

Setup and Installation Guide



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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](#).

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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](#)
 - [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.
 - MultiChat Management
 - Recommendations
 - Example Use
- Amazon Q Integration
- Voice Id
- Setting up Medialess
 - Medialess
 - Prerequisites
 - Set Up for CITRIX VDI Platform
 - Set Up for Other VDI Platforms
- 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 Reference Urls
- 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 Reference Urls
- 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.

Important: when upgrading the CTI Adapter, please make sure that the Salesforce Lambdas are also updated to the newest version.

5.22 February 2024

- **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:** MultiChat Management: Provided support for Multi-Chat Management. [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 Reference Urls - 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**

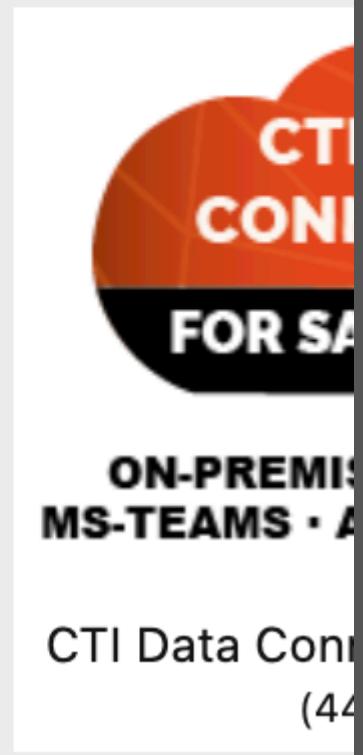
[<> BACK](#)

Search Results for "amazon connect"

40 Apps · Sorted by Relevance



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



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



★★★☆☆

Free



DETAILS

REVIEWS

PROVIDER



Amazon Connect CTI Adapter for Salesforce Overview and Demo



Highlights

Setting up Amazon Connect is easy. With only a few clicks in the AWS Management Console, agents can take calls within minutes. The adapter...

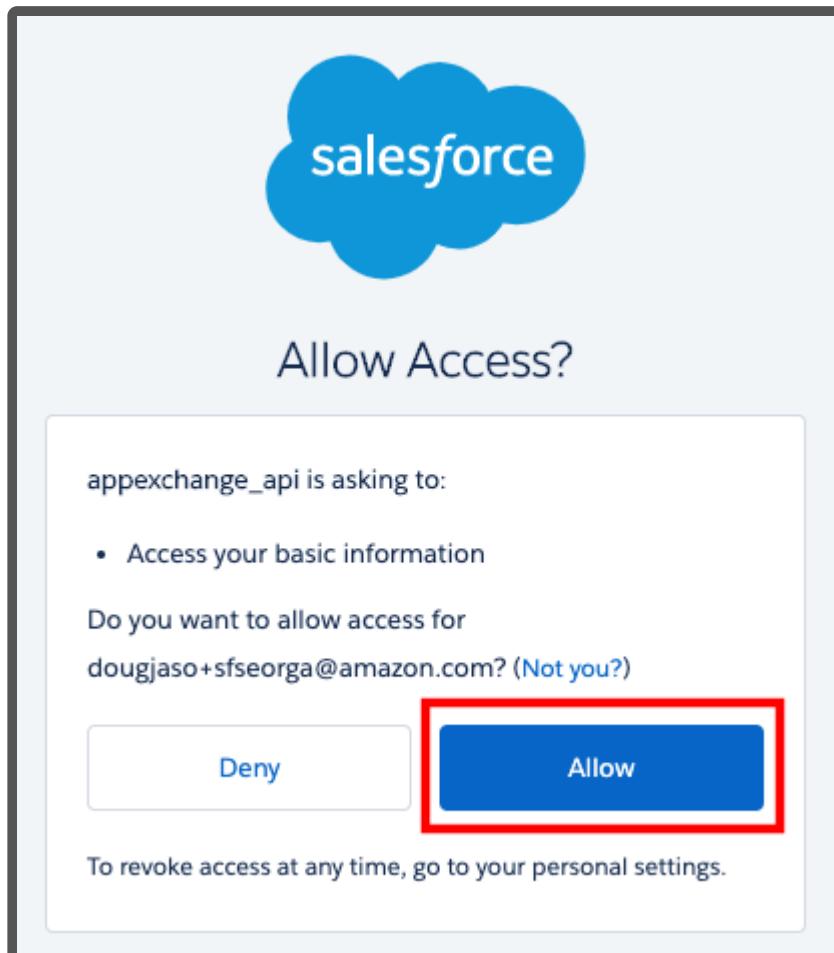
Contact Information

<https://aws.amazon.com/contact-us/>

Watch Demo

Get It Now

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**



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.

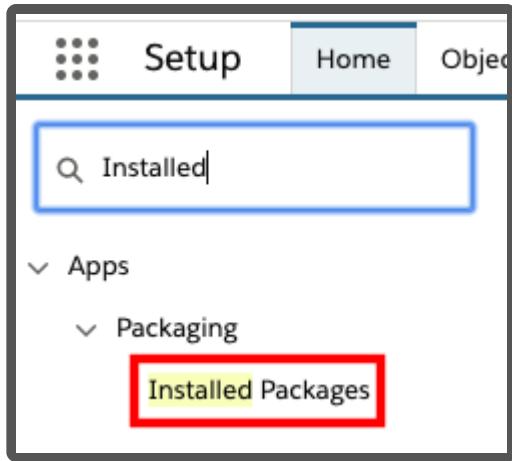
You will receive an email after the installation has completed.

Done

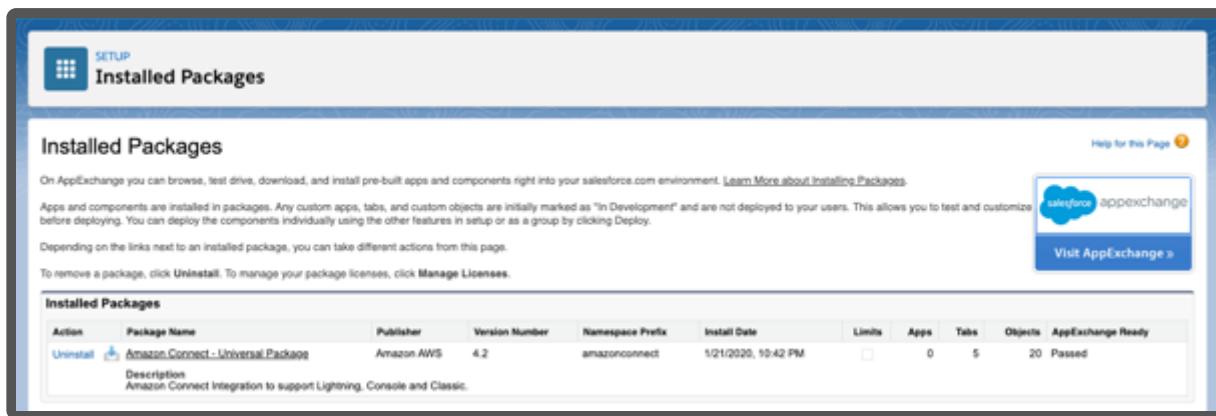
13. Once you receive confirmation that the **installation has completed** via email, return to the browser

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



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.

