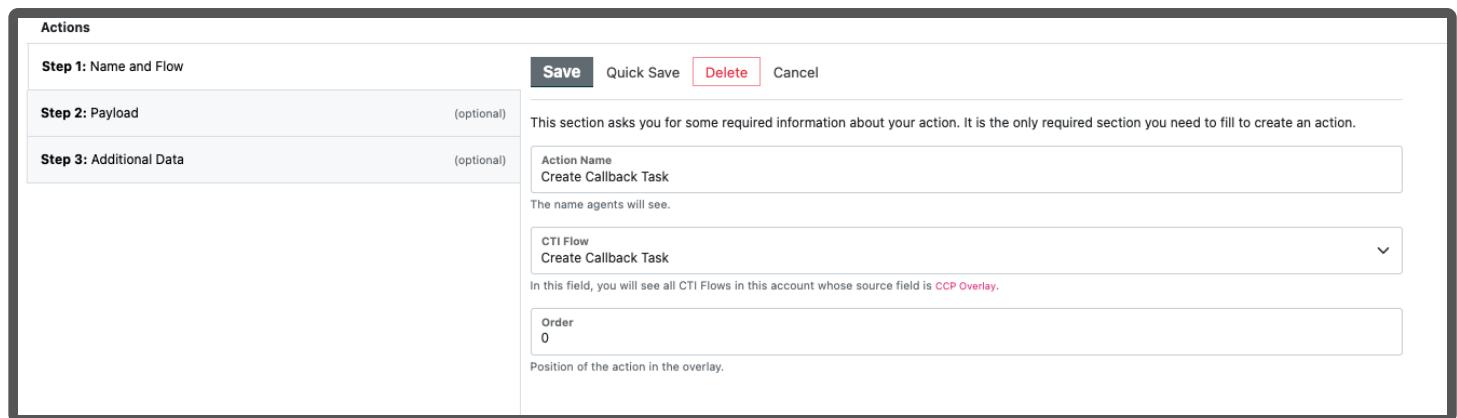
The name agents will see.

CTI Flow  
Create Callback Task

In this field, you will see all CTI Flows in this account whose source field is CCP Overlay.

Order  
0

Position of the action in the overlay.



The second step is to add hardcoded fields to the payload, if desired. In this example we add part of the Task subject as hardcoded fields to demonstrate the functionality.

**Actions**

**Step 1: Name and Flow**

**Step 2: Payload** (optional)

**Step 3: Additional Data** (optional)

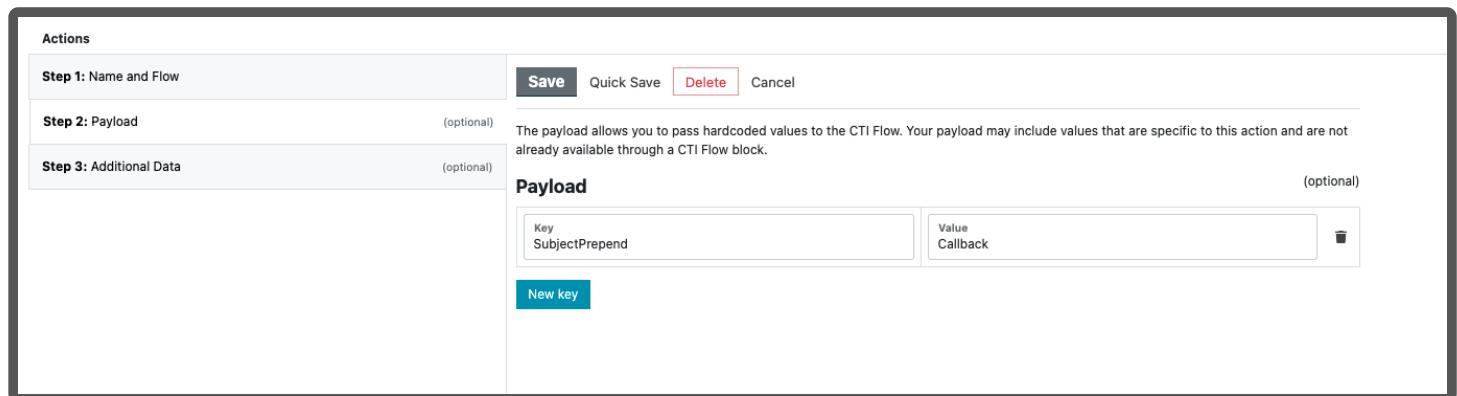
**Save** Quick Save **Delete** Cancel

The payload allows you to pass hardcoded values to the CTI Flow. Your payload may include values that are specific to this action and are not already available through a CTI Flow block.

**Payload** (optional)

Key SubjectPrepend	Value Callback	
-----------------------	-------------------	---

New key



Finally, as shown previously, the action is a form, that means it has additional data that the agent can provide. Below are images showing how they are setup for this example.

## Actions

Step 1: Name and Flow	(optional)
Step 2: Payload	(optional)
Step 3: Additional Data	(optional)

**Save** Quick Save **Delete** Cancel

In this section, you will build a form that will be displayed to the agents prior to triggering the CTI Flow. The form data will be passed as a payload to the executed flow.

[Overview](#) [Form fields](#)

New field +

This section collects some basic information about the form, such as title and instructions. Both fields are optional.

(optional)

Title  
Customer Callback Information

Enter a short title for the form.

(optional)

Instructions

If the callback number is the different from the number used to dial in enter it in the form, otherwise keep it empty.

Enter a few lines about how to fill out this form.

[Form fields ▶](#)

## Actions

Step 1: Name and Flow	(optional)
Step 2: Payload	(optional)
Step 3: Additional Data	(optional)

**Save** Quick Save **Delete** Cancel

In this section, you will build a form that will be displayed to the agents prior to triggering the CTI Flow. The form data will be passed as a payload to the executed flow.

[Overview](#) [Form fields](#)

New field +

This is a list of fields that will appear in your form. They are shown in the order they will appear.

First Name

▶

Last Name

▶

Callback Number

▶

[◀ Overview](#)

## Actions

Step 1: Name and Flow	(optional)
Step 2: Payload	(optional)
Step 3: Additional Data	(optional)

**Save** Quick Save **Delete** Cancel

In this section, you will build a form that will be displayed to the agents prior to triggering the CTI Flow. The form data will be passed as a payload to the executed flow.

[Overview](#) [Form fields](#)

New field +

Field Name  
FirstName

Label  
First Name

✖

This is the name of the field in your payload. It should be a camelCased word.

Field Type

Text

▼

Order

0

You have the option to select a text input or a dropdown.

Field Required

Cancel **Finish**

[◀ Overview](#)

Action
Save Quick Save Delete Cancel

In this section, you will build a form that will be displayed to the agents prior to triggering the CTI Flow. The form data will be passed as a payload to the executed flow.

Overview Form fields New field +

Field Name LastName	Label Last Name
This is the name of the field in your payload. It should be a camelCased word.	
Field Type Text	Order 1
You have the option to select a text input or a dropdown.	
<input checked="" type="checkbox"/> Field Required	

Cancel Finish

[Overview](#)

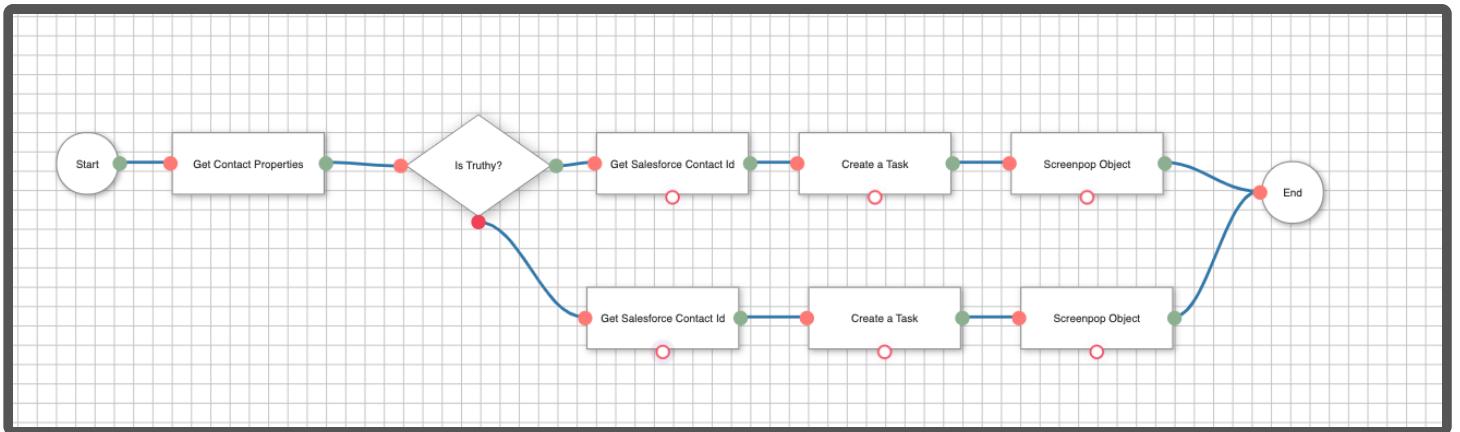
---

Field Name CallbackPhone	Label Callback Number
This is the name of the field in your payload. It should be a camelCased word.	
Field Type Text	Order 2
You have the option to select a text input or a dropdown.	
<input type="checkbox"/> Field Required	

Cancel Finish

[Overview](#)

Then, we setup the CTI Flow. As mentioned above, it's possible to have the callback number different from the number used to call in, or it could be the same. If it's the same, we don't want the agent to enter the number again, in fact we can get that number in the CTI Flow. In the flow we use the **Get Contact Properties** block to get the phone number of the contact. Then using the **Is Truthy?** block, we check if the agent entered a callback number in the form or not. Depending on whether they did or not, we get the Salesforce Contact and create a Task using the correct callback number. In the Flow we reference the CTI Action fields by using `$.payload.fieldKey` for both the hardcoded payload and the fields in the additional data form (Take a look at the **Create a Task** blocks in the flow below).



## [Download Flow](#)

To test this action, you can place or accept a call from the CCP, open the overlay, fill in the form then submit it. If everything is setup correctly, a Task should pop up with the desired information.

## Receiving Data from CTI Flows

In addition to agents sending data to the CTI Flow, they can also receive data from a CTI Flow.. When a CTI Flow sends some information to the CCP overlay, it will be displayed in the Data panel.



Phone



Attributes

Data



+1 3

Data Sink

foo

bar



Here is how you would configure your CTI Flow to send data back to the CCP overlay.

### Send Data to CCP Overlay

ID: uid-9 ⓘ

**Arguments**

value ⓘ optional

✖

**Add a field**

```

graph TD
    Start((Start)) --> Decision{Is Contact Inbound?}
    Decision --> Send[Send Data to CCP Overlay]
    Decision --> Decision
  
```

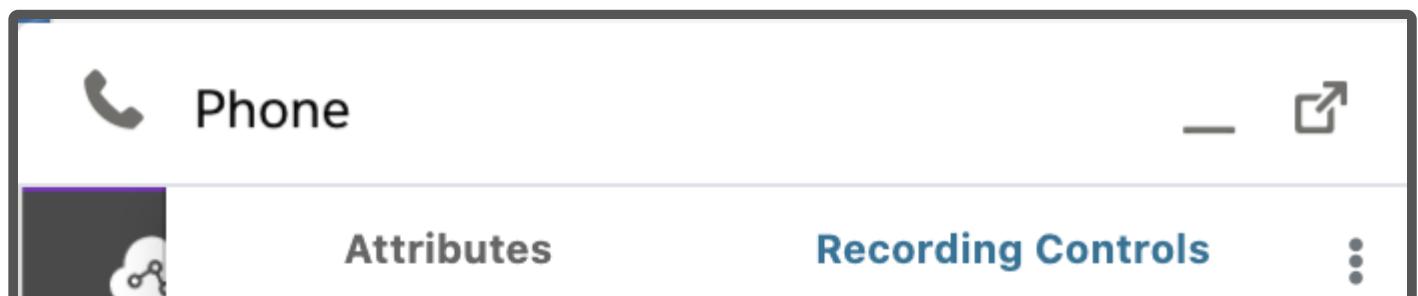
## Upgrading from an earlier version

If you are upgrading the Salesforce package from an earlier version of CTI Adapter, there are a few additional steps to follow:

1. Go to Setup
2. In "Quick Find," search for "Picklist Value Sets" and click on the result.
3. Select "AC\_CtiScriptSource" on "Picklist Value Sets" page.
4. Scroll down to "Values" section
5. Click "New" to add a new value.
6. In the textarea, enter "ctiAction" and save
7. Scroll down to the new field you added, "ctiAction," and click "Edit."
8. Update the label to "CTI Action" and save.

## Recording Controls

Recording Controls panel in the CCP Overlay allows your agents to control the recording behavior of the call.



 Start recording Pause recording

---

This panel integrates to Amazon Connect [call recording API](#). To use it, make sure to add [Set recording behavior block](#) in your Contact Flow. The controls will be activated during a call.

This can be useful when you don't want to record every call, and give the agent the ability to pause and resume a recording.

Note that once a recording is stopped, it cannot be restarted. After starting a recording, you should use pause/resume button to control it.

This panel is disabled by default. You can enable it by adding `FEATURE_RECORDING_PANEL` feature flag to your CTI Adapter, with the setting `Enabled:true`.

## Setup

First, create an IAM user and give it the managed policy `AmazonConnect_FullAccess`. (Make sure to create this in the same AWS account as the one that owns your Connect instance.)

The screenshot shows the AWS IAM console. The top navigation bar has tabs for **Permissions**, **Groups**, **Tags**, and **Security credentials**. The **Permissions** tab is selected. Below the tabs, a section titled **▼ Permissions policies (1 policy applied)** contains a blue button labeled **Add permissions**. Under this section, there is a table with two columns. The first column is labeled **Policy name ▾** and the second column is labeled **Attached directly**. A single row is shown, featuring a small orange cube icon followed by the text **AmazonConnect\_FullAccess** in a blue box.

Copy the access key and secret of this user (from the "Security credentials" tab.) Next, go to your Salesforce instance Setup section. Search for Named Credentials in the left sidebar, and create a new credential named `AmazonConnectAPI`. (The name and the label should be identical.)

# Named Credential Edit: AmazonConnectAPI

Specify the callout endpoint's URL and the authentication settings that are required for

The screenshot shows the 'Named Credential Edit' interface for 'AmazonConnectAPI'. At the top right are 'Save' and 'Cancel' buttons. Below them are three fields: 'Label' (set to 'AmazonConnectAPI'), 'Name' (set to 'AmazonConnectAPI'), and 'URL' (set to 'https://connect.us-east-1.amazonaws.com'). A section titled 'Authentication' is expanded, showing the following configuration: 'Identity Type' set to 'Named Principal', 'Authentication Protocol' set to 'AWS Signature Version 4', 'AWS Access Key ID' set to 'AKIAUYVLTXECVPVW5', 'AWS Secret Access Key' (redacted), 'AWS Region' set to 'us-east-1', and 'AWS Service' set to 'connect'.

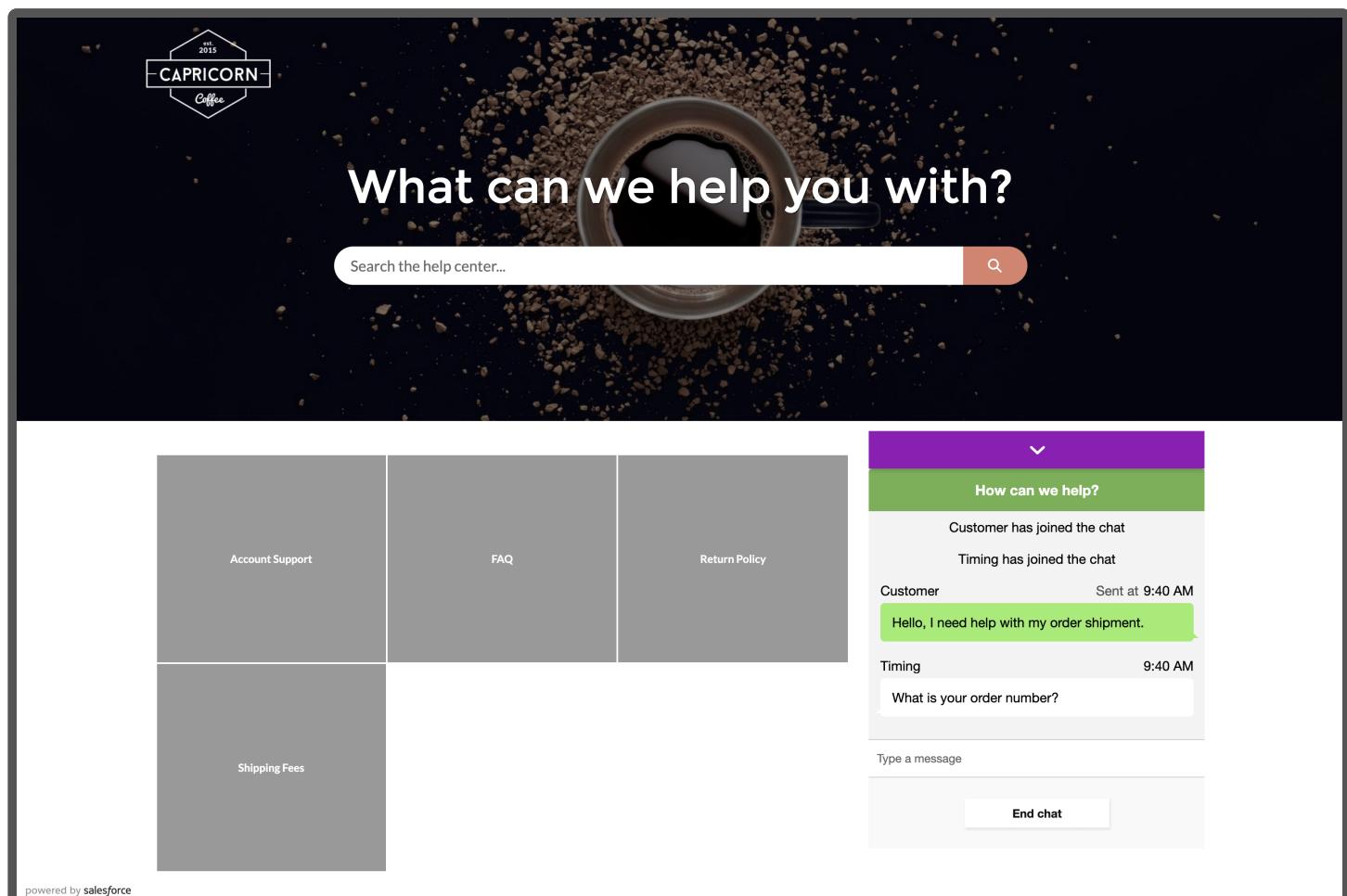
Label	AmazonConnectAPI
Name	AmazonConnectAPI
URL	https://connect.us-east-1.amazonaws.com
<b>Authentication</b>	
Certificate	[Redacted]
Identity Type	Named Principal
Authentication Protocol	AWS Signature Version 4
AWS Access Key ID	AKIAUYVLTXECVPVW5
AWS Secret Access Key	[Redacted]
AWS Region	us-east-1
AWS Service	connect

Fill in `https://connect.us-east-1.amazonaws.com` as the url. For Identity Type, select "Named Principal" and for "Authentication Protocol" select "AWS Signature Version 4." Then fill in the "AWS Access Key Id" and "AWS Access Secret" fields with your IAM user credentials. And for AWS Region, use the region of your Connect instance. And for the AWS Service, fill in `connect`.

## Chat Widget Integration

SalesForce Experience Cloud allows you to setup a website for your customers easily, with the included template, you can setup a help center, or a customer service website with just a few clicks. Amazon Connect CTI Adapter now provides you a chat-widget component, and you can use it in the Experience Cloud Builder App to add the Amazon Connect Chat Widget to any page you want.