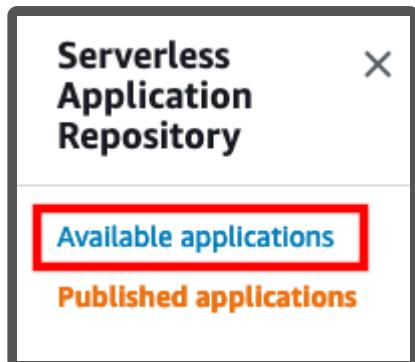
The Amazon Connect Salesforce Lambda package is delivered via the AWS Serverless Application Repository. The AWS Serverless Application Repository enables you to quickly deploy code samples, components, and complete applications. Each application is packaged with an AWS Serverless Application Model (SAM) 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](#)

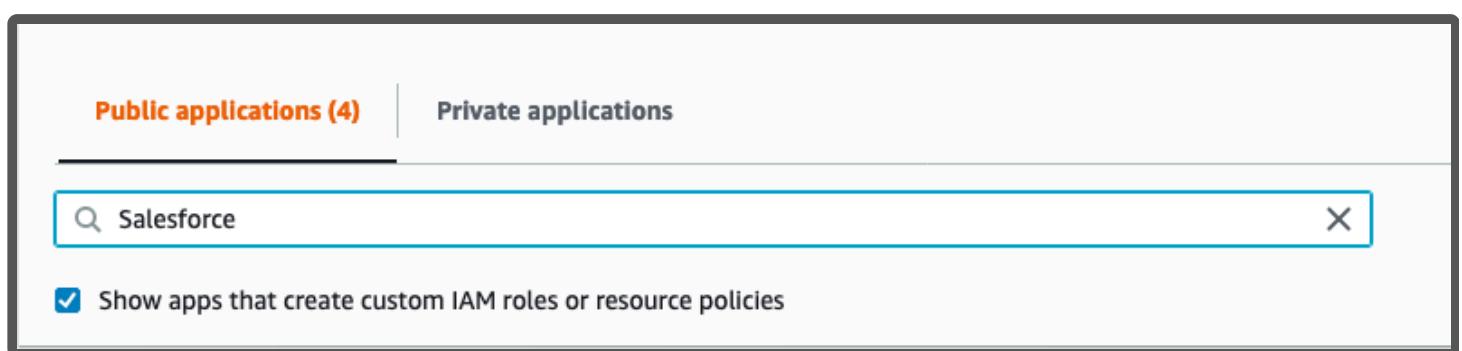
4. Verify that the Amazon Connect instance that you wish to configure is listed

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

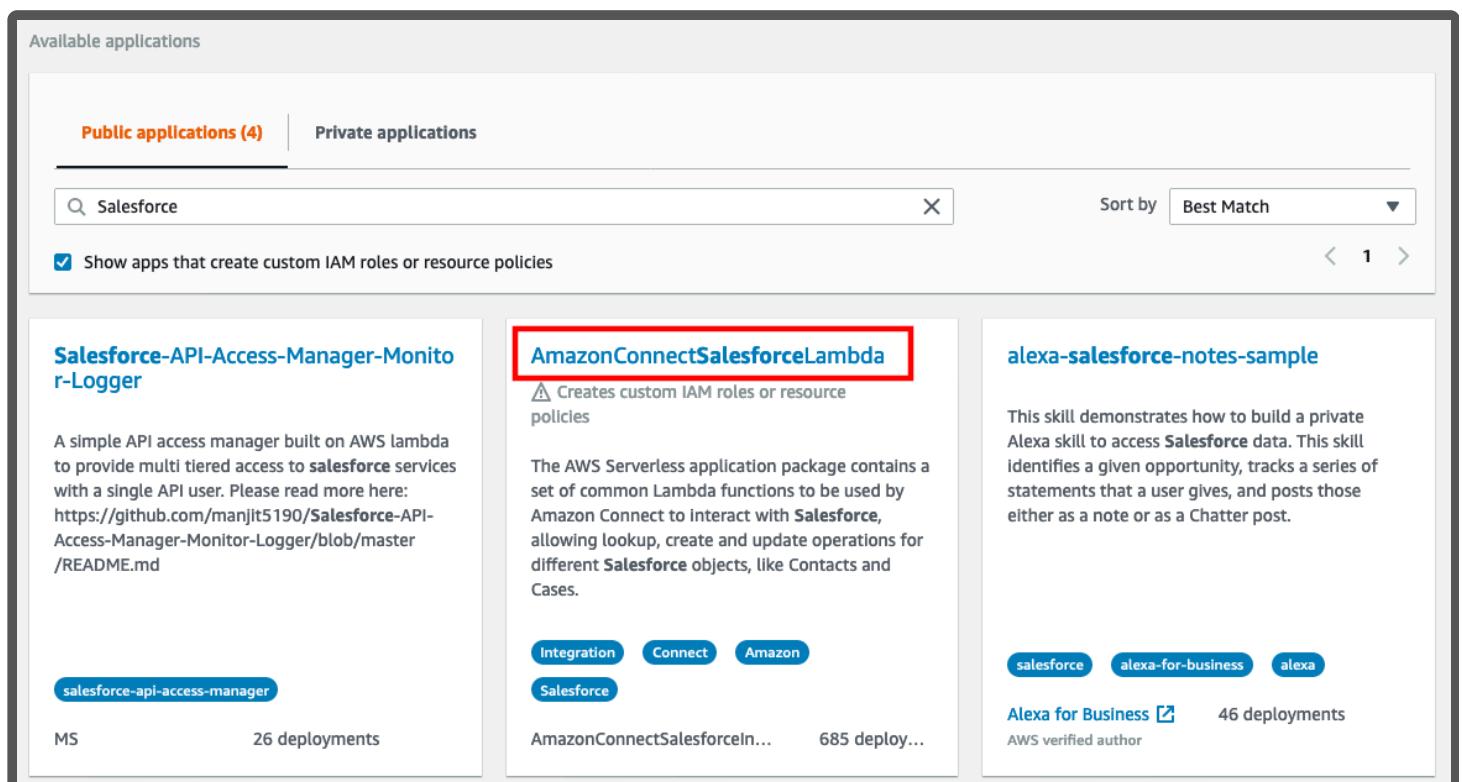
6. In the left navigation, select **Available Applications**



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 IAM console. On the left, there's a sidebar with 'Identity and Access Management (IAM)' at the top, followed by 'Dashboard', 'Access management' (with 'User groups', 'Users' highlighted in orange, 'Roles', 'Policies', and 'Identity providers'), and a 'x' icon. The main area has a blue header bar with the text 'Introducing the new Users experience' and 'We've redesigned the Users experience to make it easier to use. Let us know what you think.' Below this is a breadcrumb trail 'IAM > Users'. The main content area is titled 'IAM users (7) Info' with the sub-instruction 'An IAM user is an identity with long-term credentials that is used to interact with AWS in an account.' There's a search bar, a toolbar with 'Add users' (which is highlighted with a red box), and a table with columns 'User name', 'Groups', 'Last activity', 'MFA', and 'Console last sign-in'. The table shows 7 rows of user data.

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 the top, there are five numbered tabs: 1, 2 (highlighted in blue), 3, 4, and 5. The current step is 'Set permissions'. It shows three options: 'Add user to group', 'Copy permissions from existing user', and 'Attach existing policies directly' (which is highlighted with a blue box). Below this is a 'Create policy' button and a 'Filter policies' dropdown set to 'sfexecute'. A search bar contains the text 'sfexecute'. The results table shows 2 results with columns 'Policy name', 'Type', and 'Used as'. One result is selected, showing 'sfexecute' in the 'Policy name' column, 'Customer managed' in the 'Type' column, and 'None' in the 'Used as' column.

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

Access key ID

Secret access key



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

The screenshot shows the AWS Lambda console with the 'Functions' list. A search bar at the top contains the query `"sfExecuteAWSService"`. Below the search bar, there are buttons for `Clear filters` and `Actions`. The results table has columns: Function name, Description, Runtime, Code size, and Last modified. One function is listed, with its name partially redacted: `-sfExecuteAWSService-`. The function is written in Python 3.7, has a code size of 3.8 MB, and was last modified 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 left sidebar has a search bar with `named cr`, a `Security` section, and a `Named Credentials` section which is currently selected. The main content area has a header `SETUP` and `Named Credentials`. Below the header, it says `Named Credentials` and describes them as specifying a callout endpoint and authentication parameters. It includes a `View:` dropdown set to `All` and a `Create New View` button. At the bottom right, there is a button labeled `New Named Credential`, which 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

Label: ExecuteAwsService

Name: ExecuteAwsService

URL: https://lambda.us-west-2.amazonaws.com/2015-03-31/functions/
sfExecuteAWSService-123456789/invocations

Authentication

Certificate: [Redacted]

Identity Type: Named Principal

Authentication Protocol: AWS Signature Version 4

AWS Access Key ID: [Redacted]

AWS Secret Access Key: [Redacted]

AWS Region: us-west-2

AWS Service: 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

Provision Amazon Connect Instance?

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.

Set up Amazon Connect Salesforce CTI Adapter?

This setting will configure the Salesforce CTI Adapter in your Salesforce instance.

Set up Amazon Connect Salesforce Lambdas?

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 includes three main sections: 'Apps', 'Subtab Apps', and 'Connected Apps'.

Apps: A table listing standard apps with columns for Action, App Label, Console, Custom, and Description. Standard apps listed include App Launcher, Community, Content, Marketing, Platform, Sales, Salesforce Chatter, Sample Console, Service, and Site.com.

Subtab Apps: A table listing subtab apps with columns for Action, App Label, and Description. Subtab apps listed are Profile (Others) and Profile (Self).

Connected Apps: A table with columns for Action, Connected App Name, Description, and Version. It has a 'New' button at the top.

3. Click on the "New" button for the Connected Apps at the bottom of the page

4. In the following form, fill out the Connected App Name, API Name and Contact Email with values of your choice. We recommend "Amazon Connect Integration" as the Connected App Name and the default value for the API name.

New Connected App

Save Cancel

Basic Information

Connected App Name	Amazon Connect Integration
API Name	Amazon_Connect_Integration
Contact Email	

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

▼ API (Enable OAuth Settings)

Enable OAuth Settings

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

Enable OAuth Settings	<input checked="" type="checkbox"/>
Enable for Device Flow	<input type="checkbox"/>
Callback URL	https://[REDACTED].my.salesforce.com

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"

API (Enable OAuth Settings)

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](#)

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

▼ API (Enable OAuth Settings)

Consumer Key 3MVG9TSaZ8f... bOcgUMSvusvy Consumer Secret [Click to reveal](#)

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

Connected App Name
Amazon Connect Integration

[« Back to List: Custom Apps](#)

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

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

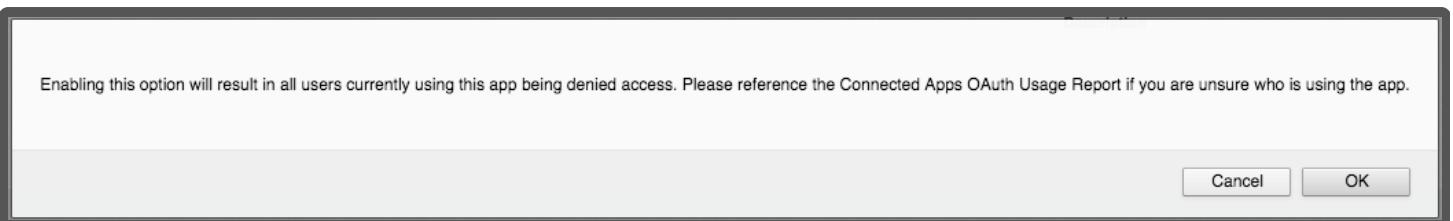
15. Set "Permitted Users" to "Admin approved users are pre-authorizes"

OAuth policies

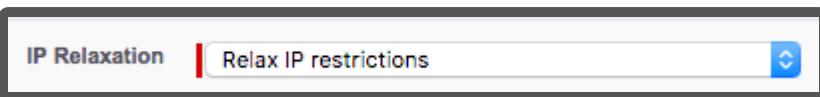
Permitted Users

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"):

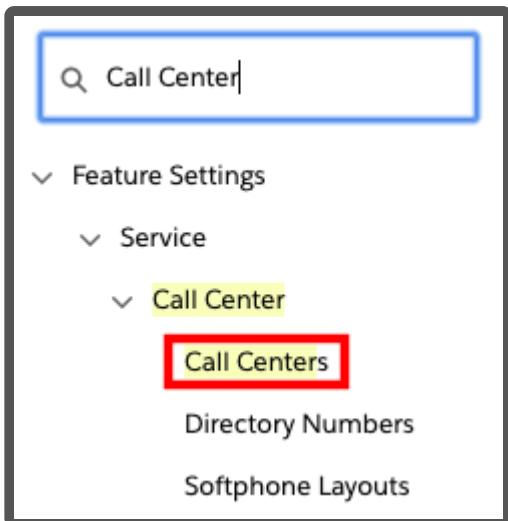
Account overview

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**

The screenshot shows the "All Call Centers" page. The title is "All Call Centers". A subtext states: "A call center corresponds to a single computer-telephony integration (CTI) system already in place or planned for your organization. You can manage Call Center features." Below this, a table lists three call centers:

Action	Name
Edit Del	AC Lightning Adapter
Edit Del	Amazon Connect CCP Adapter Classic 3.11
Edit Del	Amazon Connect CCP Adapter Console 3.11

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**.

The screenshot shows the "Add to Call Center" dialog box. It has two tabs: "Add to Call Center" (selected) and "Cancel". The "Add to Call Center" tab displays a list of users with checkboxes. One user, "Douglas_Jason", has a checked checkbox and is highlighted with a red box. The other users are "User_Integration" and "User_Security". To the right of the users, there are columns for "Role" and "Profile". The roles and profiles are as follows:

User	Role	Profile
Douglas_Jason	System Administrator	Analytics Cloud Integration User
User_Integration		
User_Security		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**.

The screenshot shows the 'Permission Sets' page in the Salesforce setup. At the top, there's a header with a person icon, 'SETUP', and 'Permission Sets'. Below the header, the title 'Permission Sets' is displayed. A sub-header says 'On this page you can create, view, and manage permission sets.' and provides links to the mobile app and the App Store/Google Play. A toolbar at the top has buttons for 'All Permission Sets' (selected), 'Edit', 'Delete', and 'Create New View'. Below the toolbar is a table with columns for 'Action', 'Permission Set Label', and 'Description'. Two rows are visible: 'Clone' for 'Toolkit for Amazon Connect - Agent' (description: 'Permissions to all components that an agent would need to use the toolkit.') and 'Clone' for 'Toolkit for Amazon Connect - Manager' (description: 'Permissions required to access the toolkit reports.').

2. Choose **AC_Manager**.

The screenshot shows the 'Assign Users' screen for the 'All Users' view. The title is 'Assign Users' and 'All Users'. A 'View:' dropdown is set to 'All Users' with options to 'Edit' or 'Create New View'. At the bottom right are 'Assign' and 'Cancel' buttons.

3. Choose **Manage Assignments**.

4. Choose **Add Assignments**.

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

AC_Administrator

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, 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	Read	--	--
AC Queue Metrics	--	--	Visible
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	Available
AC Wisdom	--	--	--

Create the Softphone Layout

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

Q. Softphone Layouts

SETUP Softphone Layouts

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 custom softphone layouts and assign them to call center users based on their user profile.

Name	Default	Created By Alias	Created Date	Last Modified By Alias	Last Modified Date
No records to display.					

Didn't find what you were looking for? Search all of Setup instead.

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

2. Choose **New**.

Softphone Layout Edit

Help for this Page

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

Save Cancel	
Name	<input type="text"/>
<input type="checkbox"/> Is Default Layout	
Select Call Type	Inbound
Softphone Layout	
Help about this section ?	
Display these call-related fields: <ul style="list-style-type: none"> ▶ Caller ID, Dialed Number 	
Display these salesforce.com objects: <ul style="list-style-type: none"> ▶ Account, Contact, Lead 	
<input type="button" value="Add / Remove Objects"/>	
<ul style="list-style-type: none"> ▶ If single Account found, display: Account Name <small>If multiple matches are found, only the Account Name is displayed in Salesforce Classic. In Lightning Experience, all the selected fields are displayed.</small> ▶ If single Contact found, display: Name <small>If multiple matches are found, only the Name is displayed in Salesforce Classic. In Lightning Experience, all the selected fields are displayed.</small> ▶ If single Lead found, display: Name <small>If multiple matches are found, only the Name is displayed in Salesforce Classic. In Lightning Experience, all the selected fields are displayed.</small> 	

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	<input type="text"/> AmazonConnectDefault
<input checked="" type="checkbox"/> 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.

Display these salesforce.com objects:

▼ Account, Contact, Lead, Case

Available	Selections
Campaign Event Opportunity Task User	Account Contact Lead Case

Add **Remove** **Up** **Down**

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. [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](#)

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 Is Default Layout

Softphone Layouts

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

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

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

The screenshot shows the Salesforce navigation bar with a search bar containing "apex". Below it is a sidebar with sections for "Email" and "Custom Code". The "Custom Code" section is expanded, showing "Apex Classes" which is highlighted with a red box. Other options in this section include "Apex Settings", "Apex Test Execution", "Apex Test History", and "Apex Triggers".

3. Select New

The screenshot shows the "Apex Class Edit" page. At the top, there are buttons for "Developer Console", "New" (highlighted with a red box), "Generate from WSDL", "Run All Tests", and "Schedule Apex". Below these are filter buttons for "Namespace Prefix", "Api Version", "Status", "Size Without Comments", "Last Modified By", and "Has Trace Flags".

4. Select the Version Settings tab

The screenshot shows the "Apex Class Edit" page. The tabs at the top are "Apex Class" (selected) and "Version Settings" (highlighted with a red box). Below the tabs is a toolbar with icons for search, create, refresh, and font size. A list area shows one item: "1".