The screenshot below shows an example of having the chat widget added to a help center website. Please note that this feature does not support **Build Your Own(LWR)** and **Salesforce Tabs + Visualforce** template.



To start using this feature, you can either follow the steps below to setup an Experience Cloud Site for testing purpose, or you can skip to the next section if you are already familiar with SalesForce Experience Cloud.

## Setup Experience Cloud Site:

- Go to Setup
- Search for Digital Experience
- Enable Digital Experience

- Create a new Site by clicking New button

The screenshot shows the Salesforce Home page. At the top, there is a banner with the text "It's Better in Lightning" and "Move to Lightning Experience and give your users a productivity boost." Below the banner, there is a "Digital Experiences" section. On the left, there is a sidebar with various links like "Lightning Experience Transition Assistant", "Salesforce Mobile Quick Start", "Home", and "Administer". The main content area shows a table titled "All Sites" with one row: "Workspaces | Builder". There is also a "Get Started" button.

- Choose Help center template to create a new site

The screenshot shows the "Choose the Experience You Love" page in the Salesforce Setup. It features a grid of six site templates:

- Build Your Own (LWR)** by Salesforce: Unparalleled Performance • Standards-Based Customization • Develop blazing fast digital experiences, such as websites, microsites, and portals, using the Lightning...
- B2C Commerce** by Salesforce: Live search • Product filtering • Einstein Product Recommendations • Create a responsive ecommerce store that provides easy customization of store layout and template, configure...
- Help Center** by Salesforce: Self-Service • Curated Knowledge • Case Deflection • Guest Case Creation • Give your customers the answers they're looking for. Customers can search for and read articles and contact...
- Customer Account Portal** by Salesforce
- Customer Service** by Salesforce
- Build Your Own** by Salesforce

- Go to Builder of the new site

The screenshot shows the Experience Cloud Site Builder interface. At the top, there's a banner with the text "See your favorite metrics right here by getting the latest AppExchange package." and an "Install" button. Below the banner, the heading "My Workspaces" is displayed. There are seven workspace cards arranged in three rows:

- Builder**: Build, brand, and customize your site's pages.
- Moderation**: Monitor posts and comments, create rules.
- Content Management**: Organize, manage, and build collections for your Experience Cloud site.
- Gamification**: Keep your members engaged with recognition badges.
- Dashboards**: Examine the health of your site with reports and dashboards and engage with members.
- Administration**: Configure settings and properties for your experience.
- Guided Setup**: Configure features and integrations with step-by-step instructions.

- This will be the place to setup chat widget feature in the following sections. You can get yourself familiar with this Builder before moving to the next section.

## Setup Chat Widget in Amazon Connect

- Follow instructions [here](#) to setup your Chat Widget and copy the script to a text editor.
- Example of Script:

```
<script type="text/javascript">
(function(w, d, x, id){
  s=d.createElement('script');
  s.src='https://dg9yx063wihrt.cloudfront.net/amazon-connect-chat-
interface-client.js';
  s.async=1;
  s.id=id;
  d.getElementsByTagName('head')[0].appendChild(s);
  w[x] = w[x] || function() { (w[x].ac = w[x].ac || []).push(arguments)
};
})(window, document, 'amazon_connect', '5338d219-92c7-427e-8b10-
26a8f4dfb3d1');
amazon_connect('styles', { openChat: { color: 'white', backgroundColor:
```

```
'#826359'}, closeChat: { color: 'white', backgroundColor: '#940eb9' } });
amazon_connect('snippetId',
'QVFJREFIaUpTVGJkNWhNc0Q1WHpHYnFQTkJyYXN0.....=');
amazon_connect('supportedMessagingContentTypes', [ 'text/plain',
'text/markdown' ]);
</script>
```

- Example Call back function for JWT

```
amazon_connect('authenticate', function(callback) {
  window.fetch('https://www.yourdomain.com/yourAuthEndpoint').then(res => {
    res.json().then(data => {
      callback(data.data);
    });
  });
});
```

## Create Required Visualforce Pages

- Navigate to the Salesforce Setup by clicking on the gear icon in the top-right corner of the page.
- In the Setup menu, search for "Visualforce Pages" in the quick find box and click on that.
- On the "Visualforce Pages" page, click on the "New" button.
- According to Security selected above in Amazon Connect Chat Widget website:
  - If Enabled: Provide name like "AC\_ChatWidgetWithJWT" in the "Label" field & "Name" field for your Visualforce page.
  - If Disabled: Provide name like "AC\_ChatWidget" in the "Label" field & "Name" field for your Visualforce page.
  - Note: Going forward in documentation, Use the same name which you mention here in place of "AC\_ChatWidgetWithJWT" or "AC\_ChatWidget".
- Check the box front of "Available for Lightning Experience, Experience Builder sites, and the mobile app" field.
- Copy the below snippet in text editor and replace comments with mentioned script copied from [here](/docs/classic/cti-adapter/12-chat-widget-integration#Setup Chat Widget in Amazon Connect).
  - For "AC\_ChatWidgetWithJWT" Visual force page:

```
<apex:page id="AC_ChatWidgetWithJWT" showHeader="false" sideBar="false"
docType="html-5.0">
  <html xmlns="http://www.w3.org/2000/svg"
  xmlns:xlink="http://www.w3.org/1999/xlink" lang="en">
```

```

<head>
    <apex:slds />
    <meta charset="utf-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1" />
    <script type="text/javascript">

        <!-- Add Chat widget script here -->
        <!-- Add Call back function for JWT here -->
    </script>
</head>
</html>
</apex:page>

```

Example:

```

<apex:page id="AC_ChatWidgetWithJWT" showHeader="false" sideBar="false"
docType="html-5.0">
    <html xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/xlink" lang="en">
        <head>
            <apex:slds />
            <meta charset="utf-8" />
            <meta http-equiv="X-UA-Compatible" content="IE=edge" />
            <meta name="viewport" content="width=device-width, initial-scale=1" />
            <script type="text/javascript">
                <!-- Add Chat widget script here -->
                (function(w, d, x, id){
                    s=d.createElement('script');
                    s.src='https://dg9yx063wiiht.cloudfront.net/amazon-connect-chat-
interface-client.js';
                    s.async=1;
                    s.id=id;
                    d.getElementsByTagName('head')[0].appendChild(s);
                    w[x] = w[x] || function() { (w[x].ac = w[x].ac || [])
                    .push(arguments) };
                })(window, document, 'amazon_connect', '5338d219-92c7-427e-8b10-
26a8f4dfb3d1');
                amazon_connect('styles', { openChat: { color: 'white',
                backgroundColor: '#826359' }, closeChat: { color: 'white', backgroundColor:
                '#940eb9' } });
                amazon_connect('snippetId',
                'QVFJREFIaUpTVGJkNWhNc0Q1WHpHYnFQTkJyYXN0.....=');
                amazon_connect('supportedMessagingContentTypes', [ 'text/plain',
                'text/markdown' ]);
            <!-- Add Call back function for JWT here -->
        </head>
    </html>
</apex:page>

```

```

amazon_connect('authenticate', function(callback) {
    window.fetch('https://www.yourdomain.com/yourAuthEndpoint').then(res => {
        res.json().then(data => {
            callback(data.data);
        });
    });
    </script>
</head>
</html>
</apex:page>

```

- For "AC\_ChatWidget" Visual force page:

```

<apex:page id="AC_ChatWidget" showHeader="false" sideBar="false"
docType="html-5.0">
<html xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/xlink" lang="en">
<head>
    <apex:slds />
    <meta charset="utf-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1" />
    <script type="text/javascript">
        <!-- Add Chat widget script here -->
    </script>
</head>
</html>
</apex:page>

```

Example:

```

<apex:page id="AC_ChatWidget" showHeader="false" sideBar="false"
docType="html-5.0">
    <html xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/xlink" lang="en">
        <head>
            <apex:slds />
            <meta charset="utf-8" />
            <meta http-equiv="X-UA-Compatible" content="IE=edge" />
            <meta name="viewport" content="width=device-width, initial-scale=1" />
            <script type="text/javascript">
                <!-- Add Chat widget script here -->
                (function(w, d, x, id){

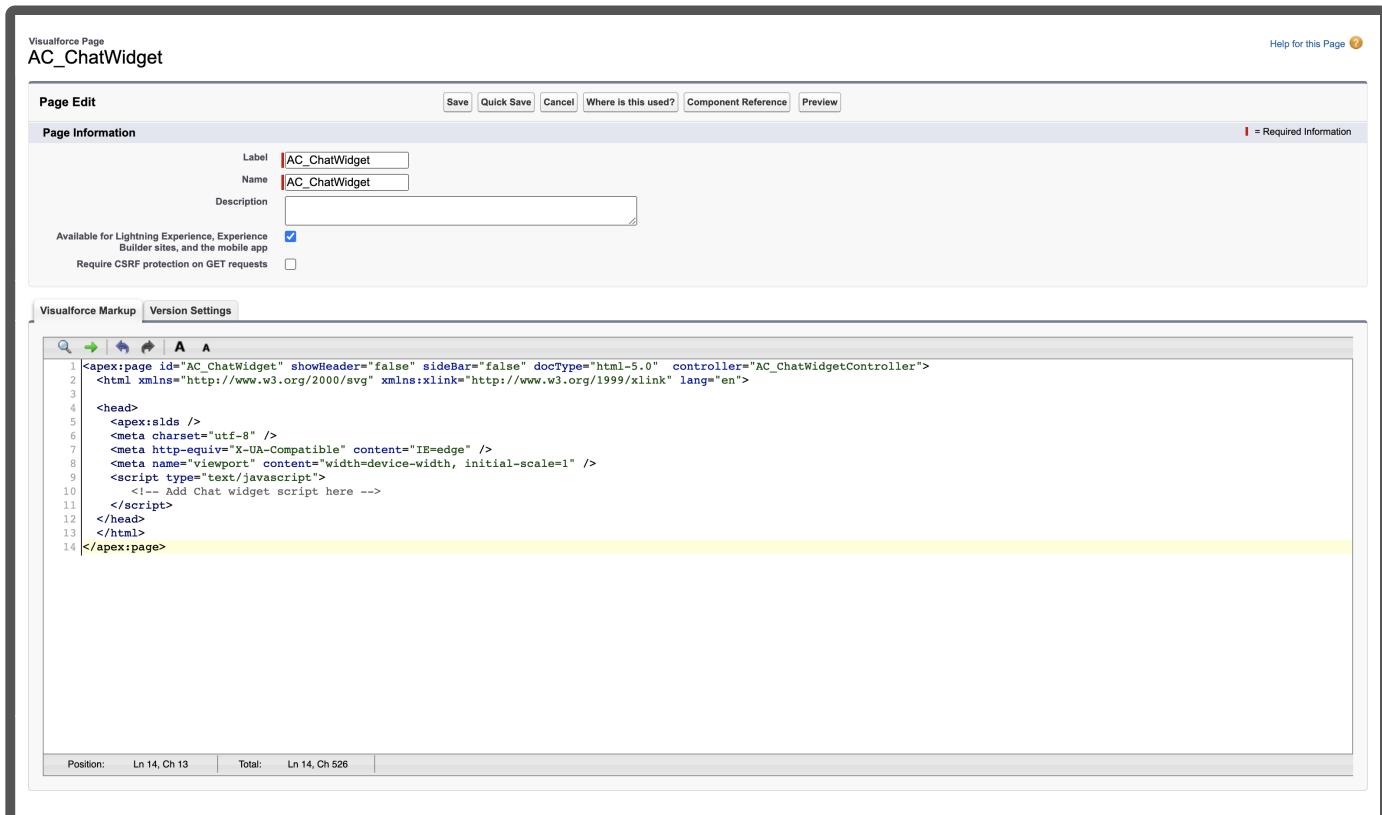
```

```

s=d.createElement('script');
s.src='https://dg9yx063wiiht.cloudfront.net/amazon-connect-chat-
interface-client.js';
s.async=1;
s.id=id;
d.getElementsByTagName('head')[0].appendChild(s);
w[x] = w[x] || function() { (w[x].ac = w[x].ac || [])
.push(arguments) };
})(window, document, 'amazon_connect', '5338d219-92c7-427e-8b10-
26a8f4dfb3d1');
amazon_connect('styles', { openChat: { color: 'white',
backgroundColor: '#826359' }, closeChat: { color: 'white', backgroundColor:
'#940eb9' } });
amazon_connect('snippetId',
'QVFJREFIaUpTVGJkNWhNc0Q1WHpHYnFQTkJyYXN0.....=');
amazon_connect('supportedMessagingContentTypes', [ 'text/plain',
'text/markdown' ]);
</script>
</head>
</html>
</apex:page>

```

- Final page should look like below image. Click on Save button.

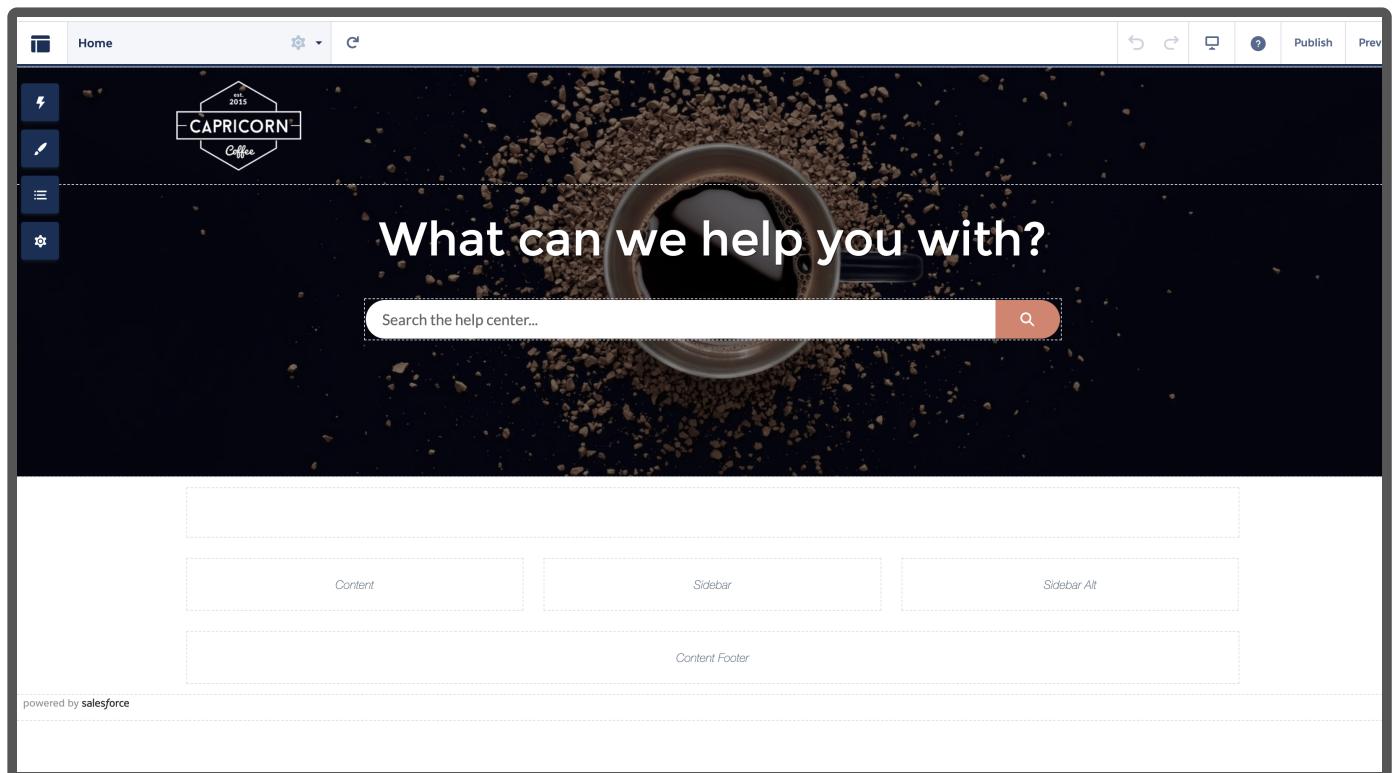


## Setup Chat Widget for your Experience Cloud Sites.

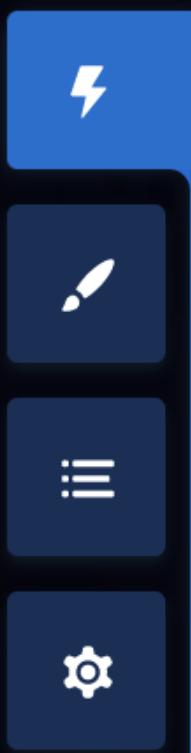
- Option 1: Setting up using out-of-box VisualForce page. Choose this if you need the chat widget only on one specific page.
- Option 2: Setting up using Lightning Component based on VisualForce page. Choose this if you need the chat widget only on one specific page but you don't have the license for the VisualForce page component in the experience cloud builder. It is a workaround for Option1.
- Option 3: Setting up using custom header. Choose this if you want the chat widget exists across all pages.

### **Option 1: Setting up using VisualForce page.**

- Go to Setup
- Go to VisualForce page
- Select AC\_ChatWidget
- Click Preview
- You should see a chat icon on the right bottom corner. If not, check browser console for error messages
- Copy the AC\_ChatWidget visualforce page URL.
- Go to your Experience Cloud Builder



- Open Components



Home  

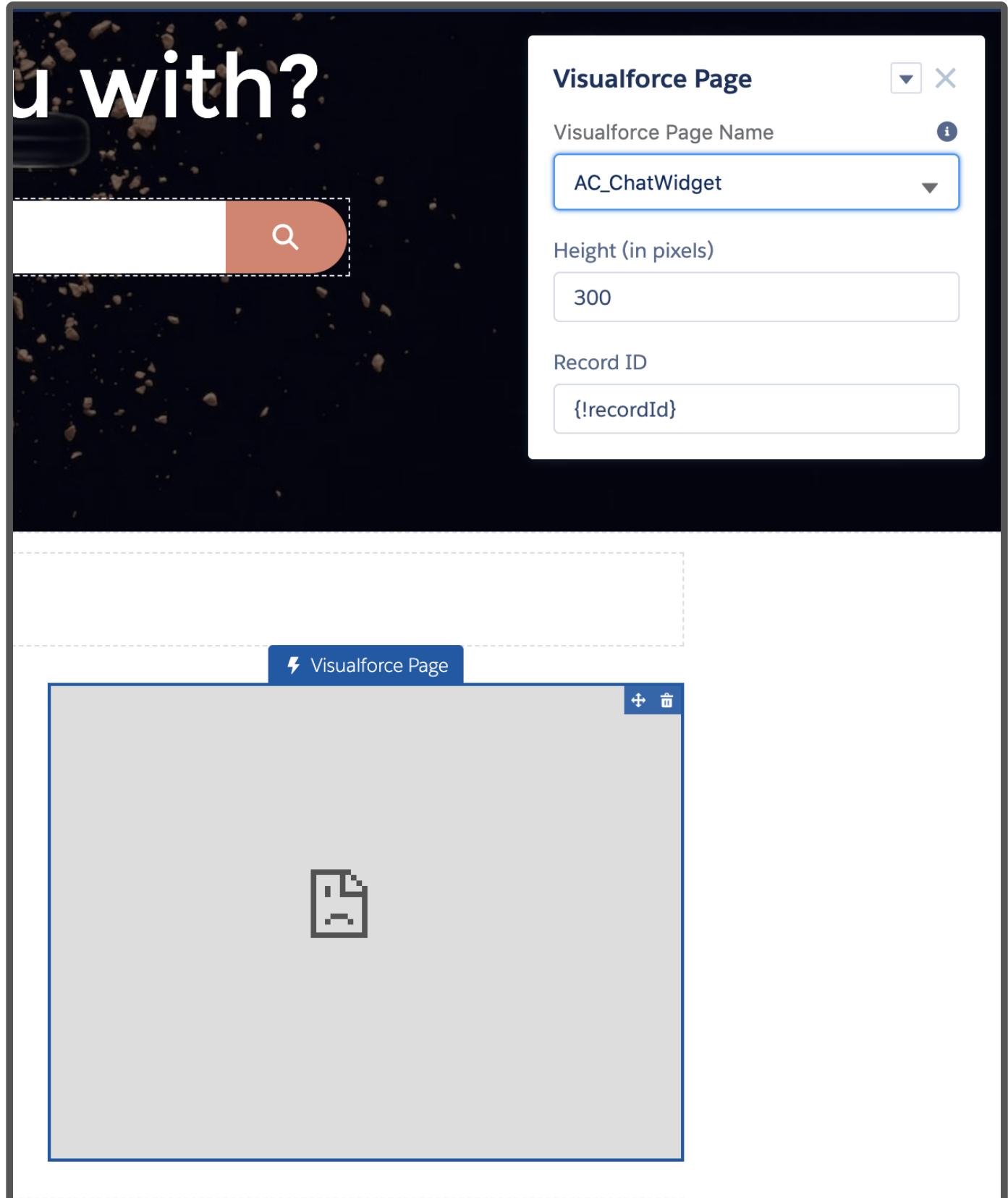
## Components

 Search...

▼ CONTENT (12)

-  CMS Collection
-  CMS Connect (HTML)
-  CMS Connect (JSON)
-  CMS Single Item
-  Headline
-  HTML Editor
-  Language Selector
-  Recommendations Carousel
-  Rich Content Editor
-  Tabs
-  Tile Menu
-  Visualforce Page

- Drag and drop Visualforce Page to your page. If you didn't enable chat widget security, you need to change the Visualforce Page Name to AC\_ChatWidget. If you enabled security for ChatWidget, change it to AC\_ChatWidgetWithJWT



- Go to Settings→General→Guest User Profile and click in to the Guest User Profile

## Guest User Profile

Configure access for guest or unauthenticated users. [Learn More](#)  
[dev3test Profile](#)

- Inside Guest user profile, go to Enabled Visualforce Page Access
- Add "AC\_ChatWidget" ( or "AC\_ChatWidgetWithJWT" if you have enabled security for chat widget)

## Enable Visualforce Page Access

Select the Visualforce pages that you want to make accessible at this Salesforce site.

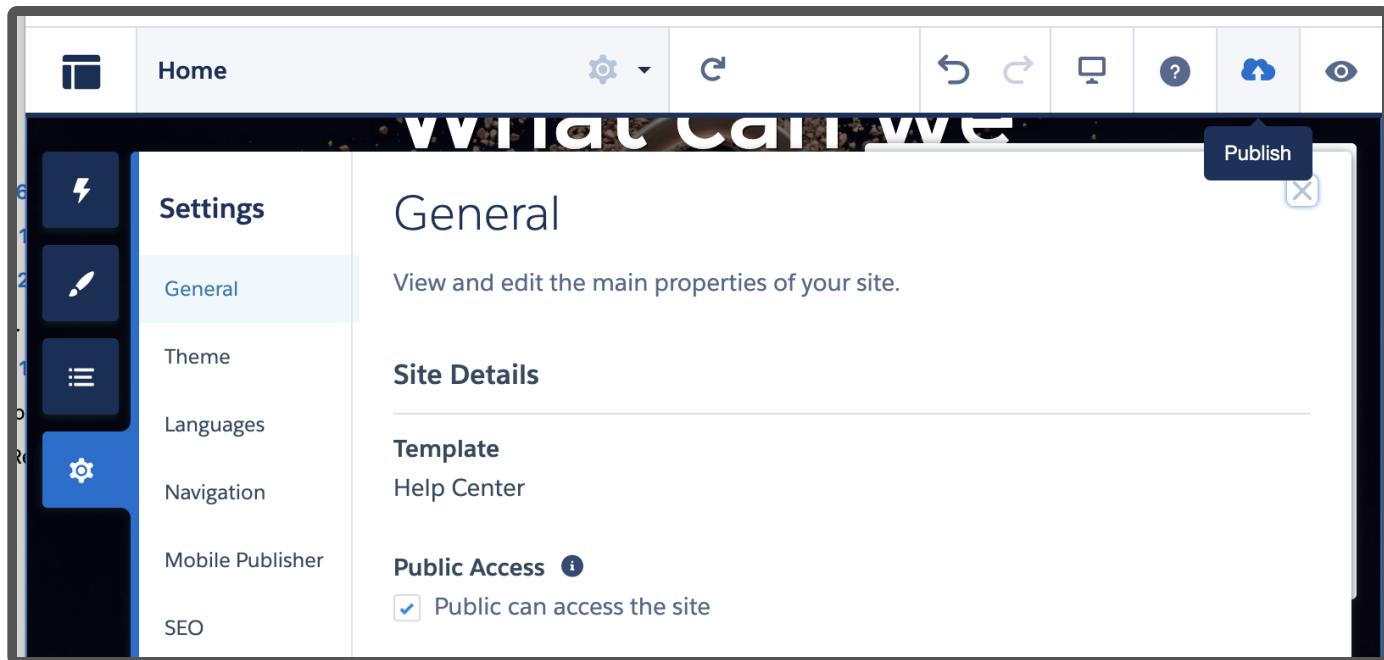
Available Visualforce Pages	Enabled Visualforce Pages
AnswersHome ChangePassword IdeasHome MyProfilePage SiteTemplate StdExceptionTemplate Unauthorized amazonconnect.ACSFCCP_CallLogging_View amazonconnect.ACSFCCP_CallRecordingCase amazonconnect.ACSFCCP_CallRecordingTask amazonconnect.ACSFCCP_CallTask amazonconnect.ACSFCCP_ObjectType amazonconnect.ACSFCCP_PostCallUpdateTask amazonconnect.AC_AgentStatusSessionEnd	AC_ChatWidget BandwidthExceeded CommunitiesLanding CommunitiesLogin CommunitiesSelfReg CommunitiesSelfRegConfirm CommunitiesTemplate Exception FileNotFoundException ForgotPassword ForgotPasswordConfirm InMaintenance MicrobatchSelfReg SiteLogin

Save    Cancel

Add    Remove

- Click Save

- Click Publish button on the top right to publish the website



- Copy the published website URL in Settings→Published Status
- Go back to Amazon Connect Chat Widget website, add following url to the allow-list Domains:
  - The AC\_ChatWidget visualforce page URL, remove everything after .com
  - The published website URL to chat widget allow-list origin, remove everything after .com
- Go to Setup→Sharing Settings. Search for AC CTI Adapter Sharing Rules. Create a new Rule for Guest user so that they have the object access. Make sure in Step2 the Rule Type is Guest user access, the Steps 3 you put a proper criteria, for testing purpose you can put CTI Adapter Name not equal to 1. In Step 4 Share with the Guest user profile of the community website you are working on,

and change the Access level to Read Only

**SETUP**

## Sharing Settings

Setup Help for this Page ?

### AC CTI Adapter Sharing Rule

Use sharing rules to make automatic exceptions to your organization-wide sharing settings for defined sets of users.

Note: "Roles and subordinates" includes all users in a role, and the roles below that role. This includes portal roles that may give access to users outside the organization.

You can use sharing rules only to grant wider access to data, not to restrict access.

**Step 1: Rule Name** |= Required Information

Label	<input type="text" value="test"/>
Rule Name	<input type="text" value="test"/> <a href="#">i</a>
Description	<input type="text"/>

**Step 2: Select your rule type**

Rule Type  Based on record owner  Based on criteria  Guest user access, based on criteria

**Step 3: Select which records to be shared**

This sharing rule grants access to guest users without login credentials. By modifying the default settings in accordance with these criteria, you're allowing immediate and unlimited access to all records matching these criteria to anyone accessing the site, even without logging in. To secure your site and its data from guest users, consider all the use cases and implications, and implement security controls that you think are appropriate for the sensitivity of your data. Salesforce isn't responsible for any exposure of your data to guest users related to this change from default settings.

Criteria	Field	Operator	Value	
	--None--	--None--		AND
	--None--	--None--		AND
	--None--	--None--		AND
	--None--	--None--		AND
	--None--	--None--		

[Add Filter Logic...](#)

Additional Options  Include records owned by high-volume users [i](#)

**Step 4: Select the users to share with**

Share with

**Step 5: Select the level of access for the users**

Access Level

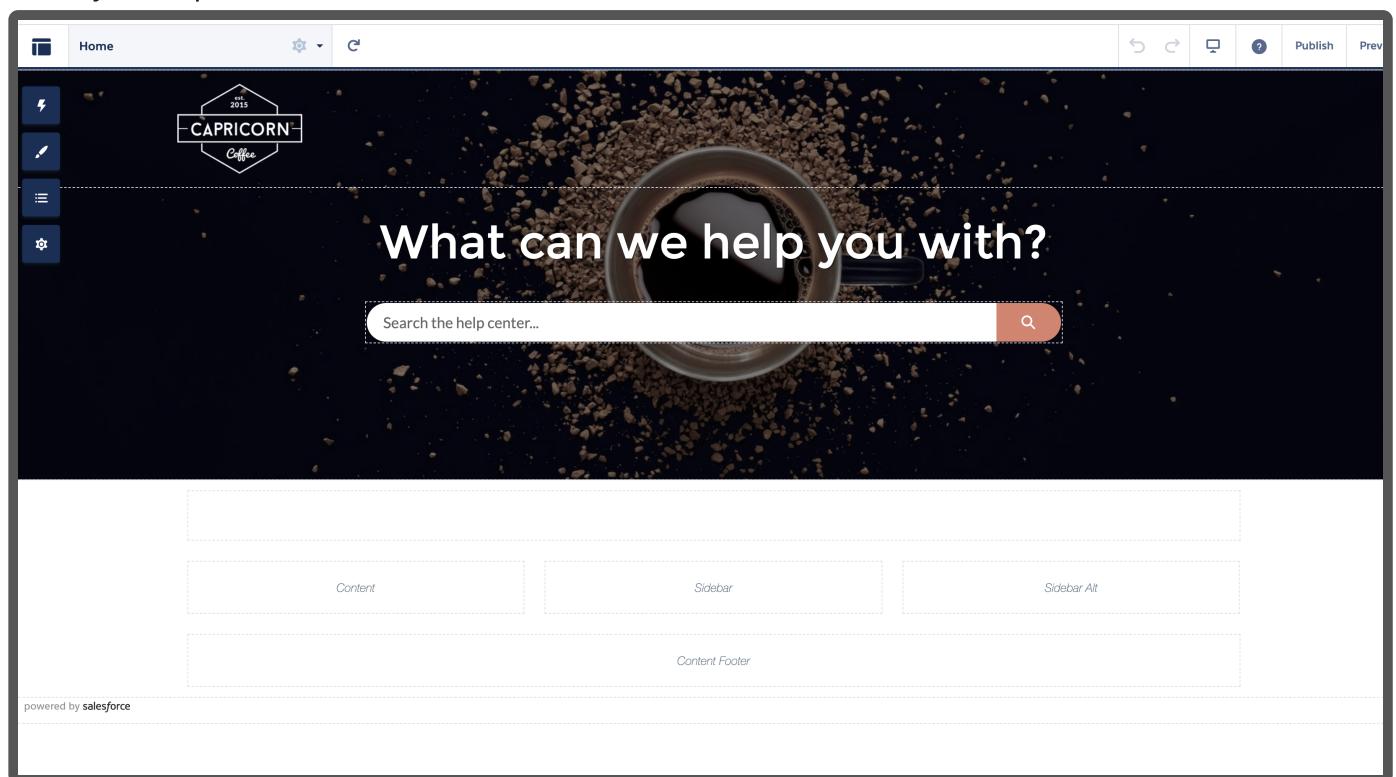
[Save](#) [Cancel](#)

**Verify the change:** Open your published website in a incognito window, you should be able to use chat widget to chat as a customer and chat to your agent without login Note: If you want to setup chat widget for authorized user group only, you could change the settings to the guest profile to the authorized user profile.

## Option 2: Setting up using out-of-box Lightning Component.

- Go to Setup
- Go to VisualForce page
- Select AC\_ChatWidget
- Click Preview

- You should see a chat icon on the right bottom corner. If not, check browser console for error messages
- Copy the AC\_ChatWidget visualforce page URL.
- Go to your Experience Cloud Builder



- Open Components

The screenshot shows the Home screen of a Content Editor. On the left, there is a vertical sidebar with four icons: a lightning bolt (Content), a pen (Edit), a grid (Collections), and a gear (Settings). The main area is titled "Components". It features a search bar with the placeholder "Search...". Below the search bar, a section titled "CONTENT (12)" is expanded, showing a list of components with their corresponding icons:

- CMS Collection
- CMS Connect (HTML)
- CMS Connect (JSON)
- CMS Single Item
- Headline
- HTML Editor
- Language Selector
- Recommendations Carousel
- Rich Content Editor
- Tabs
- Tile Menu
- Visualforce Page

- Drag and drop iFrame Component to your page

# Components



Search...



Record Detail



Related Record List

## ▼ SALES (1)



Campaign Marketplace

## ▼ SUPPORT (6)



Case Deflection



Channel Menu



Contact Request Button & F...



Contact Support Button



Contact Support Form



Embedded Service Appoint...

## ▼ TOPICS (3)



Featured Topics



Topic Catalog



Trending Topics

## ▼ CUSTOM COMPONENTS (1)



Some components in this section are blocked due to the site's security level setting. [More Details](#)



iFrame Component

[Get more on the AppExchange](#)

- Change Chat Widget URL to <your-website-domain>/AC\_ChatWidget if you did not enable the security for the chat widget. If you have enabled security, change it to <your-website-domain>/AC\_ChatWidgetWithJWT
  - You will have the website domain once it is published. The URL is in Settings→General→Published Status, and the part from https to .com is your website domain. If you haven't published it yet, you can update it once it is published and re-publish the website.
  - If you have site name, you need to append /<site-name> after your domain name. For example if the published website is demo-developer-edition.na111.force.com/testing/s/, your Chat Widget URL should be:
    - If security disabled --> demo-developer-edition.na111.force.com/testing/AC\_ChatWidget
    - If security enabled --> demo-developer-edition.na111.force.com/testing/AC\_ChatWidgetWithJWT
- Go to Settings→General→Guest User Profile and click in to the Guest User Profile

### Guest User Profile

Configure access for guest or unauthenticated users. [Learn More](#)  
[dev3test Profile](#)

- Inside Guest user profile, go to Enabled Visualforce Page Access

- Add AC\_ChatWidget( or AC\_ChatWidgetWithJWT if you have enabled security for chat widget)

## Enable Visualforce Page Access

Select the Visualforce pages that you want to make accessible at this Salesforce site.

Available Visualforce Pages	Enabled Visualforce Pages
AnswersHome	AC_ChatWidget
ChangePassword	BandwidthExceeded
IdeasHome	CommunitiesLanding
MyProfilePage	CommunitiesLogin
SiteTemplate	CommunitiesSelfReg
StdExceptionTemplate	CommunitiesSelfRegConfirm
Unauthorized	CommunitiesTemplate
amazonconnect.ACSFCCP_CallLogging_View	Exception
amazonconnect.ACSFCCP_CallRecordingCase	FileNotFoundException
amazonconnect.ACSFCCP_CallRecordingTask	ForgotPassword
amazonconnect.ACSFCCP_CallTask	ForgotPasswordConfirm
amazonconnect.ACSFCCP_ObjectType	InMaintenance
amazonconnect.ACSFCCP_PostCallUpdateTask	MicrobatchSelfReg
amazonconnect.AC_AgentStatusSessionEnd	SiteLogin

- Click Save
- Click Publish button on the top right to publish the website

- Copy the published website URL in Settings→Published Status
- Go back to Amazon Connect Chat Widget website, add following url to the allow-list Domains:

- \* The AC\_ChatWidget visualforce page URL, remove everything after .com
- \* The published website URL to chat widget allow-list origin, remove everything after .com

**Verify the change:** Open your published website in a incognito window, you should be able to use chat widget to chat as a customer and chat to your agent without login

## Trigger multi-contact chat events

The Amazon Connect CTI Adapter enables Agents concurrently managing multiple Chat contacts efficiently. In the process of handling multiple chat contacts, agents need to switch between these chat contacts, and they will be able to trigger events on the selected contact.

The Amazon Connect CTI Adapter provides a CTI Flow Event called "onViewContact" specifically designed for the "Amazon Connect Chat Contact" CTI Flow Source. It is available in versions v5.22+. With this event, when agents navigate between multiple chat contacts, the associated CTI Flow can be triggered. For example, a CTI Flow attached to Source : "Amazon Connect Chat Contact" | Event : "onViewContact" can be enabled to execute a ScreenPop action, revealing a related Salesforce object linked to the active Chat contact. Consequently, as agents switch between Chat contacts, the respective object for the ongoing chat will automatically open in the background within the Salesforce window. This functionality serves as a valuable identifier for the currently active Chat contact, enhancing the agent's workflow and efficiency.

## Recommendations

- It's essential to acknowledge that the "onViewContact" event can be triggered multiple times during the lifecycle of a single Chat contact.
- The advisable practice is to utilize only ScreenPop CTI Flow blocks within the CTI Flow associated with the "onViewContact" event.
  - Examples of CTI Flow blocks include: Screenpop Object, Screenpop Object Home, Screenpop Search, Search And Screenpop
- Additionally, it is best to avoid using any CTI Flow block that creates Salesforce objects, as it can result in the creation of multiple objects for a single contact during its lifecycle.
- The CTI Flow connected to the "onViewContact" CTI Flow Event is only activated after the Chat contact is in "Connected" Contact state. As a result, it is preferable to create and screen-pop the Salesforce object during the initial connection phase using the "onConnecting" or "onConnected" CTI Flow events. Subsequently, leverage the "onViewContact" CTI Flow Event to screen-pop Salesforce objects when switching between multiple connected Chat contacts. Please find the example attached in below Section.

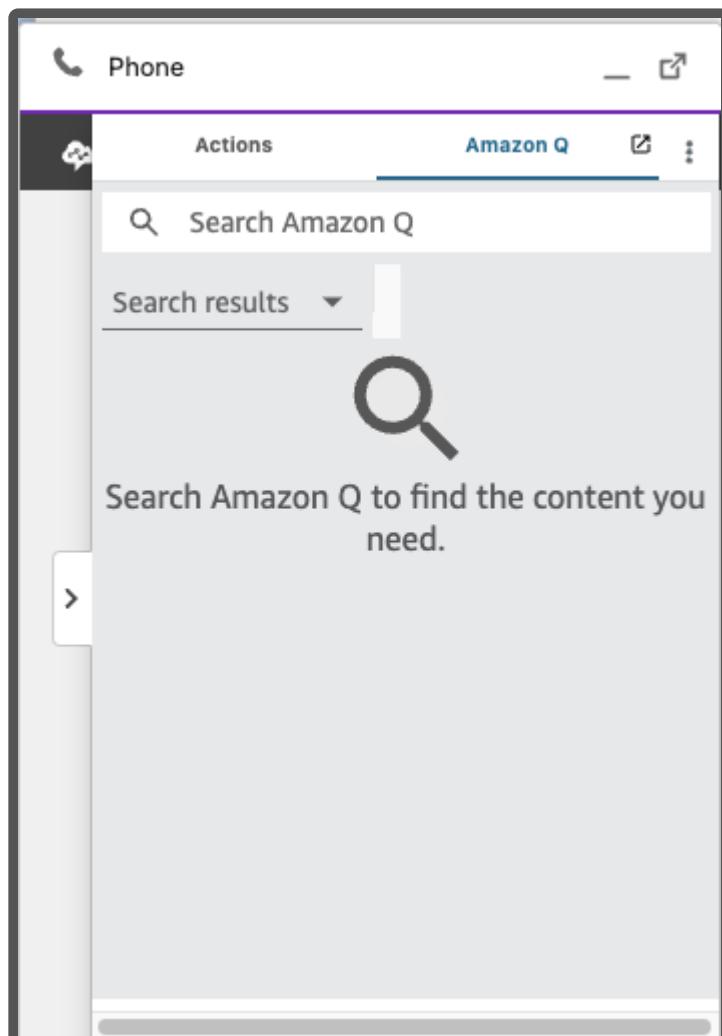
## Example Use

- Log into your Salesforce instance and open the relevant AC CTI Adapter.
- Configure CTI Flow:

- Source: "Amazon Connect Chat Contact" | Event: "onConnected" - SalesforceContactCreation.json
- Source: "Amazon Connect Chat Contact" | Event: "onViewContact" -ScreenPopContact-MultiChat.json
- Agent Experience:
  - Agents receives a new Chat contact.
  - Agent clicks on "Accept Chat" and contact is in "Connected" State.
  - CTI Flow attached to "onConnected" CTI Flow events is triggered and it creates Salesforce contact record with contactId as name and ScreenPop it.
  - Agent switches from one Chat contact to another, CTI Flow attached to "onViewContact" is triggered and it screenPops the relevant Salesforce Contact record of that visible Chat Contact.