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

The screenshot shows the "Apex Class Edit" page with the "Version Settings" tab selected. The "Name" field contains "Salesforce.com API". The "Version" dropdown is set to "47.0" (highlighted with a red box). Another dropdown below it is set to "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)

The screenshot shows the 'New Profile' dialog box. At the top, there is a message: 'Enter the name of the new profile.' Below it, a warning message says: 'You must select an existing profile to clone from.' The form fields are as follows:

- Existing Profile:** A dropdown menu showing 'System Administrator'.
- User License:** A dropdown menu showing 'Salesforce'.
- Profile Name:** An input field containing 'API Only'.

At the bottom right of the dialog are two buttons: 'Save' and '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:

The screenshot shows the profile details for 'API Only'. At the top, it says 'Profile API Only' and has a 'Back to List: Profiles' link. Below that, it states: '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.' It also notes: '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.' A horizontal bar of permissions follows, including: Login IP Ranges [0], Enabled Apex Class Access [2], Enabled Visualforce Page Access [11], Enabled External Data Source Access [0], Enabled Named Credential Access [0], Enabled Service Presence Status Access [0], and Enabled Custom Permissions [0]. The 'Profile Detail' section shows:

Name	API Only
User License	Salesforce
Description	

With buttons for 'Edit', 'Clone', 'Delete', and 'View Users'. To the right, it says 'Custom Profile' with a checked checkbox. At the bottom right, there is a 'Customize This Page' button.

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

The screenshot shows the 'System' tab selected under 'System Permissions'. The heading is 'System Permissions' with the sub-instruction 'Permissions to perform actions t...'. Below this, there is a checkbox labeled 'Lightning Experience User' which is currently checked.

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

The screenshot shows the 'Lightning Experience User' checkbox, which is now unchecked.

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

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

The screenshot shows the 'System' settings page. On the left, there's a sidebar with a link to 'Learn More' about system settings. The main area lists several configuration sections: 'System Permissions' (permissions to perform actions), 'Login Hours' (settings for login times), 'Login IP Ranges' (IP address control), 'Service Providers' (user switching permissions), 'Session Settings' (session control), 'Password Policies' (profile-based password policies, which is the item currently selected and highlighted with a red box), and 'Default Experience' (default assignment settings). Below this is the 'Password Policies' edit screen.

System

System Permissions
Permissions to perform actions tha

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.

The screenshot shows the 'Password Policies' edit screen. It lists various configuration options with their current values: 'User passwords expire in' is set to 'Never expires', 'Enforce password history' is set to 'No passwords remembered', 'Minimum password length' is 8, 'Password complexity requirement' is 'Must mix alpha and numeric characters', 'Password question requirement' is 'Cannot contain password', 'Maximum invalid login attempts' is 10, 'Lockout effective period' is 15 minutes, and two checkboxes for 'Obscure secret answer for password resets' and 'Require a minimum 1 day password lifetime' are unchecked. A third checkbox for 'Don't immediately expire links in forgot password emails' is checked and has an information icon next to it.

Password Policies

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

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	Amazon Connect Integration

15. Click "Manage Profiles"

Profiles

No profiles associated with this app. Manage Profiles

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

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	APIUser
Alias	apiuser
Email	<input type="text"/>
Username	apiuser
Nickname	apiuser i
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>	i
User License	Salesforce	i
Profile	API Only	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. 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', and 'Permission Sets' (which is selected). Below that are 'Custom Code' and 'Custom Permissions'. A note says ' 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.' and '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 table with columns 'Action', 'Permission Set Label', and 'Description'. The 'Permission Set Label' column is sorted by 'Label'. One row, 'AC Administrator', is highlighted with a red box. Other rows include 'AC Agent', 'AC_CallRecording', and 'AC_Manager'. There are buttons for 'All', 'Edit', 'Delete', and 'Create New View'. At the bottom right of the table are links 'A | B | C | D | E | F | G | H | I | J | K | L | M' and '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 the Salesforce logo. The main heading is 'Welcome to Salesforce!'. Below it is the text 'Click below to verify your account.' followed by a large blue button with the text 'Verify Account'. 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?

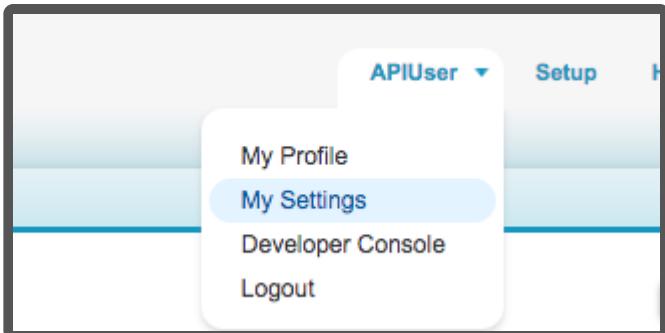
* Answer

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



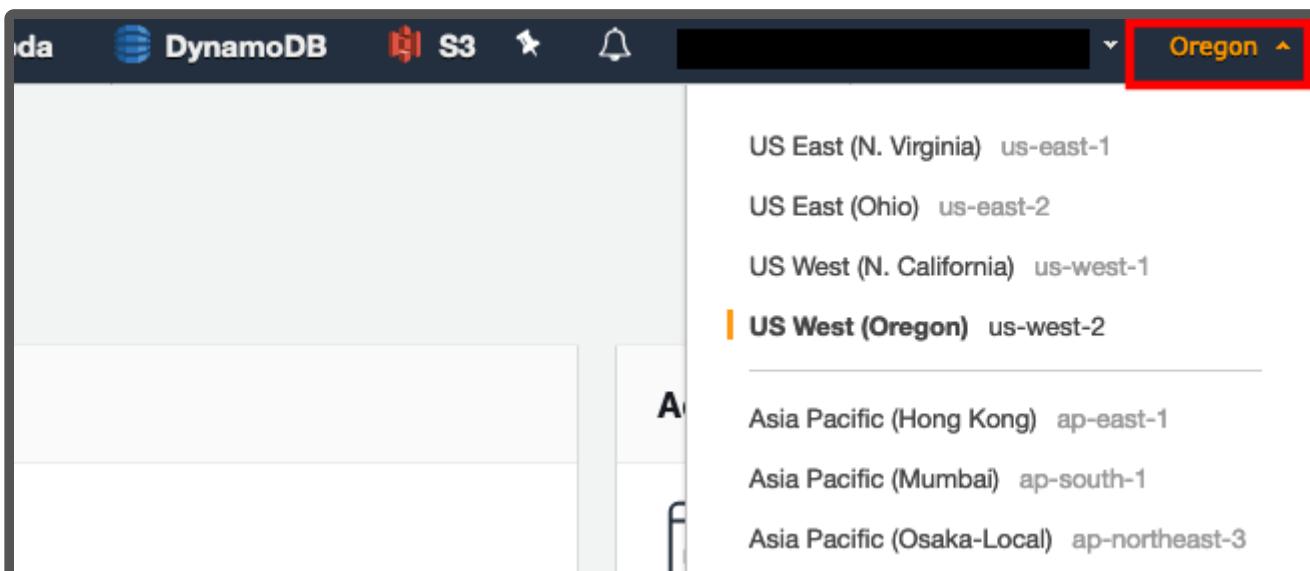
Allow Authorization Code and Credentials Flows



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 [F](#)

[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.

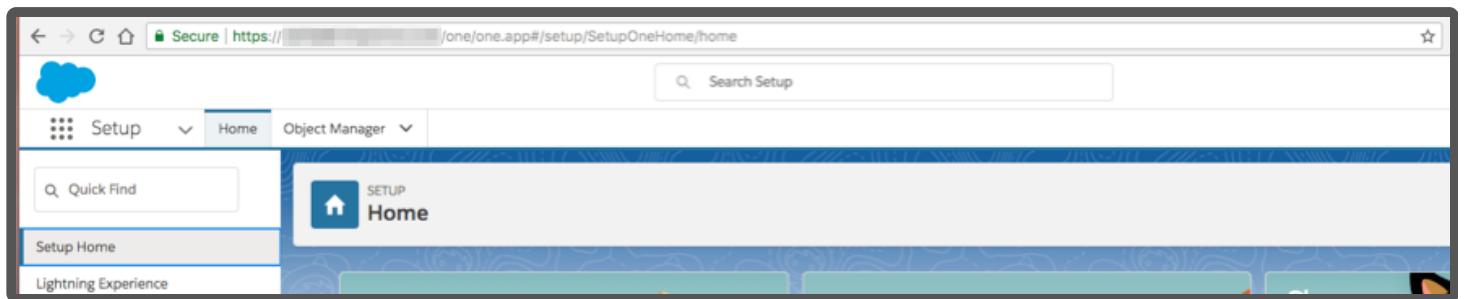
Lightning Flow Setup Installation

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 under the Feature Settings category. The 'Softphone Layouts' item is selected, highlighted with a blue border. A sub-section titled 'Softphone Layouts' is displayed, with 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 for 'Softphone Layout Assignment' with columns: Name, Default, Created By Alias, Created Date, Last Modified By Alias, and Last Modified Date. A note at the bottom says " Didn't find what you were looking for? Search all of Setup instead."