## Amazon Q Integration

The Amazon Connect CTI Adapter allows for integration with Amazon Connect Amazon Q. We still support reference to Amazon Q's old name "Wisdom" for now, but we will not support it in CTI Adapter version 5.23 and onwards.



The integration between Amazon Q and the CTI Adapter first requires that Amazon Q is set up in the Amazon Connect instance that the CTI Adapter is integrated with. See [here](#) for full instructions.

Before proceeding with the below, please ensure that Amazon Q articles are properly showing up in your Amazon Q instance for the specific user you are testing.

## Amazon Q Permission Sets:

Salesforce users accessing Amazon Q in Salesforce must belong to either the AC\_AmazonQ permission set, or the AC\_Administrator permission set.

1. In setup, search for and select *permission sets*.
2. Select either the AC\_AmazonQ or the AC\_Administrator permission set
3. Select *Manage Assignments*, and add all relevant users to the permission set of choice.

## Setting up Amazon Connect Amazon Q in the CCP Overlay:

1. Navigate to your CTI Adapter
2. Scroll down to the Features section and create a new feature

Features		New AC Feature
Action	AC Feature Name	

3. Create a new feature with the following values:

- AC Feature Name - FEATURE\_AMAZONQ\_PANEL
- Value - Enabled: true

The screenshot shows the CCP Overlay interface for creating a new AC Feature. The feature is named "FEATURE\_AMAZONQ\_PANEL". The "Value" field contains "Enabled:true". The "Active" checkbox is checked. There are edit icons next to each field.

AC Feature Name	Value	Active
FEATURE_AMAZONQ_PANEL	Enabled:true	<input checked="" type="checkbox"/>

4. In addition, you can also include the `IgnorePermissionSet` setting to the value of the feature on a new line. This setting will show Amazon Q if it is enabled regardless of whether the logged in user belongs to the AC\_AmazonQ or the AC\_Administrator permission set. This setting is required if the logged in user has the `View Setup and Configuration` profile setting set to false.

- `IgnorePermissionSet: true`

AC Feature Name

FEATURE\_AMAZONQ\_PANEL

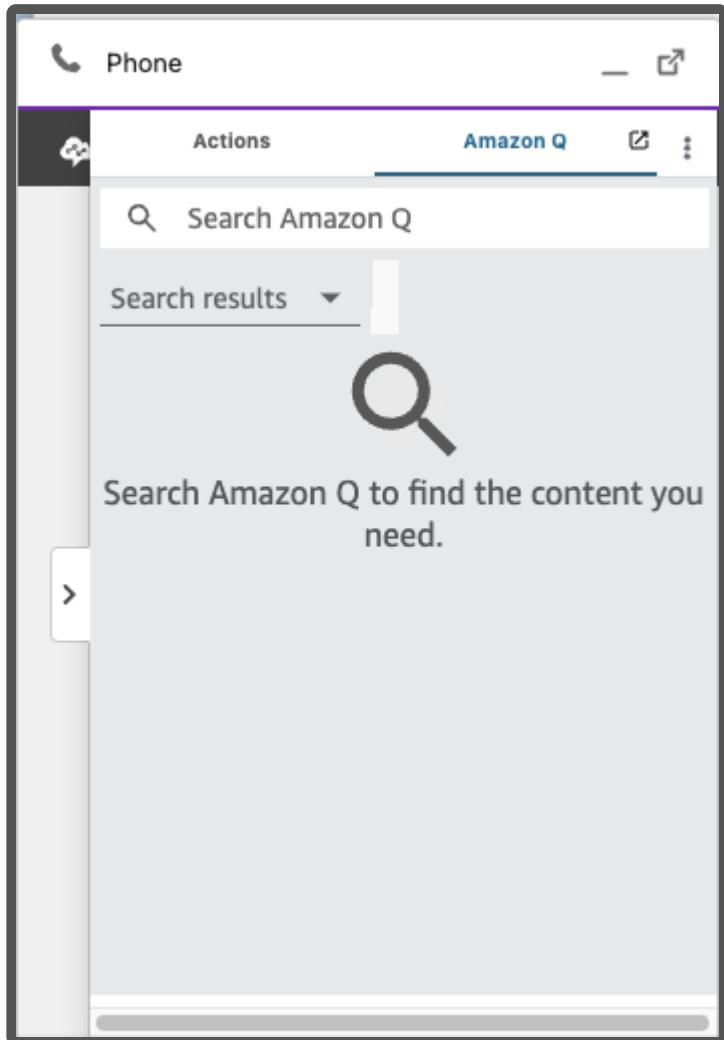
Value

Enabled:true

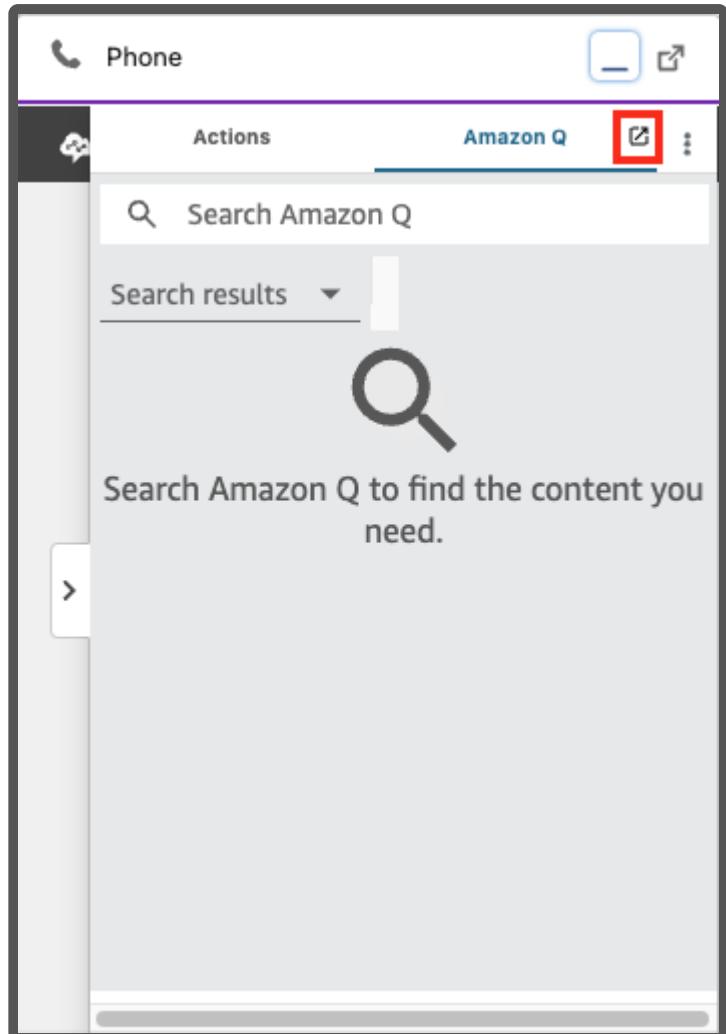
IgnorePermissionSet: true



5. Open the ccp, observe that there is a tab with Amazon Q in the CCP Overlay.



Amazon Q can be popped out into a new window by pressing pop out button.



### Accessing the Tabbed Version of Amazon Q:

Amazon Q is also accessible in Tabbed form.



## 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](#)
- [AC Contact Trace Records](#)
- [Account Brands](#)
- [Accounts](#)
- [AC CTI Adapters](#)
- [AC Guided Setup](#)
- [AC Real Time Queue Metrics](#)
- [AC Voice Id Channel](#)
- [AC Voicemail Drops](#)
- [AC Amazon Q](#)
- [App Launcher](#)

Q Search Amazon Q

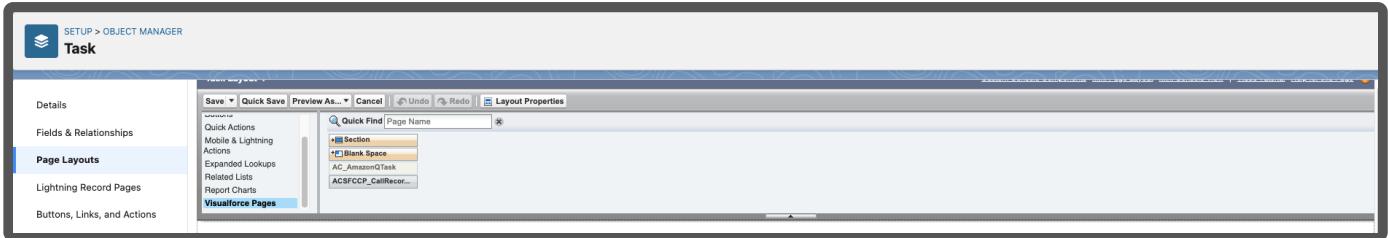
Search results ▾

### Accessing the Component Version of Amazon Q:

The final method of accessing Amazon Q in Salesforce is through the Amazon Q component.

1. Navigate to Object Manager in Setup in Lightning
2. Select either Task or Case (note: the Amazon Q component is embeddable in other pages as well, but you may need to write custom classes in order to do so.)
3. Select *Page Layouts*
4. Select the appropriate layout

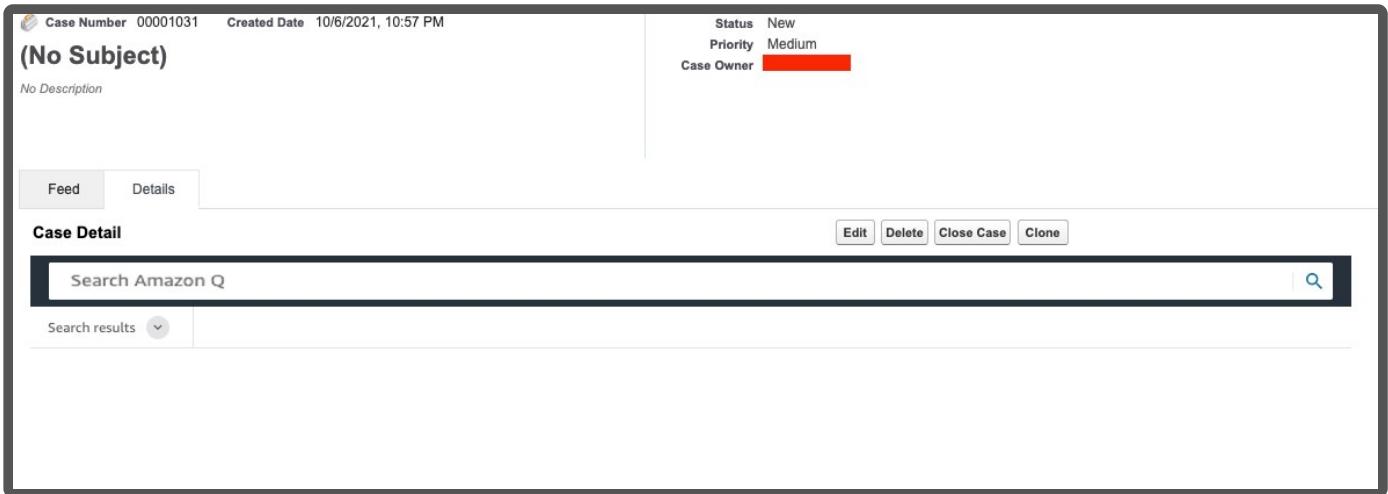
## 5. Select Visualforce Pages in the top component



6. Click and drag the appropriate Amazon Q visualforce page into the desired location

7. Save the layout

8. Navigate to a task page



## Voice Id

The Amazon Connect CTI Adapter allows for integration with Amazon Connect Voice Id.

The integration between Voice Id and the CTI Adapter first requires that Voice Id is set up in the Amazon Connect instance that the CTI Adapter is integrated with. See [here](#) for full instructions.

Before proceeding with the below, please ensure that Voice Id works as expected in a standalone CCP.

### Enabling the Voice Id Trigger:

1. In Setup, search for Custom Settings.
2. Click on Custom Settings, and click Manage on the row with the **Toolkit for Amazon Connect** setting

### 3. Click into your setting (or create one if it doesn't exist)

The screenshot shows the 'Custom Setting' section of the 'Toolkit for Amazon Connect' setup. At the top, there's a 'SETUP' icon and the text 'Custom Settings'. Below that, it says 'Custom Setting Toolkit for Amazon Connect'. There are two paragraphs of explanatory text about custom settings being lists or hierarchies, followed by a 'New' button. Underneath is a section titled 'Default Organization Level Value' with a 'View:' dropdown set to 'All' and a 'Create New View' link. The main table has a header row with 'Setup Owner' and a 'New' button. The body of the table is empty, showing 'No records to display.'

### 4. Search and assign the toolkit for either your profile or user, and then uncheck Disable the Voice Id

Channel Trigger

### 5. Enter the domain of Amazon Connect instance in the Url field (if it doesn't exist already).

### 6. Click save.

After following the above steps, `AC_VoiceIdChannel__c` records will start to be created on calls where Voice Id is active. These records can be viewed in the AC Voice Id Channel tab:



## 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](#)

[AC Contact Trace Records](#)

[Account Brands](#)

[Accounts](#)

[AC CTI Adapters](#)

[AC Guided Setup](#)

[AC Real Time Queue Metrics](#)

[AC Voice Id Channel](#)

[AC Voicemail Drops](#)

[AC Wisdom](#)

[App Launcher](#)

[Article Management](#)

[Assets](#)

[Authorization Form](#)

AC Voice Id Channel

AC Voice Id Channel 0000000000

[« Back to List: Custom Object Definitions](#)

### AC Voice Id Channel Detail

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

AC Voice Id Channel Name: Voice Id Channel 0000000000

Contact Id: a6a6ef03-f073-4c96-ab6f-b9382ff3bc18

Customer Number:

Speaker Id: no\_speaker\_id\_found

Speaker Status: no\_speaker\_id\_found

Authentication Result Decision: Error

Authentication Result Score: 0

## Setting up Medialess

### Medialess

The Amazon Connect CTI Adapter enables the operation of a cloud contact center in Salesforce within Virtual Desktop Infrastructure (VDI) environments through the utilization of the Medialess feature. The Medialess feature offers advantages for agents using VDI setups, ensuring that audio is accessible on the agent's local system for an enhanced experience. Enabling Medialess mode configures the

Salesforce CCP to operate without media, delivering the necessary data for screen pops, etc. while streaming audio to the local system, dependent on your VDI platform.

## Prerequisites

1. Install Amazon Connect CTI Adapter version v5.16 or higher in your salesforce instance. For more information, see [the guide here](#)
2. Required AC CTI Adapter feature for all VDI Platforms
  - i. Log In Salesforce instance
  - ii. Open the relevant AC CTI Adapter
  - iii. In the bottom tabs, select the **Features** section and click **New**.
  - iv. Set the **AC Feature Name** to be **EnableMedialessPopout**
  - v. Set the **Value** to be **Enabled:true**
  - vi. Ensure that the **Active** checkbox is checked, then hit Save.

## Setting Up Audio Optimized Virtual Desktop Infrastructures (VDI)

The CTI Adapter enables agents to leverage Citrix and Amazon Workspaces remote desktop applications to offload audio processing to their local device and to automatically redirect audio to CTI Adapter opened in remote application.

### Audio Optimization

- In order to know about audio improvement in CCP using Citrix VDI, refer to [Amazon Connect audio optimization for Citrix cloud desktops](#). Additionally, refer to [System Requirements](#) for using the Citrix United Communications SDK with Amazon Connect
- To learn more about how to optimize audio in Amazon Workspaces, refer to [AWS WorkSpace audio optimization support](#). Note that currently we only support integration with WSP Windows workspaces. Read [here](#) to learn more.

### CTI Adapter Configuration for VDI

Once the Citrix Workspace is ready to use, make the below changes in CTI Adapter which can be used in the workspace.

1. Log in to Salesforce instance

2. Open the relevant AC CTI Adapter.

a. In the bottom tabs, select the **Features** section and click **New**.

3. Set the **AC Feature Name** to be **VDIPlatform**

4. Set the **Value** to be **Name:CITRIX** or **Name:AWS\_WORKSPACE**.

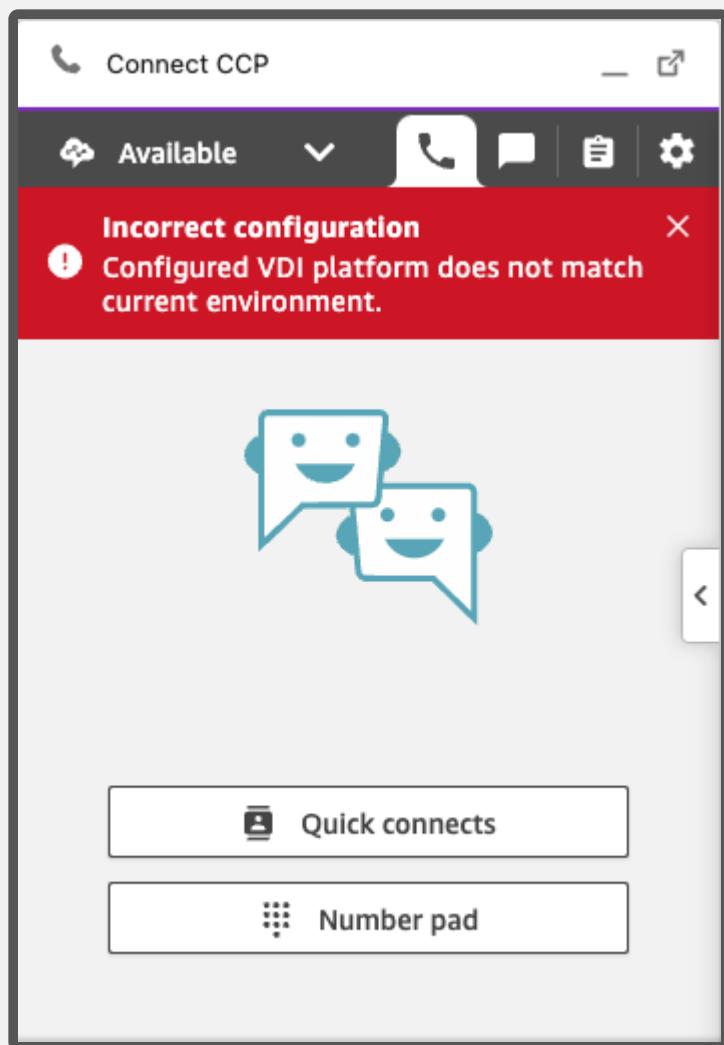
a. Ensure that the **Active** checkbox is checked, then hit **Save**.

5. Refresh the browser tab and launch the SoftPhone to log in to CCP.

6. Verify the configuration by initiating a Voice contact.

### Important Notes for Citrix Users

Note that once this feature is active in CTI Adapter, the CCP can be only used in a CITRIX environment, otherwise it will show an error as shown below.

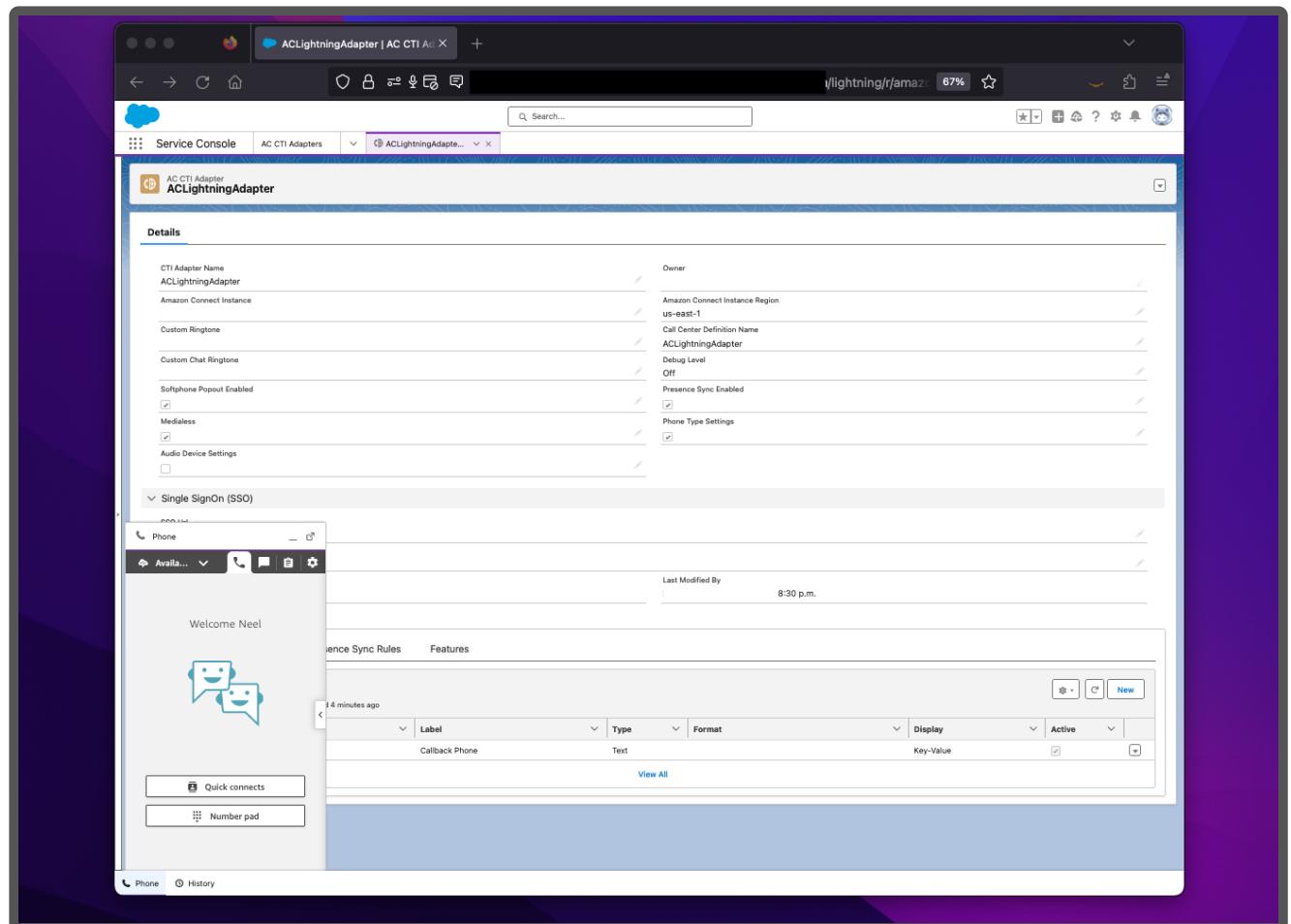


The Device Settings for the CCP which is opened in a Citrix environment, cannot be managed directly from the CCP level itself. In order to change the device settings for the CCP, for example changing the device input device, it has to be done from the OS level settings

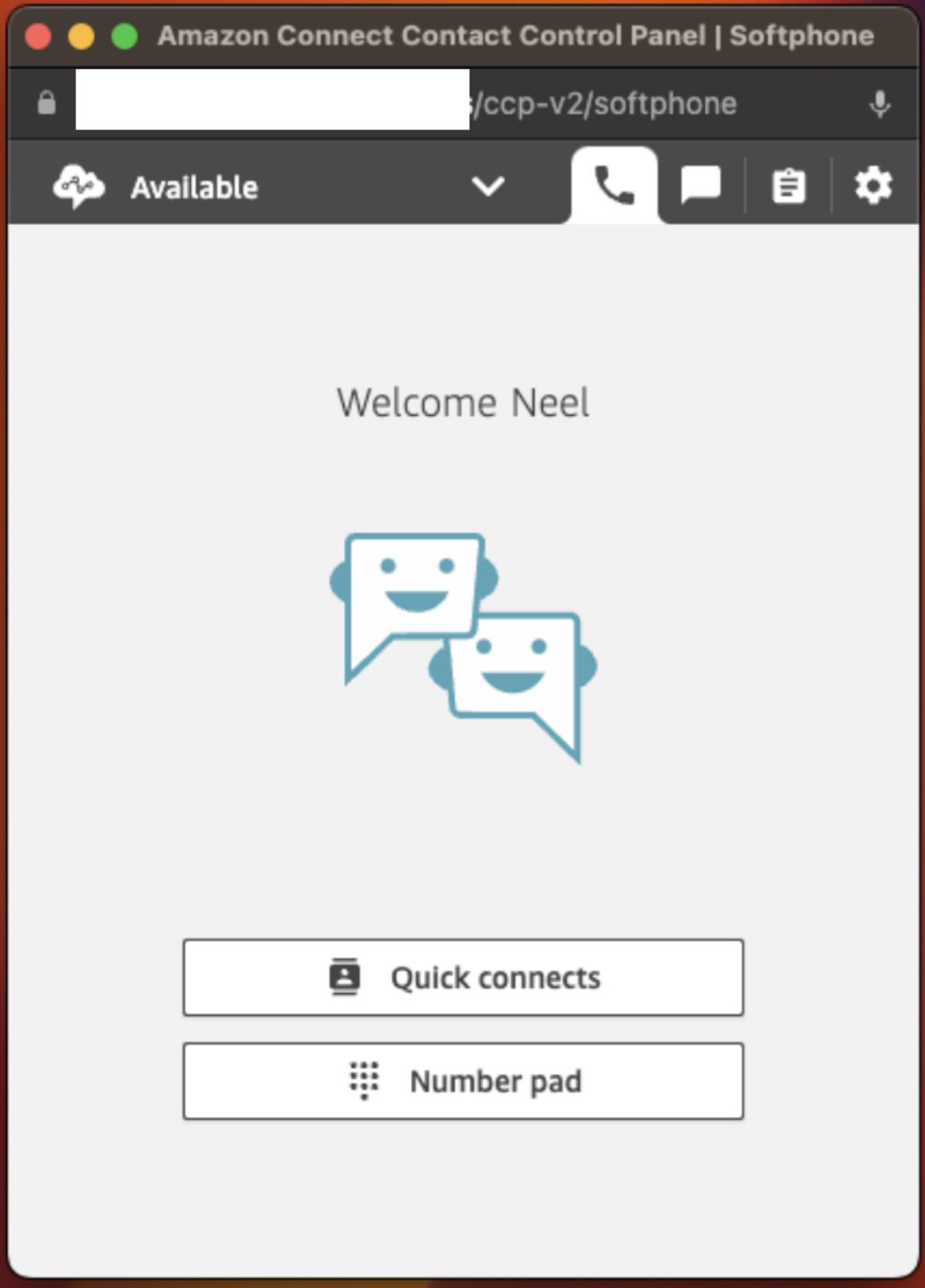
A VDI Platform should be set only if the Medialess settings are disabled. Therefore, if you want to set any VDI Platfrom, then disable Medialess from CTI Adapter. Similarly, if you want to use Medialess Settings, then first disable VDI Platfrom Settings from Features

## Set Up for Other VDI Platforms

1. Login into your VDI environment.
2. Log In Salesforce instance
3. Open the relevant AC CTI Adapter.
4. In the details section, activate the "Medialess" option by marking the checkbox.
5. Refresh the browser. Launch the SoftPhone and log in to CCP.
6. Upon signing in, click the Toggle Embedded CCP button located within the Softphone's CCP. Close all CCP instances except the one within the Salesforce CTI Adapter. Ensure that your virtual environment mirrors the configuration shown in the following image.



7. Go to your Local System and login to Amazon Connect (e.g. login in connect <https://youraccount.my.connect.aws/>) and open Native CCP by clicking on Contact Control Panel.



8. Verify the configuration by initiating a Voice contact. All media, including audio, will be transmitted through the Native CCP on your local desktop. The CCP within the CTI Adapter of the Virtual Environment can be employed for contact management.

9. Important: Ensure that both CCP instances are open when handling contacts. One CCP should be within the SoftPhone in the Salesforce CTI Adapter of the virtual environment, and the second CCP should be the native CCP on your local system.

# Global Resiliency

## Global Resiliency

Amazon Connect Global Resiliency enables you to provide customer service anywhere in the world with the highest reliability, performance, and efficiency. With its distributed telephony features, your contact center can meet international regulatory requirements. Amazon Connect Global Resiliency (ACGR) customers can now set up their CTI Adapter in Salesforce with multi-region support.

## Prerequisites

1. Install Amazon Connect CTI Adapter version v5.27 or higher in your Salesforce instance. For more information, see [the guide here](#).
2. Onboard to ACGR
  - i. Please read through the Introduction and Concepts sections of the [Amazon Connect Global Resiliency Workshop](#) to ensure this service is right for you.
  - ii. Allowlist your AWS account by contacting Amazon Connect Solutions Architect or AWS Account Team.
  - iii. Following the [Onboarding guide](#). After completing the onboarding process, you should have created a Replica Connect Instance, and associated a new or existing phone number to a Traffic Distribution Group (TDG).
3. Set up your CTI Adapter in your Source Region ([Guided Setup](#)).

## Set up Global Sign-in with SSO

1. Configure Salesforce SSO with Amazon by following the [Appendix B: Configuring Salesforce as Your Identity Provider](#), and verify the Salesforce agent can Sign in to CCP in Single Region.
2. Get your SAML Global Sign-in URL. This can be done by following Step 1 from the [Global Sign-in](#) guide. Alternatively, you can call `DescribeInstance` via [API](#) or [CLI](#), and get your `GlobalSignInEndpoint`.
3. Follow Step 2 and 3 in the [Global Sign-in](#) guide to update your IAM Federation role.

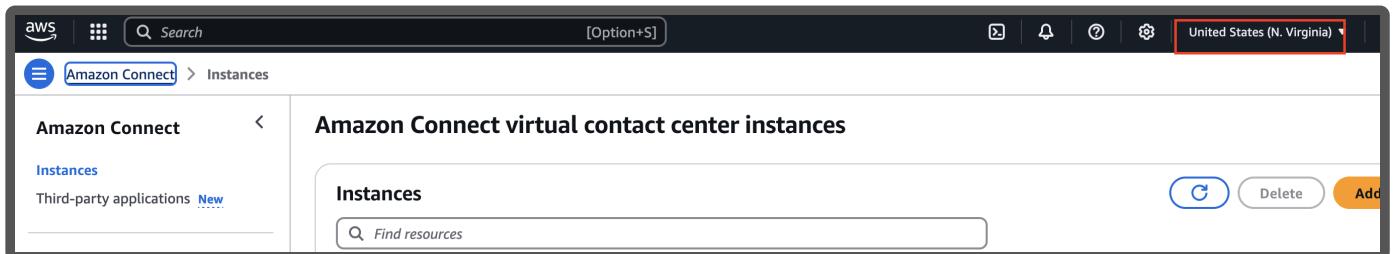
4. Step 4 of the [Global Sign-in](#) guide should already be completed in the previous SSO step. If not, follow Step 16-19 of [Complete the Base Salesforce Configuration](#).
  5. Follow Step 5 and 6 in the [Global Sign-in](#) guide to generate your Assertion Consumer Service (ACS) URL.
  6. Copy the ACS URL from step 5 into your Salesforce's [AmazonConnectSAML](#)
- i. Go to Salesforce **Setup**.
  - ii. In **Quick Find**, search for **Connected Apps**.
  - iii. Find **AmazonConnectSAML**, click [Edit](#).

iv. Paste the ACS URL from the step above (Step 5) into the **ACS URL** field under **SAML Service Provider Settings**.

The screenshot shows the 'SAML Service Provider Settings' section of the Salesforce Setup. It includes fields for Entity Id (SalesforceConnect), Subject Type (Persistent ID), ACS URL (redacted), Name ID Format (urn:oasis:names:tc:SAML:1.1:nameid-format:unspecified), Issuer (https://awspartnerdevel), and IdP Certificate (Default IdP Certificate). There are also checkboxes for Verify Request Signatures and Enable Single Logout.

7. Update the previously created IAM [SalesforceConnectRole](#) role to allow [GetFederationToken](#) from Instance ARNs from both regions (Step 10 of [Create the IAM Role and Policy](#)).

i. To find the ARN of your Connect Instance in the Replica Region, change the region from your [Amazon Connect Console](#), then select your Instance in the Replica Region.



ii. Add your Replica Instance ARN under your [SalesforceConnectPolicy](#)

**SalesforceConnectRole** [Info](#)

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

**Summary**

**Creation date**  
November 14, 2024, 13:48 (UTC-08:00)

**Last activity**  
2 days ago

**ARN**  
arn:aws:iam:█████████████████████:role/SalesforceConnectRole

**Maximum session duration**  
1 hour

**Permissions** [Trust relationships](#) [Tags](#) [Last Accessed](#) [Revoke sessions](#)

**Permissions policies (1) [Info](#)**  
You can attach up to 10 managed policies.

[Copy JSON](#) [Edit](#)

Attached entities	Count
Customer managed	2

**SalesforceConnectPolicy**

```

1  {
2   "Version": "2012-10-17",
3   "Statement": [
4     {
5       "Sid": "Statement1",
6       "Effect": "Allow",
7       "Action": "connect:GetFederationToken",
8       "Resource": [
9         "arn:aws:connect:us-west-2:█████████████████████:instance/█████████████████████:/user/${aws:userid}",
10        "arn:aws:connect:us-east-1:█████████████████████:instance/█████████████████████:/user/${aws:userid}"
11      ]
12    }
13  ]
14 }
15 ]
16 }

```

8. Update the AC CTI Adapter with your SSO URL. Supply the App ID in **SSO Relay State**, no 'RelayState' parameter is needed.

**Single SignOn (SSO)**

**SSO Url**

**SSO Relay State**

For more details on how to get the SSO URL, refer to guide [Create the Amazon Connect SSO URL](#).

9. Associate the Connect Agent to a Traffic Distribution Group (TDG) by following this [guide](#).

10. After completing the above steps, Salesforce agents should be able to sign into Connect CCP for both regions.

## CTI Adapter Updates

### Modify the CTI Adapter Object

1. Modify the CTI Adapter's page layout to include **Amazon Connect Instance Arn**

- Go to Salesforce **Setup**.
- From the menu on the left, select Build -> Create -> Objects

# Build

## ▶ Customize

## ▼ Create

Apps

Custom Labels

Objects

Big Objects

Picklist Value Sets

Packages

Report Types

Tabs

Service Cloud Launch Pad

Action Link Templates

## ▶ Global Actions

## ▶ Workflow & Approvals

iii. Select **AC CTI Adapter**.

iv. Search for **Page Layouts** and select the current layout used for displaying CTI Adapter. The default layout provided currently is **AC CTI Adapter Layout - August 2020**.

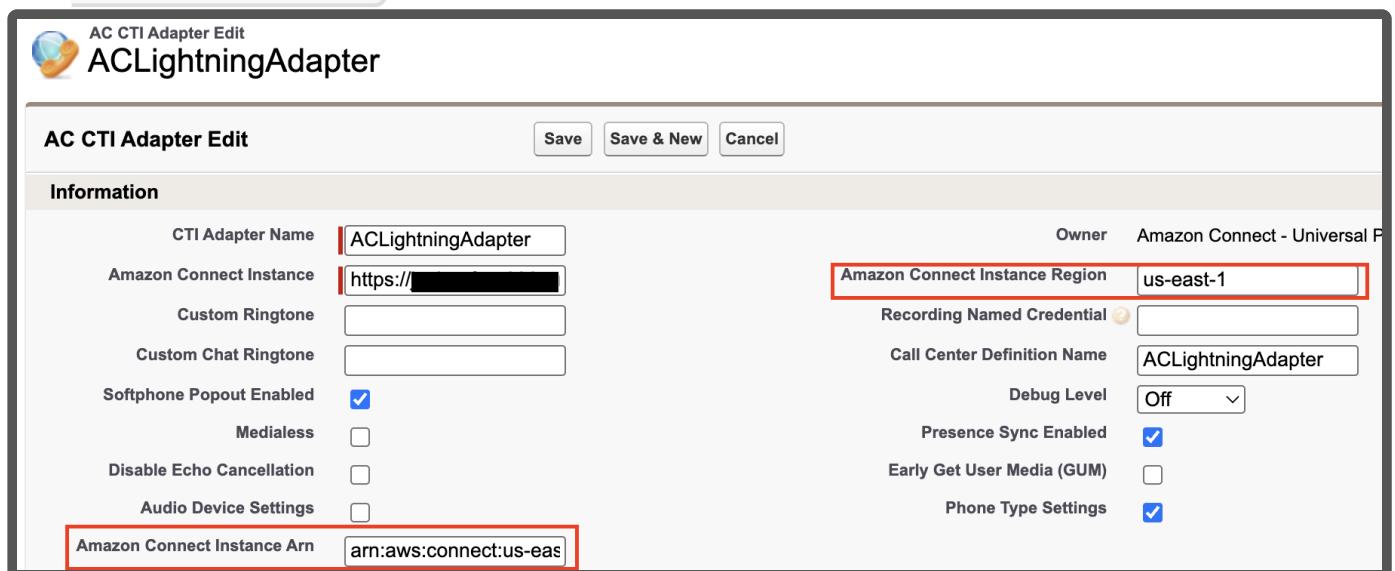
v. Drag the **Amazon Connect Instance Arn** field on to the page.

The screenshot shows the Salesforce Object Manager interface for the 'AC CTI Adapter' object. The left sidebar lists various object settings like Details, Fields & Relationships, Page Layouts, and Record Types. The 'Page Layouts' tab is active. The main area displays the 'AC CTI Adapter Layout' configuration, which includes a 'Fields' section with a 'Quick Find' bar and a table of fields. One field, 'Amazon Connect Instance Arn', is highlighted with a red box. Below the table are sections for 'Information' (Header visible on edit only) and 'Edit Labels' buttons.

vii. Save the Page Layout.

## 2. Modify your AC CTI Adapter

- i. From AC CTI Adapters, select your CTI Adapter.
- ii. Update the **Region** and **Amazon Connect Instance Arn** fields of the **ACLightningAdapter** object.
- iii. **Region**: the region of your source instance, e.g.: **us-east-1**.
- iv. **Amazon Connect Instance Arn**: the ARN of your source instance, e.g.:  
**arn:aws:connect:us-east-1:123465171234:instance/12345678-abcd-abcd-abcd-123456789012**.