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 note: "Each softphone layout allows you to customize the appearance of a softphone for inbound, outbound, and internal calls. Assign softphone layouts to user profiles by clicking Layout Assignment in the Softphone Layouts page." Below this is a form with fields: 'Name' (with a red box highlighting it), 'Is Default Layout' (checkbox), 'Select Call Type' (dropdown set to 'Inbound'), and 'Softphone Layout' (section). Under 'Display these call-related fields:', there's a note about 'Caller ID, Dialed Number' with an 'Edit' link. Under 'Display these salesforce.com objects:', there's a note about 'Account, Contact, Lead' with an 'Add / Remove Objects' link. 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 with an 'Edit' link.

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

The screenshot shows a modal dialog titled 'Softphone Layout Edit'. It contains the same basic structure as the main page: a note about softphone layouts, a form with 'Name' (highlighted with a red box) and 'Is Default Layout' (checkbox checked), and the 'Softphone Layout' section. The 'Name' field is filled with 'AmazonConnectDefault' and the 'Is Default Layout' checkbox is checked.

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 Event Opportunity Task User	Account Contact Lead Case
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.
- ▶ 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.
- ▶ 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.
- ▶ 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.

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	<input type="text" value="AmazonConnectDefault"/>	<input checked="" type="checkbox"/> Is Default Layout
------	---------------------------------------------------	-------------------------------------------------------

Softphone Layouts

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

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

Set Access Permissions

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

1. Log in into your Salesforce Org.

2. Navigate to **Setup > Manage Users > Permission Sets**.



SETUP

Permission Sets

Permission Sets

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

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

Action	Permission Set Label	Description
<input type="checkbox"/>	Clone	Toolkit for Amazon Connect - Agent
<input type="checkbox"/>	Clone	Toolkit for Amazon Connect - Manager

2. Choose AC_Manager.

Assign Users
All Users

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

[Assign](#) [Cancel](#)

3. Choose Manage Assignments.

4. Choose Add Assignments.

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

AC_Administrator

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 QueueMetrics	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

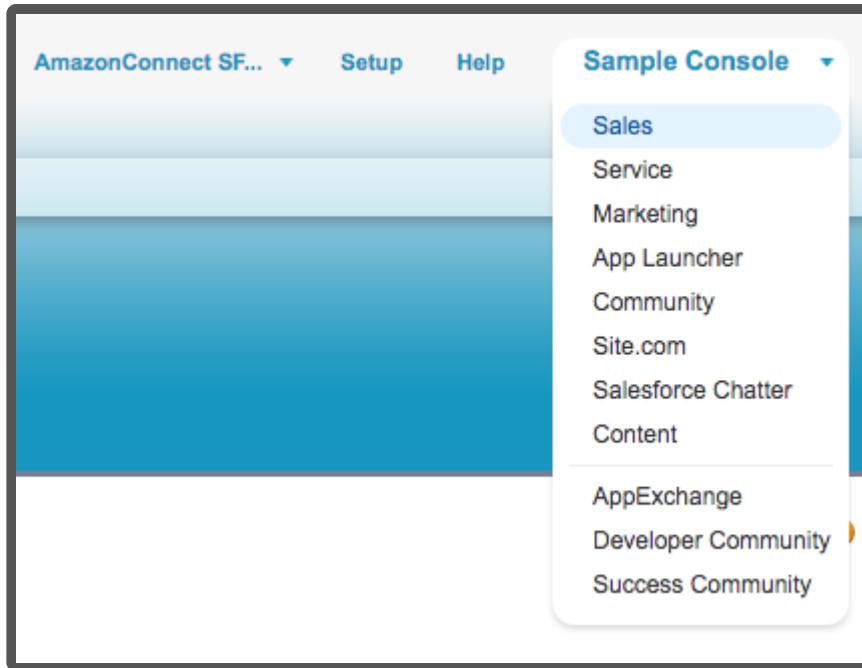
Object Name	Object Permissions	Total Fields	Tab Settings
AC Agent Performance	Read, View All	124	--
AC CCP Overlay Elements	No Access	9	--
AC Contact Channel Analytics	Read, Create, Edit, Delete, View All, Modify All	31	Visible
AC Contact Channels	Read, Create, Edit, View All	24	--
AC Contact Trace Records	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	Read	--	--
AC Queue Metrics	--	--	Visible
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	Available
AC Wisdom	--	--	--

Configure Console Experience

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



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

All Tabs

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

View: [All Tabs](#)

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

Select "AC CTI Adapters"

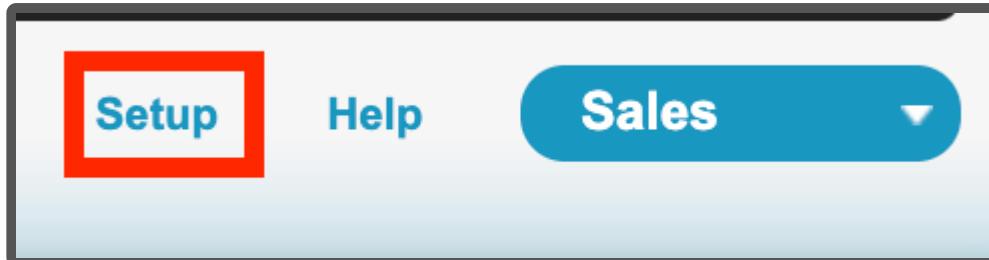
Create a new adapter. Fill in the CTI Adapter Name. For the Call Center Definition Name, type in ACCConsoleAdapter. For the Amazon Connect Instance, type in the login url to the instance (this can be found in the Amazon Connect Instance details page), removing everything after ".com".

Overview

Telephony
Data storage
Data streaming
Application integration
Contact flows

Instance ARN: [REDACTED]
Directory: [REDACTED]
Service-linked role: AWSServiceRoleForAmazonConnect_x8eOtNYvgBDc9FIXHHQc [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:



Take Salesfo
Run your business

Visualforce Pages



Expand All | Collapse All

Build

Develop

Visualforce Pages

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

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

Visualforce Page
amazonconnect__AC_ConsoleAdapter

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

Click on the **Preview** button. A new browser tab will open with the URL of this page. 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, and select "Approved Origins" on the left-hand side:

The screenshot shows the AWS Lambda function configuration page. On the left, there is a sidebar with the following items: Instances, Overview, Telephony, Data storage, Data streaming, Contact flows, Analytics tools, and Approved origins (which is highlighted in orange). The main content area has the following structure: a breadcrumb navigation bar (Amazon Connect > guidedsetup-test-instance-w3dgh2 > Approved origins), a title 'Approved domains', a sub-section 'Domains' with a note about integrating with other products like CRM and Workforce Management, and a search bar labeled 'Find resources'. Below the search bar is a table with one visible row containing the word 'URL'.

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

The screenshot shows a modal dialog box titled 'Add domain'. It contains a single input field labeled 'Enter domain URL' with the value 'https://f...visualforce.com' entered. At the bottom right of the dialog are two buttons: 'Cancel' and 'Add domain' (which is highlighted in orange).

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.

[Edit](#) [Delete](#) [Add domain](#)

Find resources

URL

[https://\[REDACTED\].visualforce.com](https://[REDACTED].visualforce.com)

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

The screenshot shows the Salesforce Setup interface. At the top, there's a navigation bar with links for Home, Chatter, Libraries, and Contact. Below the navigation is a banner with the text "Take Salesfo" and "Run your business". In the main content area, there's a search bar with "Apps" typed into it, followed by "Expand All | Collapse All" buttons. On the left, there's a sidebar with sections for Administer, Build, and Create. Under Administer, "Manage Apps" is expanded, showing sub-links for Connected Apps, Connected Apps OAuth, Usage, and App Menu. Under Build, "Create" is expanded, showing the "Apps" link. The overall interface is light blue and white, typical of the Salesforce design.