The screenshot shows the 'AC CTI Adapter Edit' page for the 'ACLightningAdapter'. The 'Information' section contains the following settings:

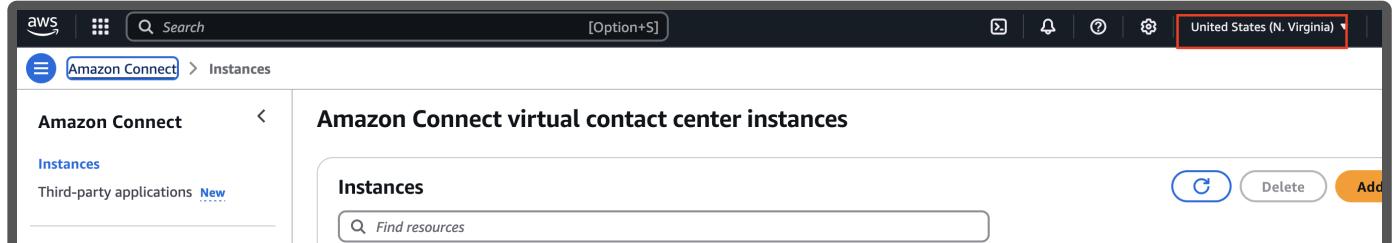
Setting	Value
CTI Adapter Name	ACLightningAdapter
Amazon Connect Instance	https://[REDACTED]
Custom Ringtone	[REDACTED]
Custom Chat Ringtone	[REDACTED]
Softphone Popout Enabled	<input checked="" type="checkbox"/>
Medialess	<input type="checkbox"/>
Disable Echo Cancellation	<input type="checkbox"/>
Audio Device Settings	<input type="checkbox"/>
Amazon Connect Instance Arn	arn:aws:connect:us-eas
Amazon Connect Instance Region	us-east-1
Recording Named Credential	[REDACTED]
Call Center Definition Name	ACLightningAdapter
Debug Level	Off
Presence Sync Enabled	<input checked="" type="checkbox"/>
Early Get User Media (GUM)	<input type="checkbox"/>
Phone Type Settings	<input checked="" type="checkbox"/>

**Note:** The region in the ARN should match the Region field.

## Create the AC Replica Instance

### 1. Access the Amazon Connect Console in your Replica Region

- i. Go to your [Amazon Connect Console](#).
- ii. Change the region to your Replica Region.



The screenshot shows the 'Amazon Connect Instances' page in the 'United States (N. Virginia)' region. The left sidebar shows 'Amazon Connect' and 'Instances'. The main area displays the 'Amazon Connect virtual contact center instances' table with columns for 'Instances' and 'Actions' (Edit, Delete, Add). A search bar at the bottom left says 'Find resources'.

- iii. Select your Replica Instance. You should be able to see your Instance's **Access URL** and **Instance ARN**.

### 2. Navigate to AC Replica Instances

- i. Click the  sign in the Navigation Menu to go to All Tabs

## ii. Click on AC Replica Instances.

The screenshot shows the 'All Tabs' interface. On the left, a sidebar lists various tabs with icons: AC Amazon Q, AC Contact Channel Analytics, AC Contact Trace Records, Account Brands, Accounts, AC CTI Adapters, AC Guided Setup, AC Real Time Queue Metrics, AC Replica Instances (which is highlighted with a red border), and AC Trigger Batch Job Records. On the right, there is a grid of links with icons: Files, Getting Started, Groups, Home, Images, Individuals, Knowledge, Leads, Libraries, and Licenses. At the top right, there are buttons for 'Help for this Page', 'Add Tabs to Your Default Display', and 'Customize My Tabs'.

## 3. Create a new AC Replica Instance

### i. From the navigation menu, select **AC Replica Instances**.

### ii. Click **New** to create a new AC Replica Instance.

### iii. Fill in the fields:

- a. **Replica Instance Name**: any value.
- b. **Amazon Connect Replica Instance Url**: **Access URL** of the replica instance.
- c. **Amazon Connect Replica Instance Arn**: **Instance ARN** of the Replica Instance.
- d. **Amazon Connect Replica Instance Region**: Enter your Replica Region, e.g.: `us-west-2`.
- e. **CTI Adapter**: Select your `ACLightningAdapter`.
- f. **Recording Named Credential**: Enter your Named Credential. This is an optional parameter, by default it will be `AmazonConnectAPI_replica_instance_region`, e.g.: `AmazonConnectAPI_us_west_2`.

**Note:** You need to create a new Named Credential for the Replica Region to receive Call Recording for the Replica Instance.

## New AC Replica Instance

\* = Required Information

### AC Replica Instance

\* AC Replica Instance

Replica Instance Name

\* Amazon Connect Replica Instance Url

https://[REDACTED].my.connect

\* Amazon Connect Replica Instance Arn

arn:aws:connect:us-west-2:[REDACTED]

\* Amazon Connect Replica Instance Region

us-west-2

\* Cti Adapter

ACLightningAdapter

Recording Named Credential i

[REDACTED]

[Cancel](#) [Save & New](#) [Save](#)

iv. Save the AC Replica Instance.

### Allowlist your Salesforce org into your Replica Instance

1. Get the **Approved domains** from your Source Instance

- i. Go to your [Amazon Connect Console](#) and change your region to your Source Region.
- ii. Select your Connect Instance.
- iii. Select the **Approved Origins** from the menu on the left.



## Amazon Connect



Instances

Third-party applications [New](#)

---

Overview

Next Generation Amazon Connect

[New](#)

▼ Channels and communications

Email [New](#)

Outbound campaigns [New](#)

Tasks

Telephony

▼ Applications

Amazon Q

Analytics tools

Cases

Customer authentication [New](#)

Customer Profiles

Forecasting, capacity planning,  
and scheduling

Voice ID

**Approved origins**

Data storage

Data streaming

Flows

---

Documentation

iv. If you do not have any **Approved domains/Approved origins**, follow the [Allowlist Your Salesforce Org with Amazon Connect](#) guide.

2. Add the same **Approved domains** to your Replica Instance

- i. Go to your [Amazon Connect Console](#) and change your region to your Replica Region.
- ii. Select your Connect Instance.
- iii. Select the **Approved Origins** from the menu on the left.

iv. Click **Add domain** to add new domains.

3. The **Approved domains/Approved origins** should be same between your Source Connect Instance and your Replica Connect Instance.

## Enable Enhanced Logout

Follow the [Enhanced Agent Logout](#) guide to create a **Logout** status for agents.

**Note:** the **Logout** status only needs to be created in one Connect Instance, the new Agent status will be automatically replicate to the paired Instance within 15 minutes.

## Create a Feature for Global Resiliency

1. Open the relevant AC CTI Adapter.
2. In the bottom tabs, select the **Features** section and click **New**.
3. Set the **AC Feature Name** to be **GlobalResiliency**.
4. In the **Value** box, provide the following fields:
  - i. **GlobalSignInEndpoint**: This field is required. Supply the same ACS URL generated in Step 5 of [Set up Global Sign-in with SSO](#)
  - ii. **RetainAgentStateEnabled**: This field is optional. By default it's set to false.

## New AC Feature

### Information

\* AC Feature Name  
GlobalResiliency

Value  
RetainAgentStateEnabled:true  
GlobalSignInEndpoint:https://12345678-abcd-abcd-abcd-12345678.us-east-1.sign-in.connect.aws/saml?&instanceId=112345678-abcd-abcd-accountId=123456789012&role=SalesforceConnectRole&idp=SalesforceConnec

Active



\* CTI Adapter



[Cancel](#)

[Save & New](#)

[Save](#)

### Feature Notes:

1. The **Active** field can be toggled on or off to enable or disable the Global Resiliency feature. When it is *active*, agents can access the CCP (Contact Control Panel) of both the Source and Replica Region. When it is *inactive*, the CTI adapter will operate as before, only allowing agents to access the Source Instance.
2. The **GlobalSignInEndpoint** will be the same ACS URL generated in Step 5 of [Set up Global Sign-in with SSO](#)
3. **RetainAgentStateEnabled** is an optional feature. By default, agent statuses are automatically set to *Offline* during a region failover. The agent needs to manually set it to *Available* if they want to operate in the new region. If **RetainAgentStateEnabled** is set to *true* in the GlobalResiliency feature, the CTI Adapter preserves the agent status. Within 5 seconds of detecting a failover event, the system automatically attempts to restore the agent to their pre-failover status, leading to a smoother failover experience.

## Basic Setup Complete

If all the steps above have been completed, Amazon Connect Global Resiliency is now enabled for the given CTI Adapter. Salesforce Agents can now receive calls from both the Source and Replica Regions based on the traffic distribution. The sign-in process remains the same for agents - after logging into Salesforce, they can click "Sign into CCP" from the Phone iFrame.

When the traffic is shifted over, the agents do not need to refresh the page or log out/log in. They will automatically fail over to the Replica Region within 5 minutes. After failing over, the agent status will be set to `Offline` by default, and they need to manually set it to `Available` if they want to operate in the new region. However, if `RetainAgentStateEnabled` is set to `true` in the `GlobalResiliency` feature, then the CTI Adapter will attempt to retain the agent's status during failover. To learn more about how to shift traffic, follow the [Initiating Traffic Distribution Change with the CLI](#) guide.

Additional setup is required to set-up `AmazonConnectSalesforceLambda` in the Replica Region. This is needed to enable features such as Real Time Metrics, Contact Trace Records, etc. from the Replica Instance.

---

## Additional Setup

### Set up Salesforce Lambda in Replica Region

1. Install the latest Amazon Connect Salesforce Lambda package in your Replica Region ([guide](#)).
2. Update your `sfExecuteAwsServiceIamUser` user with a `invokeSfExecuteAWSServicePolicy` policy for the Replica Region Lambda (see Step 3 of [Setting up the ExecuteAwsService Named Credential](#)). The `sfExecuteAwsServiceIamUser` user should already be created. If not, follow Step 1 and 2 of [Setting up the ExecuteAwsService Named Credential](#).

The screenshot shows the AWS IAM User Summary page for a user named 'sfExecuteAwsServiceIamUser-bb'. It includes sections for ARN, Console access, Last console sign-in, and Access keys. Below this, the 'Permissions' tab is selected, showing two attached policies: 'serverlessrepo-AmazonConnectSalesforceLambda-invokeSfExecuteAWSServicePolicy' and another unnamed policy. The policy details show JSON code granting Lambda invoke permissions to specific AWS Lambda functions.

3. Create a new **ExecuteAwsService** Named Credential for the Replica Region.

- i. Follow the [Setting up the ExecuteAwsService Named Credential](#) guide.
- ii. For the **Name** and **Label**, use **ExecuteAwsService** followed by under score of the region,  
e.g: **ExecuteAwsService\_us\_west\_2**
- iii. For **AWS Region**, use your Replica Region, e.g: **us-west-2**
- iv. For **AWS Service**, use **Lambda**

Sample Replica Region Named Credential:

Label	<input type="text" value="ExecuteAwsService_us_"/>
Name	<input type="text" value="ExecuteAwsService_us_"/>
URL	<input type="text" value="https://lambda.us-west-2.amazonaws.com/2015-03-31/functions/serverlessrepo-[REDACTED]-sfExecuteAWSService-"/>
Certificate	<input type="text"/> 
Identity Type	<input type="text" value="Named Principal"/>
Authentication Protocol	<input type="text" value="AWS Signature Version 4"/>
AWS Access Key ID	<input type="text"/>
AWS Secret Access Key	<input type="text" value="....."/>
AWS Region	<input type="text" value="us-west-2"/>
AWS Service	<input type="text" value="lambda"/>

Sample Source Region Named Credential:

Label	<input type="text" value="ExecuteAwsService"/>
Name	<input type="text" value="ExecuteAwsService"/>
URL	<input type="text" value="https://lambda.us-east-1.amazonaws.com/2015-03-31/functions/serverlessrepo-[REDACTED]-sfExecuteAWSService-"/>
Certificate	<input type="text"/> 
Identity Type	<input type="text" value="Named Principal"/>
Authentication Protocol	<input type="text" value="AWS Signature Version 4"/>
AWS Access Key ID	<input type="text"/>
AWS Secret Access Key	<input type="text" value="....."/>
AWS Region	<input type="text" value="us-east-1"/>
AWS Service	<input type="text" value="lambda"/>

**Note:** The **AWS Access Key ID** and **AWS Secret Access Key** of the Replica Region can be the same as the Source Region's Named Credential, since the two Named Credentials can share the same IAM user.

4. For the [Salesforce API User](#), create a new secret in the Replica Region by following the [Setting up the SecretsManager Secret](#) guide.

5. S3 buckets and Kinesis streams are regional. To gather information from your Replica Connect Instance, create new S3 buckets and Kinesis streams in the corresponding region. You can gather information by enabling Call recording/Chat transcripts/Exported reports/Data streaming. For more information, see [Gather Amazon Connect information](#).

6. Update your Cloudformation parameters of your **serverlessrepo-AmazonConnectSalesforceLambda** stack

i. Go to your AWS Console, and search for **CloudFormation**

ii. Change your AWS Region to your Replica Region

The screenshot shows the AWS CloudFormation console with the 'Stacks' page. The top navigation bar includes the AWS logo, a search bar, and various icons. The region dropdown is highlighted with a red box and set to 'United States (N. Virginia)'. On the left, there's a sidebar with 'CloudFormation' selected, followed by 'Stacks', 'StackSets', 'Exports', 'Infrastructure Composer', 'IaC generator', and 'Hooks overview'. The main area is titled 'Stacks (2)' with a 'Delete' button. Below it is a table with columns: Stack name, Status, Created time, and Description. The first row is blurred. The second row shows a stack named 'serverlessrepo-AmazonConnectSalesforceLambda' with a green checkmark icon and the status 'UPDATE\_COMPLETE'. The 'Created time' is listed as '2024-12-12 14:26:35 UTC-0800' and the 'Description' is 'Amazon C Lambda i'.

iii. Select your **serverlessrepo-AmazonConnectSalesforceLambda** stack (it should be created by Step 1 above).

iv. Update the Stack

The screenshot shows the AWS CloudFormation console with the 'serverlessrepo-AmazonConnectSalesforceLambda' stack details page. The top navigation bar includes the stack name, a 'Delete' button, an 'Update' button (highlighted with a red box), 'Stack actions', and 'Create stack'. Below the navigation is a tabs section with 'Stack info' (selected), 'Events', 'Resources', 'Outputs', 'Parameters', 'Template', 'Change sets', and 'Git sync'. The main area is divided into sections: 'Overview', 'Description', 'Status', 'Detailed status', 'Root stack', and 'Status reason'. The 'Overview' section shows the 'Stack ID' as 'arn:aws:cloudformation:us-west-2:123456789012:stack/serverlessrepo-AmazonConnectSalesforceLambda/12345678901234567890' and the 'Description' as 'Amazon Connect SalesForce Lambda integration'. The 'Status' section shows 'Status' as 'UPDATE\_COMPLETE' and 'Status reason' as '-'. The 'Detailed status' and 'Root stack' sections both show '-'.

v. Select **Use existing template**, and click **Next**

vi. In **Specify stack details**, fill in the fields with the corresponding data.

## Specify stack details

### Parameters

Parameters are defined in your template and allow you to input custom values when you create or update a stack.

#### AmazonConnectInstanceId

Enter Amazon Connect Instance Id, the string after the last / in your Amazon Connect instance ARN (aaaaaaaa-bbbb-cccc-dddd-eeeeeeeeeee). Not required if RealtimeReportingImportEnabled is set to false.

#### AmazonConnectQueueMaxRecords

Enter record set size for list queue query. Max is 100.



#### AmazonConnectQueueMetricsMaxRecords

Enter record set size for queue metrics query. Max is 100.



#### CTREventSourceMappingBatchSize

Batch size for lambdas triggered by Kinesis Events



#### CTREventSourceMappingMaximumRetryAttempts

Maximum retry attempts on failure for lambdas triggered by Kinesis Events



#### CTRKinesisARN

Enter Kinesis Stream ARN for CTR. Not required if PostcallCTRImportEnabled, PostcallRecordingImportEnabled and PostcallTranscribeEnabled all set to false

#### ConnectRecordingS3BucketName

This is the S3 bucket where Amazon Connect stores call recordings. Please refer to <http://docs.aws.amazon.com/connect/latest/adminguide/amazon-connect-instance.html#datastorage> for details on how retrieve the S3 bucket associated with your Amazon Connect instance. Not required if both PostcallRecordingImportEnabled and PostcallTranscribeEnabled set to false.

#### ConnectReportingS3BucketName

This is the S3 bucket where Amazon Connect stores scheduled reports. Please refer to <http://docs.aws.amazon.com/connect/latest/adminguide/amazon-connect-instance.html#datastorage> for details on how retrieve the S3 bucket associated with your Amazon Connect instance. Not required if HistoricalReportingImportEnabled set to false.

vii. Confirm the changes and Submit the deployment.

7. After setting up your Lambda in the Replica Region with S3 and Kinesis triggers, you should receive AC Contact Trace Records and AC Contact Channel Analytics from both regions. After upgrading the **AmazonConnectSalesforceLambda** to version v5.24 in both regions, and the **CTI Adapter** to v5.27, you will be able to see the Contact's Region.

AC Contact Channel Analytics record from us-west-2

AC Contact Channel Analytics  
CCA 000002

[Customize Page](#) | [Edit Layout](#) | [Printable View](#) | [Help for this Page](#) ?

[« Back to List](#)

[Notes & Attachments \[2\]](#)

**AC Contact Channel Analytics Detail**

Contact Channel Analytics Name	CCA 000002	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Clone</a>	<a href="#">Sharing</a>
Contact Id	XXXXXXXXXXXXXX				
Keywords					
Named Entities					
Sentiment					
Dominant Language					
Channel					
Amazon Connect Instance Region	us-west-2	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Clone</a>	<a href="#">Sharing</a>

**Notes & Attachments**

Action	Type	Title	Last Modified	Created By
Edit   View   Del	Attachment	ContactLensTranscripts.json	2025-03-31, 4:10 p.m.	XXXXXXXXXXXXXX
Edit   View   Del	Attachment	AgentTranscripts.json	2025-03-31, 4:06 p.m.	XXXXXXXXXXXXXX

[New Note](#) [Upload Files](#) [View All](#)

[Notes & Attachments Help](#) ?

[^ Back To Top](#)

Always show me [▼ more](#) records per related list

## AC Contact Channel Analytics record from us-east-1

AC Contact Channel Analytics  
CCA 000000

Customize Page | Edit Layout | Printable View | Help for this Page ?

« Back to List Notes & Attachments [2]

**AC Contact Channel Analytics Detail**

Contact Channel Analytics Name	CCA 000000	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Clone</a> <a href="#">Sharing</a>
Contact Id	[REDACTED]	
Keywords		
Named Entities		
Sentiment		
Dominant Language		
Channel		
Amazon Connect Instance Region	us-east-1	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Clone</a> <a href="#">Sharing</a>

**Notes & Attachments**

Action	Type	Title	Last Modified	Created By
Edit   View   Del	Attachment	ContactLensTranscripts.json	2025-03-31, 4:03 p.m.	[REDACTED]
Edit   View   Del	Attachment	AgentTranscripts.json	2025-03-31, 4:00 p.m.	[REDACTED]

▲ Back To Top Always show me ▼ more records per related list

## AC Contact Trace Record from us-west-2

AC Contact Trace Record  
CTR 000000002

Customize Page | Edit Layout | Printable View | Help for this Page ?

« Back to List Notes & Attachments [0]

**AC Contact Trace Record Detail**

Contact Trace Record	CTR 000000002	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Clone</a> <a href="#">Sharing</a>
Channel	VOICE	
ContactId	[REDACTED]	
Amazon Connect Instance Region	us-west-2	
Attributes	{"RECORDING_STARTED": "true", "contactLensImportEnabled": "true", "postcallCTRImportEnabled": "true", "postcallRecordingImportEnabled": "true", "postcallTranscribeComprehendAnalysis": "snt,dl,kw,syn", "postcallTranscribeEnabled": "true", "postcallTranscribeLanguage": "en-US"}	
Queue Name	BasicQueue	
Queue Duration	9	
Agent Username	[REDACTED]	
Agent Interaction Duration	21	

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

**Notes & Attachments**

Action	Type	Title	Last Modified	Created By
New Note	Upload Files			Notes & Attachments Help ?

No records to display

For more information, see [Contact Channel Analytics](#) and [Contact Trace Record Import](#)

## Additional Features

### Call Recording

1. Ensure Call Recording have been set up in the Source Region. Refer to guide: [Recording Controls](#).
2. Create a new legacy [AmazonConnectAPI](#) Named Credential for the Replica Region.
  - i. Follow the Recording Controls [Setup](#) guide.