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

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

Click "Edit" next to the Sample Console application.

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

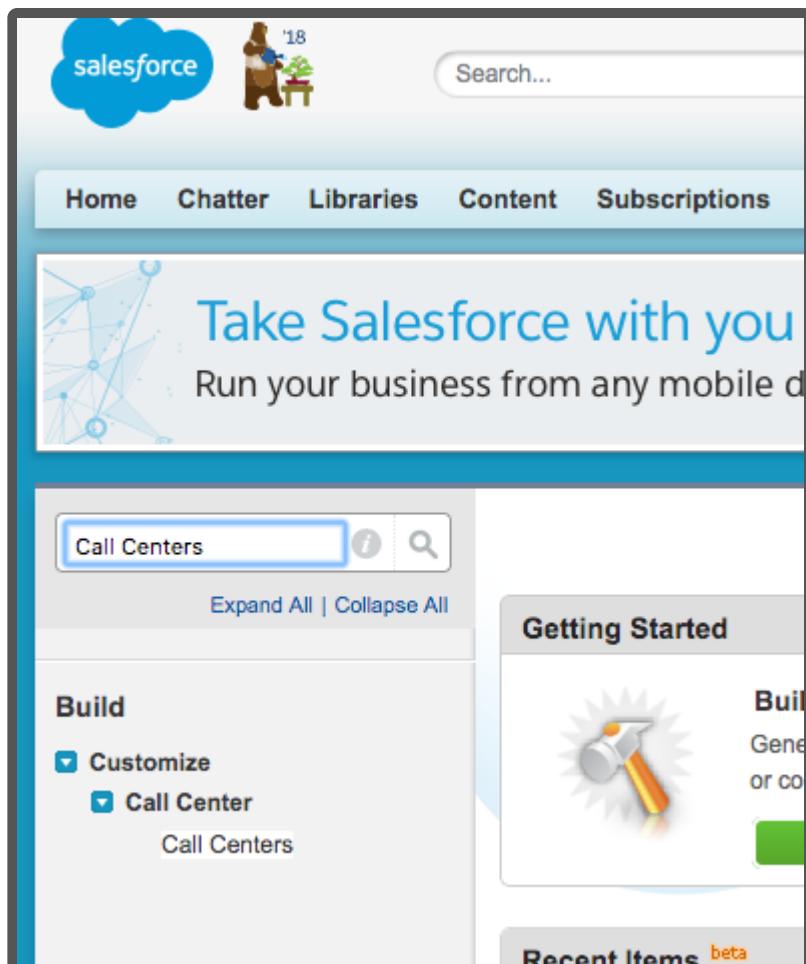
Assign to Profiles		Profile	<input type="checkbox"/> Visible	<input type="checkbox"/> Default
		Analytics Cloud Integration User	<input type="checkbox"/>	<input type="checkbox"/>
		Analytics Cloud Security User	<input type="checkbox"/>	<input type="checkbox"/>
		Contract Manager	<input type="checkbox"/>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



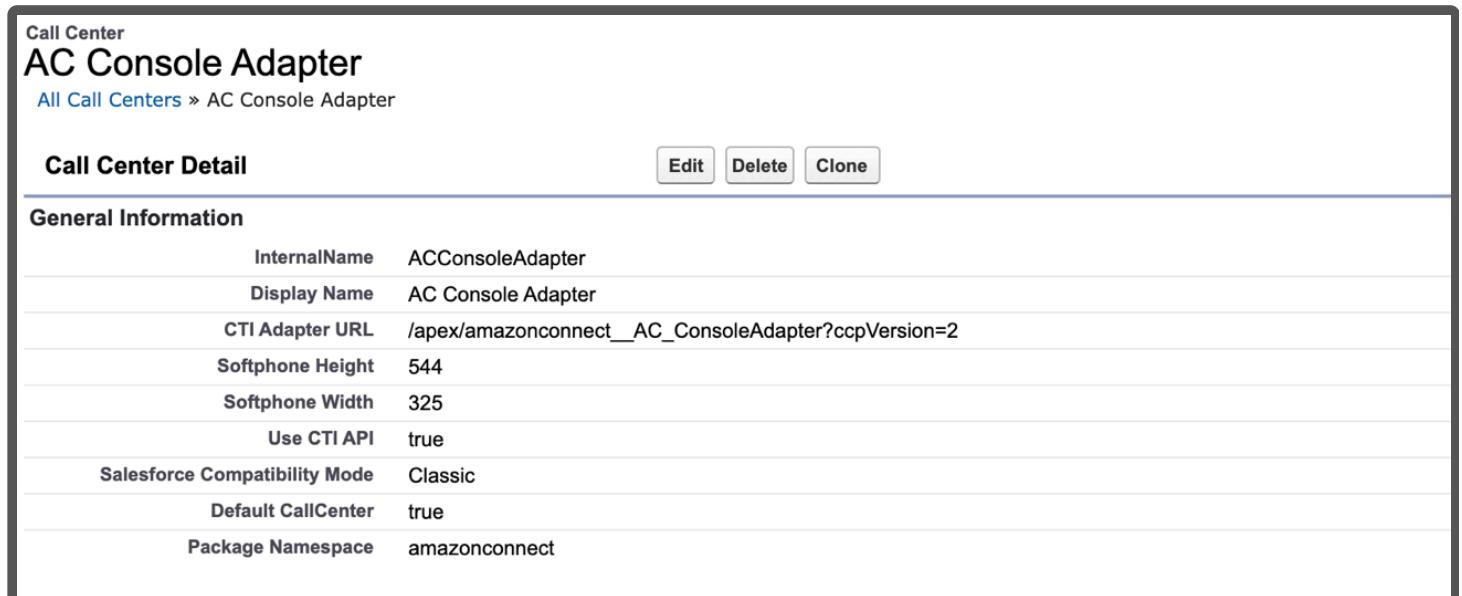
The screenshot shows the Salesforce home page. At the top, there's a blue cloud icon with the word "salesforce" and a small brown bear icon with the number "18". A search bar with the placeholder "Search..." is on the right. Below the header, a navigation bar has links for "Home", "Chatter", "Libraries", "Content", and "Subscriptions". A 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 "Call Centers". On the right, a "Getting Started" section features a hammer icon and a "Recent Items" section.

All Call Centers

A call center corresponds to a single computer-telephony integration (CTI) system already in place at your organization. Salesforce.com users must have a valid license for the CTI system to use the Call Center feature.

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

Select "Amazon Connect CCP Adapter Console 3.9"



The screenshot shows the "Call Center Detail" page for the "AC Console Adapter". The title is "AC Console Adapter" under "Call Center". The URL is "All Call Centers » AC Console Adapter". At the top right are "Edit", "Delete", and "Clone" buttons. The "General Information" section contains the following table:

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.

Call Center Users

Call Center Users by Profile

Total 0

Call Center
Amazon Connect CCP Adapter Console: Manage Users

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

View: All Create New View

Full Name	Alias	Username	Add More Users	Remove Users
No records to display.				

Call Center
Amazon Connect CCP Adapter Console: Search for New Users

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

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

--None--	--None--		AND
--None--	--None--		

Filter By Additional Fields (Optional):

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

Find

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

	Full Name	Alias	Username	Role	Profile
<input checked="" type="checkbox"/>	SFDCDryRun_AmazonConnect	ASFDC	acsfddryrun[REDACTED]		System Administrator
<input type="checkbox"/>	User_Integration	integ	integration@00d0n000001bsn5uua.com		Analytics Cloud Integration User
<input type="checkbox"/>	User_Security	sec	insightssecurity@00d0n000001bsn5uua.com		Analytics Cloud Security User

Add to Call Center Cancel

Repeat the steps to add more users.

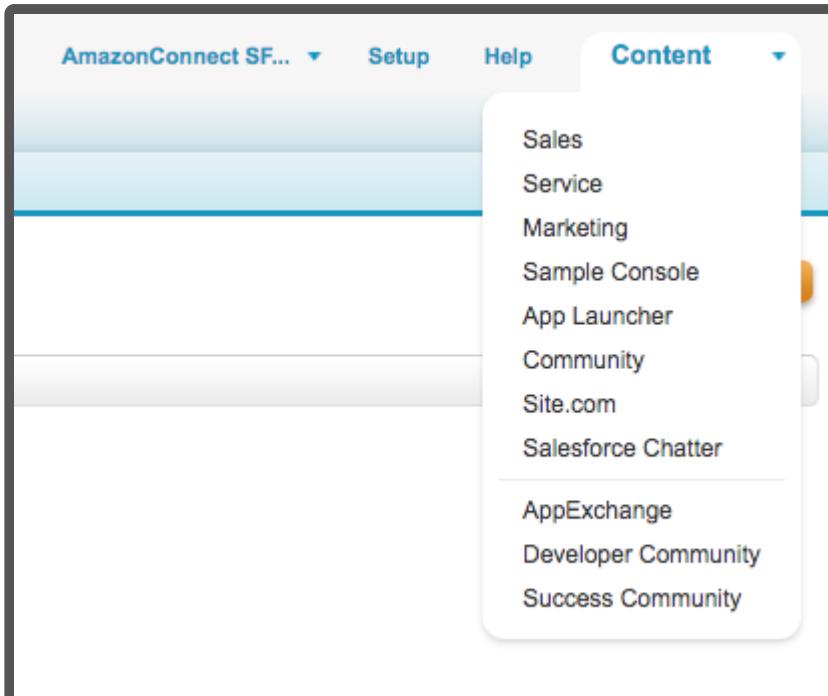
Amazon Connect CCP Adapter Console: Manage Users

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

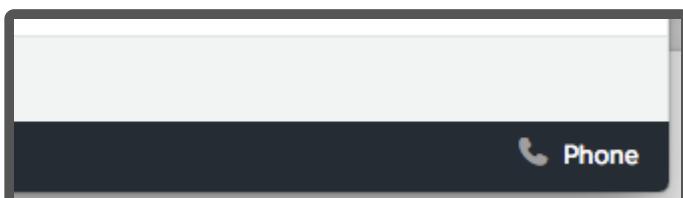
View: All

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

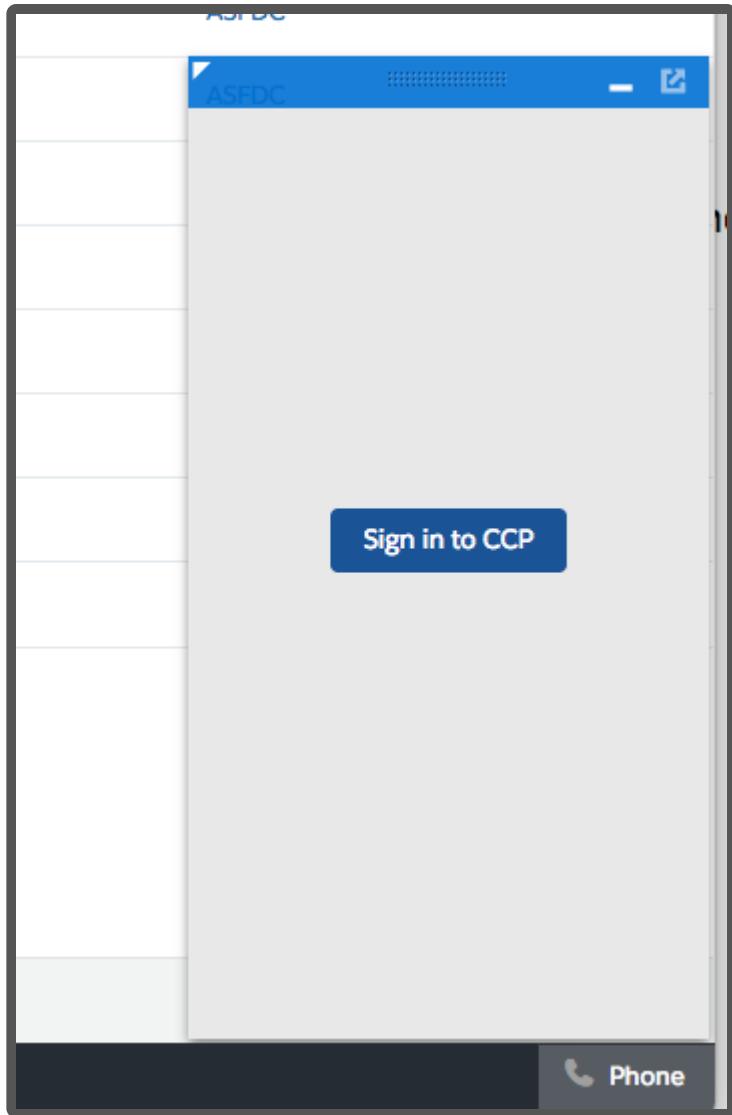
From the top-right corner, select Sample Console application.



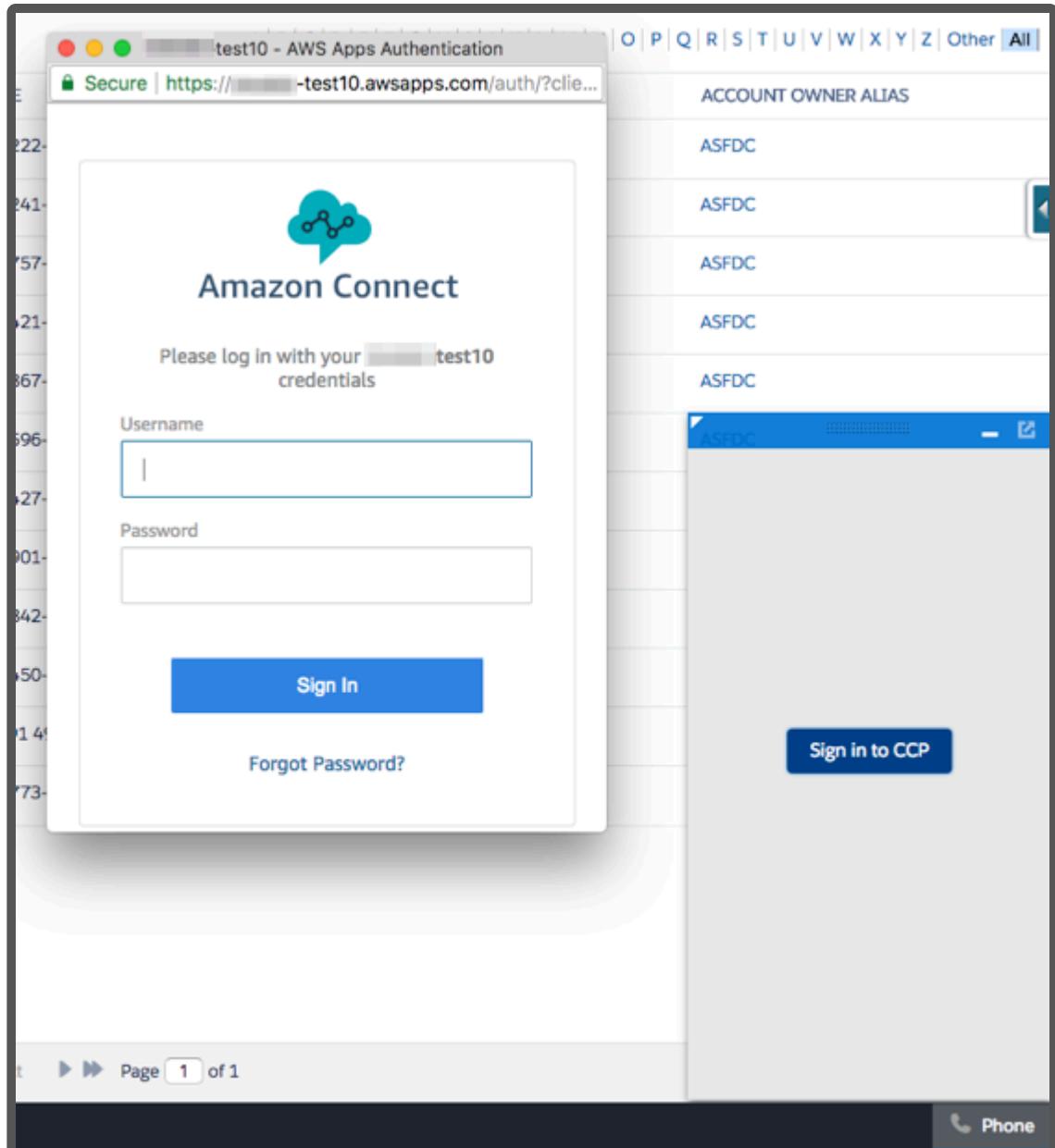
In the bottom-right corner, you will be able to see the Phone button.