- ii. For the **Name** and **Label**, use **AmazonConnectAPI** followed by under score of the region, e.g: **ExecuteAwsService\_us\_west\_2**
- iii. For the **URL**, use the corresponding Connect URL, e.g.: **https://connect.us-west-2.amazonaws.com**
- iv. For **AWS Region**, use your Replica Region, e.g: **us-west-2**
- v. For **AWS Service**, use **connect**

Sample Replica Region Named Credential:

<b>Label</b>	<b>AmazonConnectAPI_us_</b>
<b>Name</b>	<b>AmazonConnectAPI_us_</b>
<b>URL</b>	<b>https://connect.us-west-2.amazonaws.com</b>
<b>Certificate</b>	<input type="text"/>
<b>Identity Type</b>	<b>Named Principal</b>
<b>Authentication Protocol</b>	<b>AWS Signature Version 4</b>
<b>AWS Access Key ID</b>	<input type="text"/>
<b>AWS Secret Access Key</b>	<input type="text"/>
<b>AWS Region</b>	<b>us-west-2</b>
<b>AWS Service</b>	<b>connect</b>

Sample Source Region Named Credential:

<b>Label</b>	<b>AmazonConnectAPI</b>
<b>Name</b>	<b>AmazonConnectAPI</b>
<b>URL</b>	<b>https://connect.us-east-1.amazonaws.com</b>
<b>Certificate</b>	<input type="text"/>
<b>Identity Type</b>	<b>Named Principal</b>
<b>Authentication Protocol</b>	<b>AWS Signature Version 4</b>
<b>AWS Access Key ID</b>	<input type="text"/>
<b>AWS Secret Access Key</b>	<input type="text"/>
<b>AWS Region</b>	<b>us-east-1</b>
<b>AWS Service</b>	<b>connect</b>

**Note:** The AWS Access Key ID and AWS Secret Access Key of the Replica Region can be the same as the Source Region's Named Credential, since the two Named Credentials can share the same IAM user.

## Real time metrics

After upgrading the CTI Adapter to v5.27 and the AmazonConnectSalesforceLambda to version v5.24, AC Queue Metrics will contain a new Region column to distinguish their regions.

Action	Queue Name	Agents Available	Amazon Connect Instance Region
<a href="#">Edit   Del</a>	<a href="#">BasicQueue</a>	1	us-east-1
<a href="#">Edit   Del</a>	<a href="#">BasicQueue</a>	0	us-west-2

## Historical Metrics

To import Historical Metrics data from the Replica Connect Instance, follow the [Amazon Connect Historical Metrics in Salesforce](#) guide in your Replica Region.

## Contact Lens Import

To import Contact Lens data from the Replica Connect Instance, follow the [Postcall Contact Lens Import](#) guide in your Replica Region.

# Setting up the Mini Lightning Adapter

**Note:** This feature is for agents using the native CCP window from Amazon Connect for your instance and opting not to use the CTI Adapter Embedded CCP for SoftPhone.

## Steps

### 1. Go to Setup > Call Center > AC Lightning Adapter

- Update the CTI Adapter URL to use AC\_LightningMiniAdapter instead of AC\_LightningAdapter

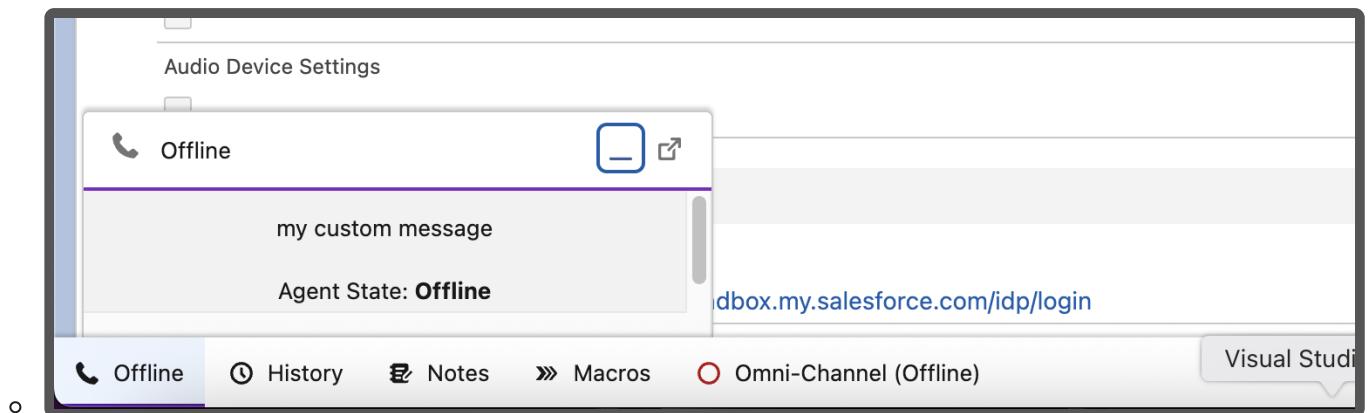
- Example:  
`/apex/AC_LightningAdapter?ccpVersion=2` →  
`/apex/AC_LightningMiniAdapter?ccpVersion=2`

- Update the Softphone Height to 130.

### 2. Go to the Service Console and open the AC CTI Adapter tab.

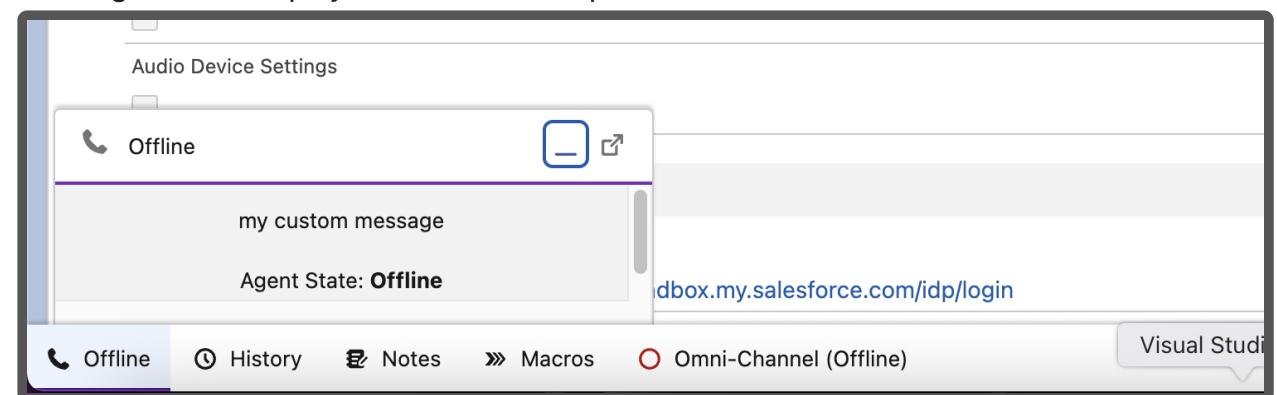
3. Open **ACLightningAdapter** and check/enable '**Medialess**' under **Details**.

4. When opening the Phone utility item, you should see the adapter as below:



5. (Optional) Setting up a message in the Mini Adapter:

- i. Under **Features** on **ACLightningAdapter**, click **New**.
- ii. Set the **AC Feature Name** to **MiniAdapterMessage**.
- iii. For **Value**, enter a message you want displayed on the mini adapter above the agent status.
  - Example: **Use the external window for call control**
- iv. **Note:** This message should be a static string value (not something you plan to change often) since it loads into the mini adapter's UI on page load.
- v. This message will be displayed in the mini adapter such as below:



## 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:

## 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

arn:aws:lambda:us-east-1:680944752362:function:aws-ser

Function input parameters

Use text

X

Destination key

sf\_operation

Value

lookup

Use text

X

Destination key

sf\_object

Value

Contact

Use text

X

Destination key

sf\_fields

Value

Id, Name

Use attribute

Destination key

homephone

Type

System



Attribute

Customer Number



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

X

Destination key

sf\_operation

Value

lookup

Use text

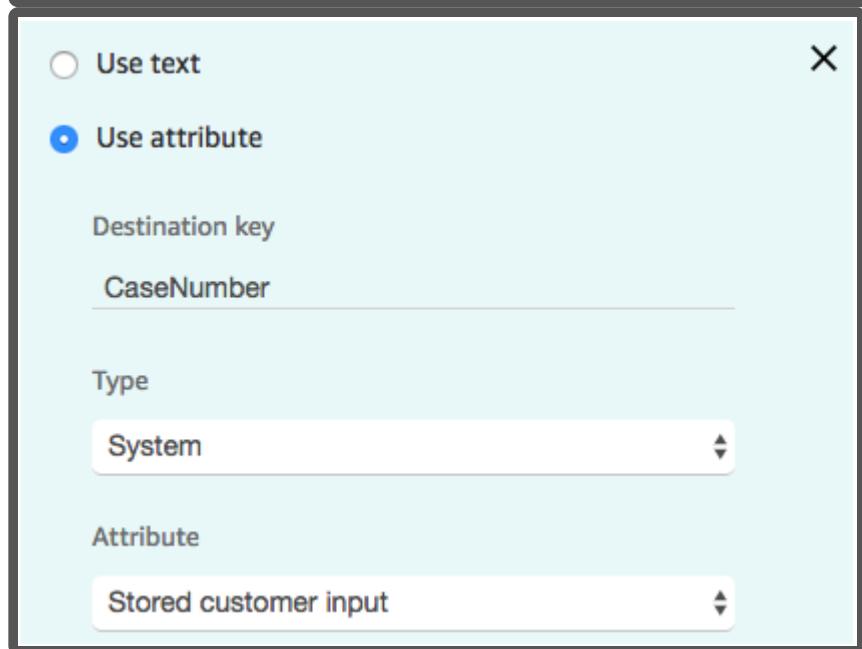
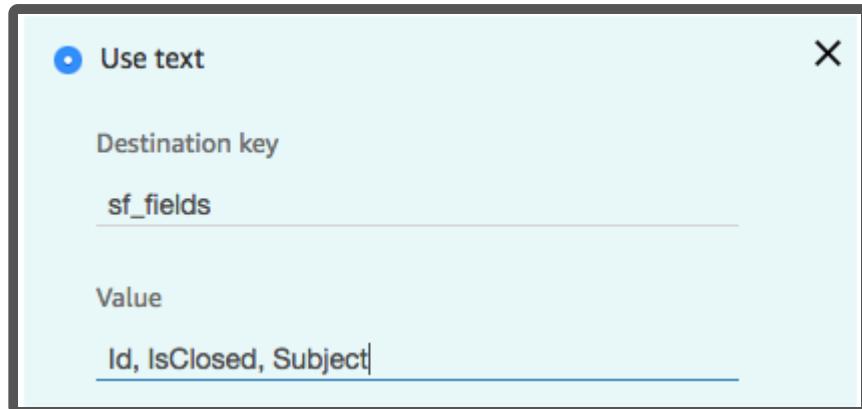
X

Destination key

sf\_object

Value

Case



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 object 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:

### Invoke AWS Lambda function

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

`erless-repository-AmazonConhec-sfInvokeAPI-2R3T34AMG`

Function input parameters

Use text

Destination key  
`sf_operation`

Value  
`create`

Use text

Destination key  
`sf_object`

Value  
`Case|`

Use text

Destination key  
`Origin`

Value  
`Phone`

Use text

Destination key

Status

---

Value

New

Use text

Use attribute

Destination key

ContactId

---

Type

External

---

Attribute

Id

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

Destination key

Subject

---

Value

Amazon Connect Case

Use text

Destination key

Priority

---

Value

Low

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:

## 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

752362:function:aws-serverless-repository-AmazonConnec

Function input parameters

Use text

X

Destination key

sf\_operation

Value

update

Use text

X

Destination key

sf\_object

Value

Case

Use attribute

Destination key

sf\_id

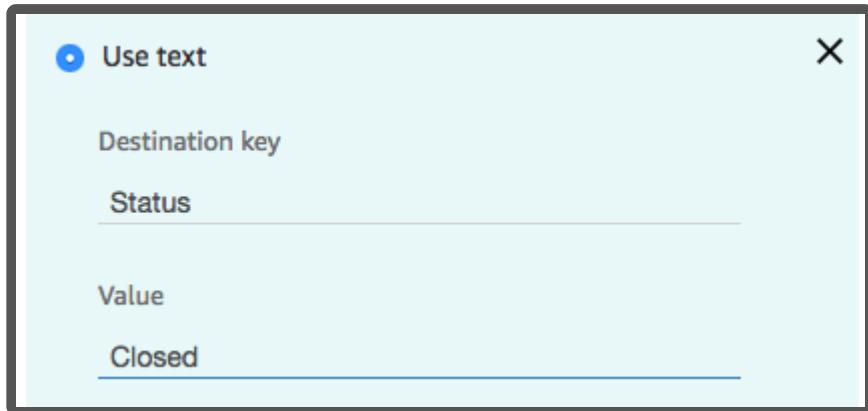
Type

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)



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 (SOSL) 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 'sflInvokeAPI' Lambda ARN and make sure you have granted Amazon Connect to invoke the Lambda Function.

Example for phone number lookup:

## Invoke AWS Lambda function

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

`erless-repository-AmazonConnec-sfInvokeAPI-2R3T34AMG`

Function input parameters

Use text

X

Destination key

`sf_operation`

Value

`phoneLookup`

Use text

X

Destination key

`sf_fields`

Value

`Id, Name`

Use attribute

Destination key

`sf_phone`

Type

System



Attribute

Customer Number



A result example:

```
"ExternalResults": {  
    "Id": "0031r000026MVPPIAA4",  
    "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

Use text

X

Destination key

sf\_operation

Value

query

Use attribute

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

Use text

X

 Use attribute

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 '%numl Use attribute

This operation returns a response of:

```
{  
  "sf_records_0_Id": "00303000001RZfIAAW",  
  "sf_count": 1  
}
```

Note that `sf_count` is the count of records matched and not the count of fields in the response. This means all fields that start with `sf_records_i` count as one record. If the query above returned the Name as well as the Id and matched more than one record, the response will be:

```
{  
  "sf_records_0_Id": "00303000001RZfIAAW",  
  "sf_records_0_Name": "Name0",  
  "sf_records_1_Id": "00303000001RZfIAAE",  
  "sf_records_1_Name": "Name1",  
  "sf_count": 2  
}
```

## 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



Destination key

query

Value

select Id from Contact where Phone LIKE '%numl

Use attribute

Use text



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



Destination key

sf\_operation

Value

createChatterPost

Use attribute

Use text



Destination key

sf\_feedElementType

Value

FeedItem

Use attribute

Use text



Destination key

sf\_subjectId

Value

00303000001RZflAAW

Use attribute

Use text X

Destination key

sf\_messageType

Value

Text

Use attribute

Use text



Use attribute

Destination key

contactId

Type

System



Attribute

Contact id



Use text



Destination key

sf\_message

Value

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

Use attribute

(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": "0D503000000ILY5CA0"  
}
```



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



Destination key

sf\_operation

Value

createChatterComment

Use attribute

Use text



Destination key

sf\_feedElementId

Value

0D503000000ILY5CAO

Use attribute

Use text



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": "0D70300000ChhNCAS"  
}
```

See the chatter post appear attached to the Subject:

 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...

## Salesforce search

This operation is invoked by setting "sf\_operation" to "search" (case sensitive). In this case, the Lambda function uses the Salesforce REST to perform a parameterized search (see [here](#)). For search, the following parameters are required:

- q
- sf\_fields
- sf\_object

The following parameters are optional:

- where
- overallLimit

See the below example:

Use text X

Destination key  
sf\_operation

Value  
search

Use attribute

Use text

X

Destination key

q

Value

test

Use attribute

59

Use text

X

Destination key

sf\_object

Value

Case

Use attribute

60

Use text

X

Destination key

sf\_fields

Value

Subject, Status

Use attribute

61

Use text

X

Destination key

overallLimit

Value

3

Use attribute

62

Use text

X

Destination key

where

Value

Status like 'New'

Use attribute

63

The operation returns a response of:

```
{  
  "sf_records_0_Id": "50001000001B9e6AAG",  
  "sf_records_0_Subject": "test subject",  
  "sf_records_0_Status": "New",  
  "sf_records_1_Id": "50001000001B9eWAAS",  
  "sf_records_1_Subject": "test subject",  
  "sf_records_1_Status": "New",  
  "sf_records_2_Id": "50001000001BDgiAAG",  
  "sf_records_2_Subject": "test subject",  
  "sf_records_2_Status": "New",  
  "sf_count": 3  
}
```

Note that `sf_count` is the count of records matched and not the count of fields in the response. This means all fields that start with `sf_records_i_` count as one record.

## Salesforce searchOne

This operation is invoked by setting "sf\_operation" to "searchOne" (case sensitive). In this case, the Lambda function uses the Salesforce REST to perform a parameterized search (see [here](#)). For search, the following parameters are required:

- q

- sf\_fields
- sf\_object

The following parameter is optional:

- where

See the below example:

Use text X

Destination key

sf\_operation

Value

searchOne

Use attribute

Use text X

Destination key

q

Value

test subject unique

Use attribute

Use text



Destination key

sf\_object

Value

Case

Use attribute

Use text



Destination key

sf\_fields

Value

Subject, Status

Use attribute

Use text

X

Destination key

overallLimit

Value

3

Use attribute

Use text

X

Destination key

where

Value

Status like 'New'

Use attribute

The operation returns a response of:

```
{  
  "Id": "50001000001BIn6AAG",  
  "Subject": "test subject unique",  
  "Status": "New",  
  "sf_count": 1  
}
```

## 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.
  - onPending -- The voice contact is pending.
  - onMissed -- The voice contact is / was missed.
  - onDestroy - The voice contact is destroyed.

- 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.
- onPending -- The chat contact is pending.
- onMessageReceived -- A message was received from the customer
- onMessageSent -- A message was sent to the customer
- onMissed -- The chat contact was missed.
- onDestroy - The voice contact is destroyed.

- Amazon Connect Task Contact

- onIncoming -- The tasks contact is incoming.
- onConnecting -- The task contact is connecting.
- onConnected -- The task contact is connected.
- onEnded -- The task contact ended.
- onRefresh -- The task contact is updated.
- onAccepted -- The task contact is accepted.
- onPending -- The voice contact is pending.
- onMissed -- The task contact was missed.
- onDestroy - The voice contact is destroyed.
- onTransferInitiated -- When the server has initiated the task transfer.
- onTransferSucceeded -- When the task transfer has succeeded.

- onTransferFailed -- When the task transfer has failed.
- onTaskExpiring -- Triggers 2 hours before the task expires.
- onTaskExpired -- When the task has expired.
- 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...](#)

<b>Identity Provider Setup</b>	<b>Enable Identity Provider</b>
Click Enable Identity Provider to enable your Salesforce.com organization as an identity provider.	
<b>Service Providers</b>	Service Providers are now created via Connected Apps. <a href="#">Click here.</a>
Name	Created Date
No Service Providers	

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

### 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...](#)

[Help for this Page](#)

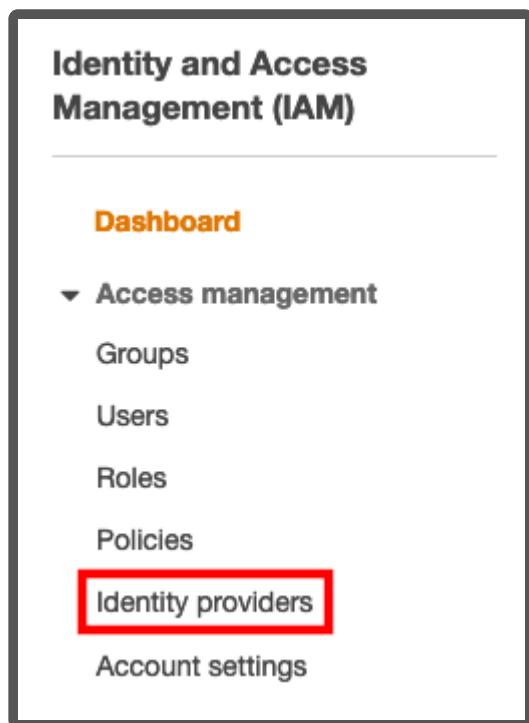
<b>Identity Provider Setup</b>	<b>Edit</b> <b>Disable</b> <b>Download Certificate</b> <b>Download Metadata</b>		
<b>Details</b>			
Issuer https://ctiadapterdemo-dev-ed.my.salesforce.com			
<b>Currently chosen certificate details</b>			
Label	SelfSignedCert_17Feb2020_221125	Unique Name	SelfSignedCert_17Feb2020_221125
Created Date	2/17/2020, 2:11 PM	Expiration Date	2/17/2021, 4:00 AM
Key Size	2048		
<b>SAML Metadata Discovery Endpoints</b>			
Salesforce Identity 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**



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

The screenshot shows the "Add an Identity provider" screen. At the top, it says "Add an Identity provider". Below that is a "Configure provider" section. Under "Provider type", there are two options: "SAML" (selected) and "OpenID Connect".

Provider type	Description
<input checked="" type="radio"/> SAML	Establish trust between your AWS account and a SAML 2.0 compatible Identity Provider such as Shibboleth or Active Directory Federation Services.
<input type="radio"/> OpenID Connect	Establish trust between your AWS account and Identity Provider services, such as Google or Salesforce.

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

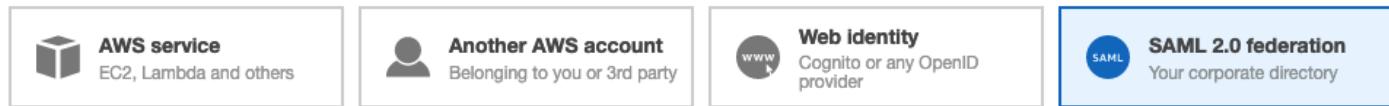
### Create the IAM Role and Policy

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.

The screenshot shows the 'Create role' page in the AWS IAM console. At the top, there are four numbered tabs: 1, 2 (which is selected), 3, and 4. Below the tabs, there is a section titled 'Attach permissions policies' with a note: 'Choose one or more policies to attach to your new role.' A 'Create policy' button is available. A search bar at the top right contains the text 'SalesforceConnectPolicy'. Below the search bar is a table with the following data:

Policy name	Used as
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

4. Provide a name for the Connected App, such as **AmazonConnectSAML**, then press tab and the API Name should auto-populate

5. Provide an email contact address

New Connected App

**Save** **Cancel**

**Basic Information**

Connected App Name	AmazonConnectSAML
API Name	AmazonConnectSAML
Contact Email	dougjaso+ctiadapterdemo@amazon.co
Contact Phone	
Logo Image URL	<a href="#">Upload logo image</a> or <a href="#">Choose one of our sample logos</a>
Icon URL	<a href="#">Choose one of our sample logos</a>
Info URL	
Description	

6. In the Web App Settings section, choose **Enable SAML**

7. Leave Start URL empty

8. Set Entity Id to the same name that you gave the Identity Provider in the IAM console, which should be **SalesforceConnect**

9. Set ACS URL as <https://signin.aws.amazon.com/saml>

10. Set Subject Type as **Persistent ID**

**Web App Settings**

Start URL	<input type="text"/>
Enable SAML	<input checked="" type="checkbox"/>
Entity Id	<input type="text"/> SalesforceConnect
ACS URL	<input type="text"/> https://signin.aws.amazon.com/saml
Enable Single Logout	<input type="checkbox"/>
Subject Type	<input type="button" value="Persistent ID"/>
Name ID Format	<input type="text"/> urn:oasis:names:tc:SAML:1.1:nameid-format:unspecified
Issuer	<input type="text"/> https://ctiadapterdemo-dev-ed.my.salesforce.com
IdP Certificate	<input type="button" value="Default IdP Certificate"/>
Verify Request Signatures	<input type="checkbox"/>
Encrypt SAML Response	<input type="checkbox"/>

11. Choose **Save**. The screen should refresh and the new Connected App should be displayed

12. Scroll down to the **Custom Attributes** section and select **New**

13. Set Key as <https://aws.amazon.com/SAML/Attributes/RoleSessionName>

14. Set Value as **\$User.Email**

15. Select **Save**

**Create Custom Attribute**

Key	<input type="text"/> https://aws.amazon.com
Value	<input type="button" value="Insert Field"/> <input type="button" value="Insert Operator"/> <div style="border: 1px solid #ccc; padding: 5px; width: 100%; height: 150px; margin-top: 10px;"> <input type="text" value="\$User.Email"/> </div>
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

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**

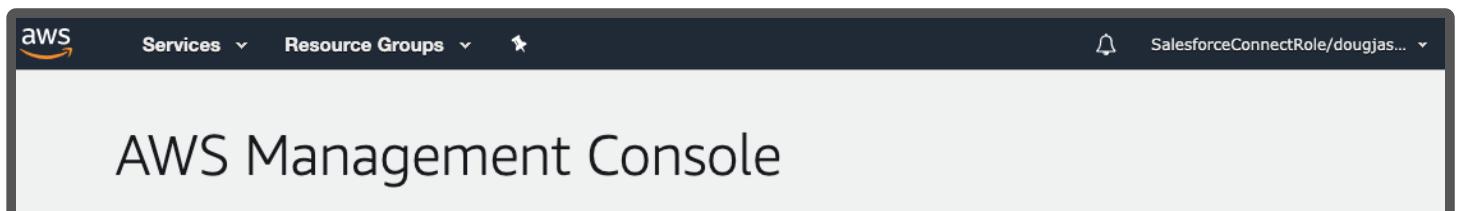
Key	<input type="text" value="https://aws.amazon.com"/>
Value	<input type="text" value=""/> <b>[arn:aws:iam::YOURACCOUNT:saml-provider/SalesforceConnect' &amp; ',' &amp; 'arn:aws:iam::YOURACCOUNT:role/SalesforceConnectRole'</b>
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

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 **Log in for emergency access**

A screenshot of the Amazon Connect Admin Console. The top navigation bar shows 'Amazon Connect &gt; guidedsetuptest-instance-w3dgh2 &gt; Overview'. Below this is the 'Account overview' section. Under 'Access information', there is an 'Access URL' field containing 'https://guidedsetuptest-instance-w3dgh2.my.connect.aws' with a copy icon. To the right, under 'Emergency access', there is a red box around the 'Log in for emergency access' button. A warning message below it states: '⚠ Warning: Use this login method only for emergencies. Do not use for your day-to-day operations.' with a copy icon.

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

The screenshot shows the 'Add new user' interface. At the top, there are three tabs: 'Select source' (with a checkmark), 'Add user details' (which is the active tab, indicated by a blue circle with the number 2), and 'Verify user details' (indicated by a grey circle with the number 3).  
In the 'Add user details' section:

- 'First name': Jason
- 'Last name': Douglas
- 'Login name': j+ctiadapterdemo@amazon.com

  
Below these fields are three groups of settings:

- Routing Profile:** A dropdown menu showing 'Basic Routing Profile'.
- Security Profiles:** A dropdown menu showing 'Admin'.
- Phone Type:** A dropdown menu set to 'Soft phone' with an unchecked checkbox for 'Auto-Accept Call'. There is also a field for 'After call work (ACW) timeout' with the 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 (replace `us-west-2` with the region you are using):

```
https://us-west-2.console.aws.amazon.com/connect/federate/InstanceId?destination=%2Fconnect%2Fccp
```

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

## Distribution settings

Instance ARN

 arn:aws:connect:us-west-2:YOUR-ACCOUNT-ID:instance/**YOUR-INSTANCE-ID-XXX-XXXXXXX**

2. Concatenate the 'IdP-Initiated Login URL' and the 'RelayState', by combining the two with "&RelayState=" in between, for example:

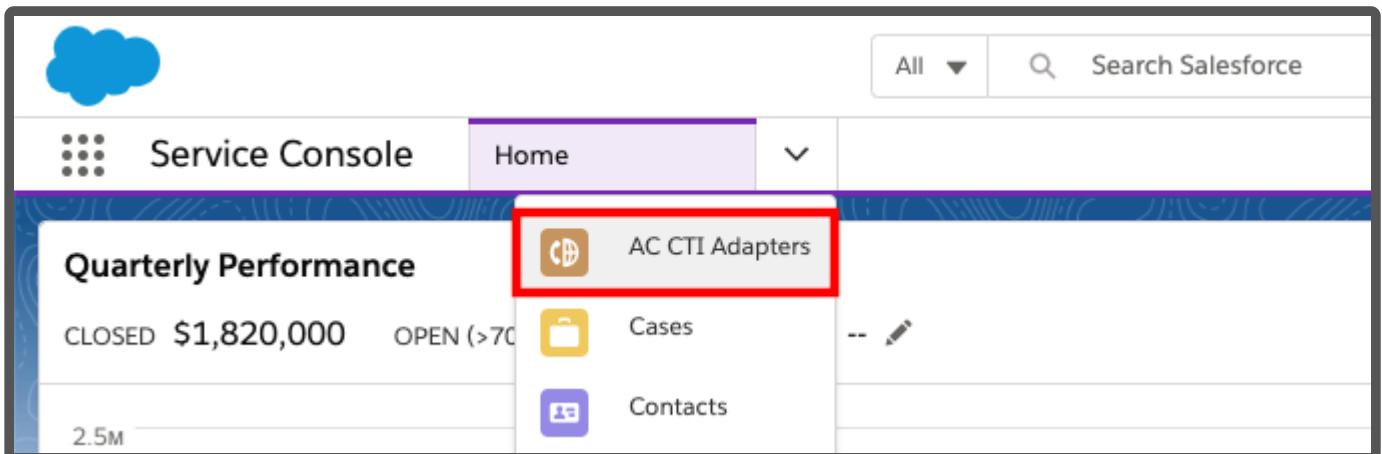
```
https://mXXXXXXrun-dev-ed.my.salesforce.com/idp/login?  
app=0sp0N00000Caid&RelayState=https://us-west-  
2.console.aws.amazon.com/connect/federate/InstanceId?  
destination=%2Fconnect%2Fccp
```

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

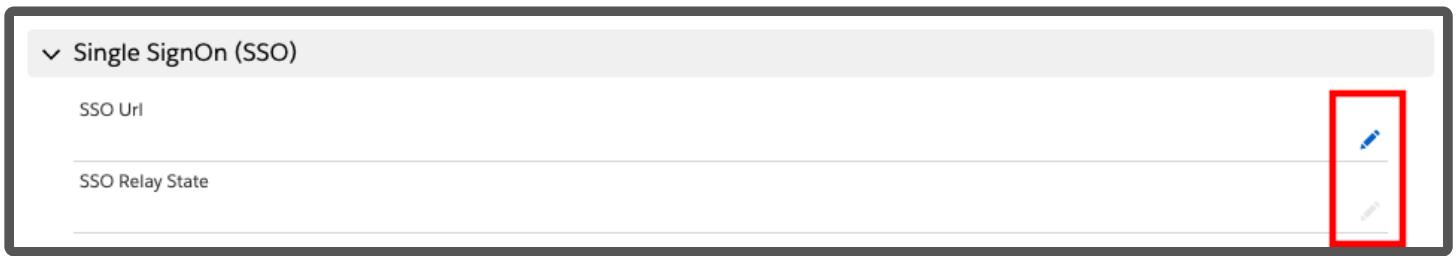
## Configure the CTI Lightning Adapter in Salesforce For SSO

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



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=0sp0N000000Caid&RelayState=https://us-west-  
2.console.aws.amazon.com/connect/federate/<b>InstanceId</b>?  
destination=%2Fconnect%2Fccp
```

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



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=0sp0N000000Caid&RelayState=https://us-west-
```

2.console.aws.amazon.com/connect/federate/<b>InstanceId</b>?  
destination=%2Fconnect%2Fccp

8. Paste this portion of the URL into the **SSO Relay State** field

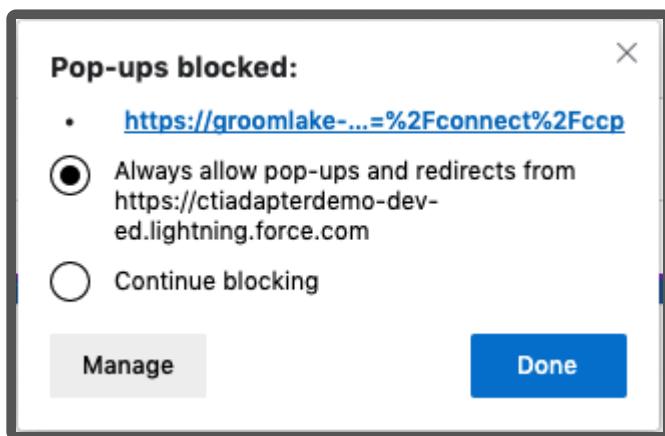
The screenshot shows the 'Single SignOn (SSO)' section of the AWS Connect instance configuration. It includes fields for 'SSO Url' containing 'https://sample-dev-ed.my.salesforce.com/idp/login' and 'SSO Relay State' containing 'app=0sp6g000000XZyd&RelayState=https://us-west-2.console.aws.amazon.com/connect/federate/YOUR-INSTANCE-ID?destination=%2Fconnect%2Fccp'. The 'SSO Relay State' field is highlighted with a blue border.

9. Choose **Save**

**Note:** With the new Amazon Connect instance urls (\*.my.connect.aws) you must put the full URL into the **Amazon Connect Instance** field in the AC CTI Adapter record for SSO to work. Ex: using **https://myinstance.my.connect.aws** instead of **my instance**.

10. **Refresh** your browser to make the changes take effect

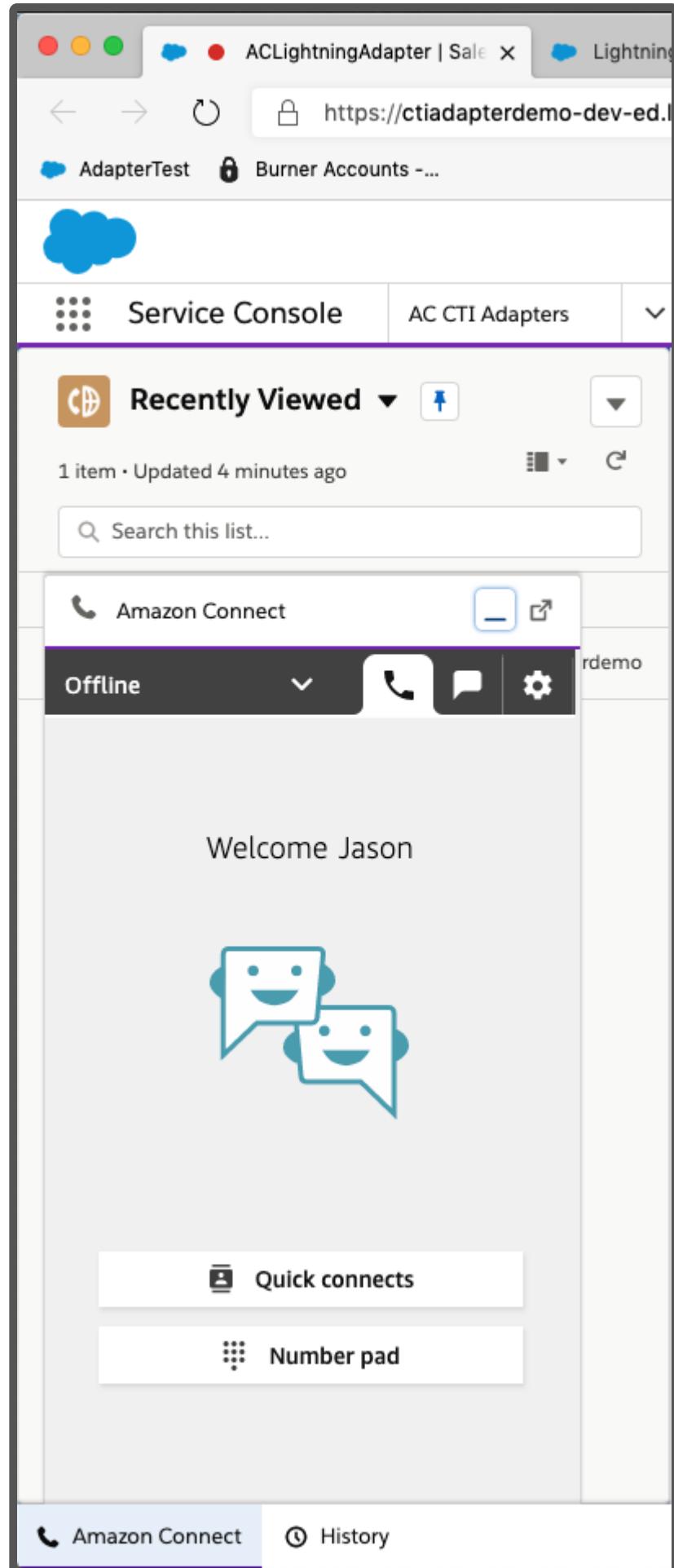
- NOTE:** If you receive a blocked popup warning, select the warning and change the setting to always allow popups from your Salesforce org, then refresh the browser again



11. 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.

12. Click the Sign into CCP button

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:** Salesforce UI

**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](#)

## Create a Task (Call Activity) and Pop That Task using CTI Actions

**Source:** CTI Action

**Event:** N/A

[More details](#)

[Download](#)

## Create a Record on Chat Connected and Screenpop

**Source:** Amazon Connect Chat Contact

**Event:** onConnected

[Download](#)

## Screenpop Chat Contact on View

**Source:** Amazon Connect Chat Contact

**Event:** onViewContact

[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.

## **Create Task Contact**

The command to create a task contact that is sent to the provided quick connect endpoint. The quick connect must be available to any queue the agent has access too.

## **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 Task Contact?**

The command to determine if the contact is an amazon connect task 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.

## **Pop Task Contact's ReferenceUrls**

The command to pop any reference urls if the contact is a task. Returns the number of urls popped.

## **Query value**

The query to execute an arbitrary SOQL statement and returns the results.

## **Get Salesforce Lead Id**

The command to get a salesforce lead id using a formatted phone number.

## **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.

## Multiply

Multiply two numbers.

## Divide

Divide two numbers.

## Get Tab Object Map

Returns a map of all visible primary tabs and their associated objects (if available).

## Close Salesforce Tab

Closes the Salesforce with a given id.

## Delay

Delays execution for a period of time. (Keep in mind that your flow may be stopped if it runs longer than the maximum allowed execution window of 60 seconds.)

## Get Primary Tab Ids

Returns all of the IDs of open primary tabs.

## Get Tabs With Matching Url

Returns the ids of the primary tabs with the url matching a provided string.

## Length

Returns the length of a value.

## **Slice**

Returns the slice of a value.

## **Cast a Value to a Type**

Cast an input value to a Javascript type, such as Number or String.

## **Get CCP Logs**

The command to get the logs of agent from Connect.

## **Clear All Properties**

Clears all stored properties.

## **Unset Property**

Removes the value assigned to a property in the local data store.

## **Show Attributes**

This command displays the contact attributes in the CCP overlay.

## **Is Task Contact?**

Check if the contact is a task

## **Create Task Contact**

Creating a new task contact with certain inputs.

## **Pop Task Contact's ReferenceUrls**

Pop any reference urls that are related to the task contact

## **Start Recording**

Use the contact recording API to start recording the call.

## **Stop Recording**

Use the contact recording API to stop recording the call.

## Update Contact Attributes

Use the Connect API to update the attributes of the current contact.

## Get Payload

Retrieve the payload of the CTI Flow. (The payload can be configured by CTI Actions.)

## Send Data to CCP Overlay

Send an object to Data panel of CCP Overlay.

## Leave a Voicemail

Use Voicemail drops to leave a voicemail.

## Destroy Agent Connection to Live Contact

Destroys destroy the agent's connection to any live contact that is currently being handled by the CTI Flow. This is being deprecated for contacts in ACW. Use the ClearContact block for Clear ACW functionality.

## Clear Contact

Clears a contact that is no longer being worked on - i.e. it's one of ERROR, ACW, MISSED, REJECTED.