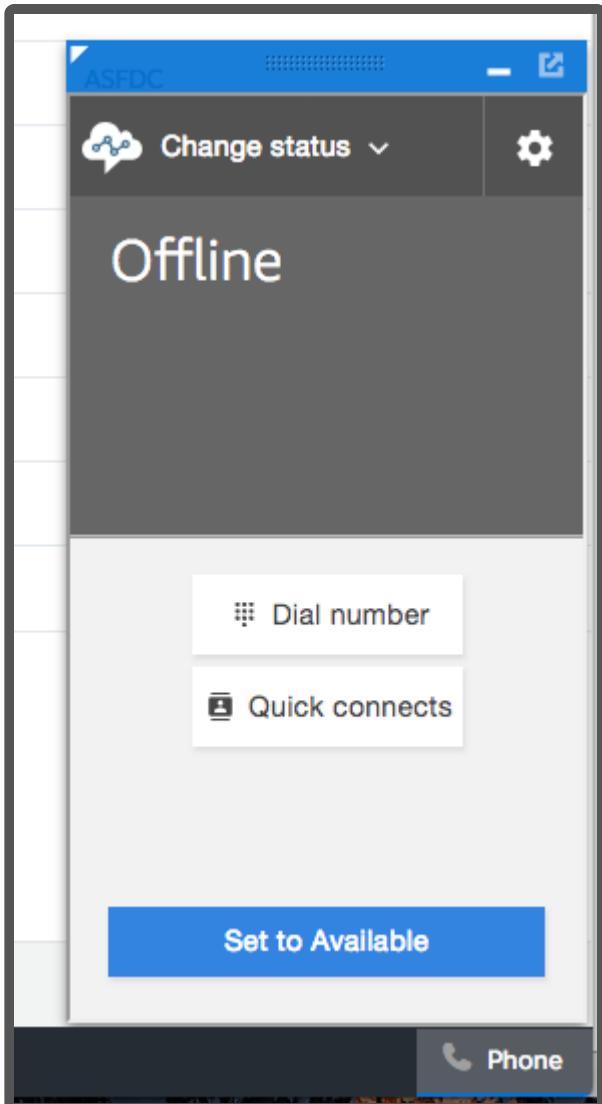
Click on the Phone button to open the softphone pop-up.



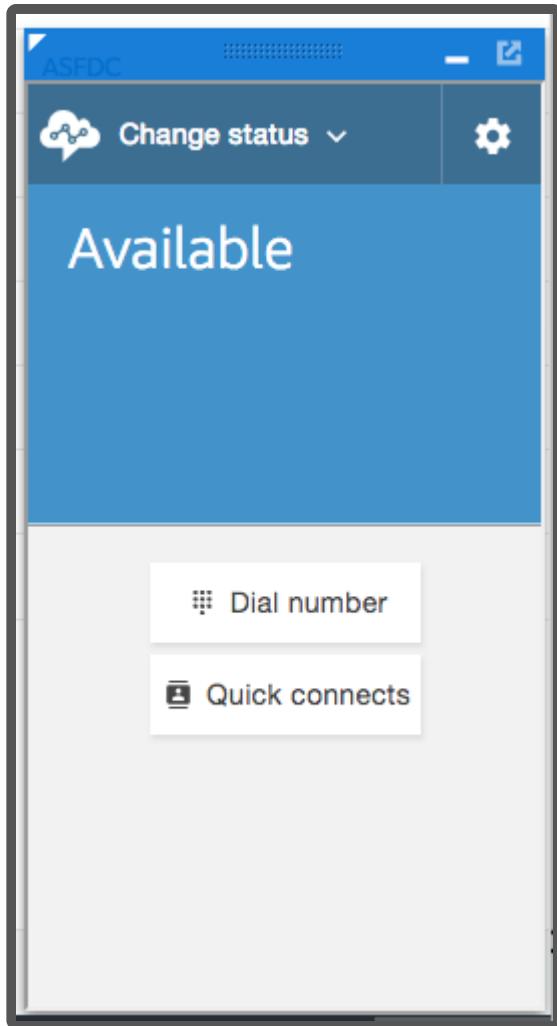
You will need to Sign in into your Amazon Connect CCP. Click on the Sign in to CCP button. A new modal pop-up will show, asking you to enter your credentials.



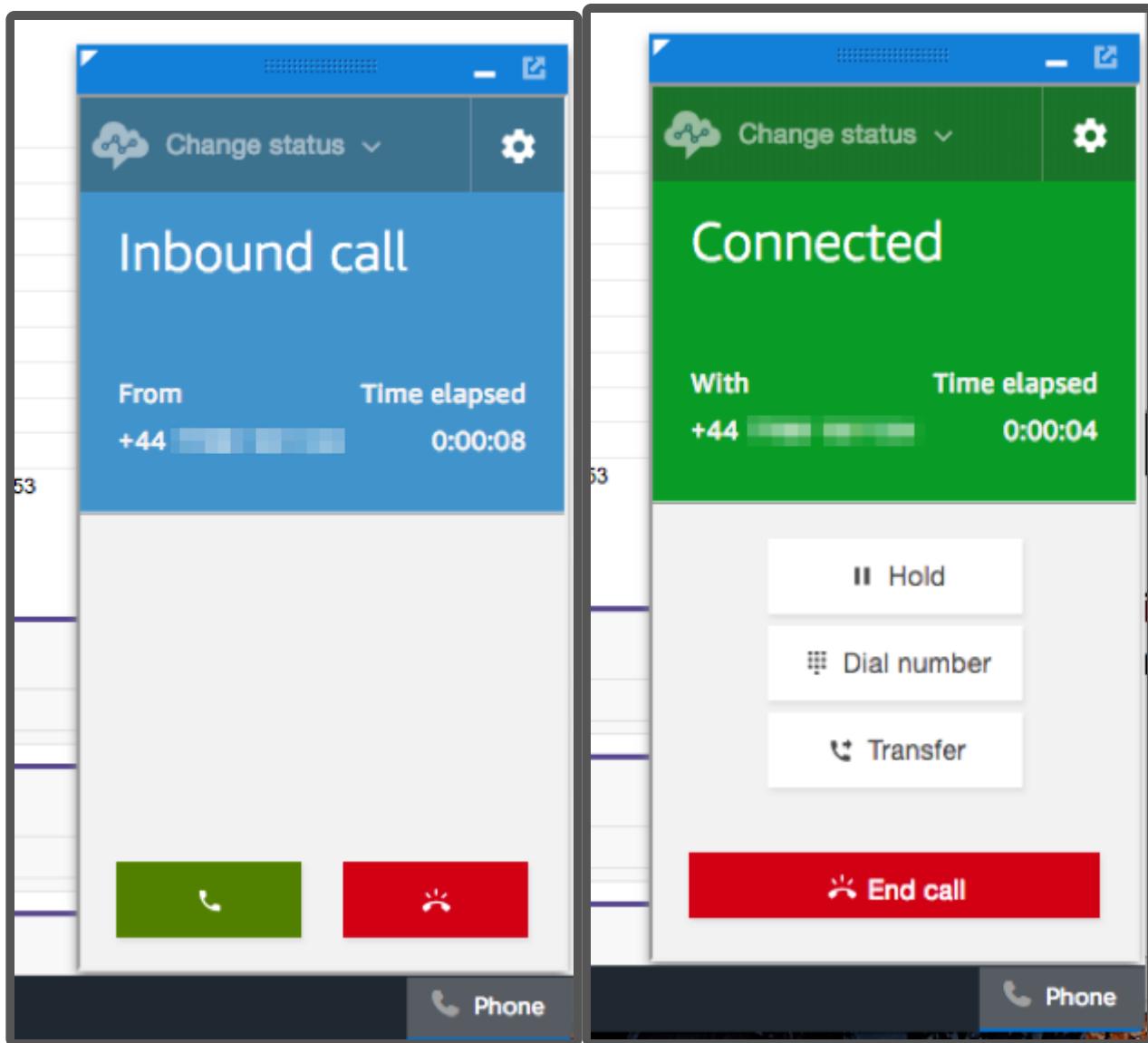
Enter your credentials and click Sign in. Allow Microphone access (if asked by browser). Once login is successful, the pop-up window will automatically close.



Select "Change status" and select "Available".



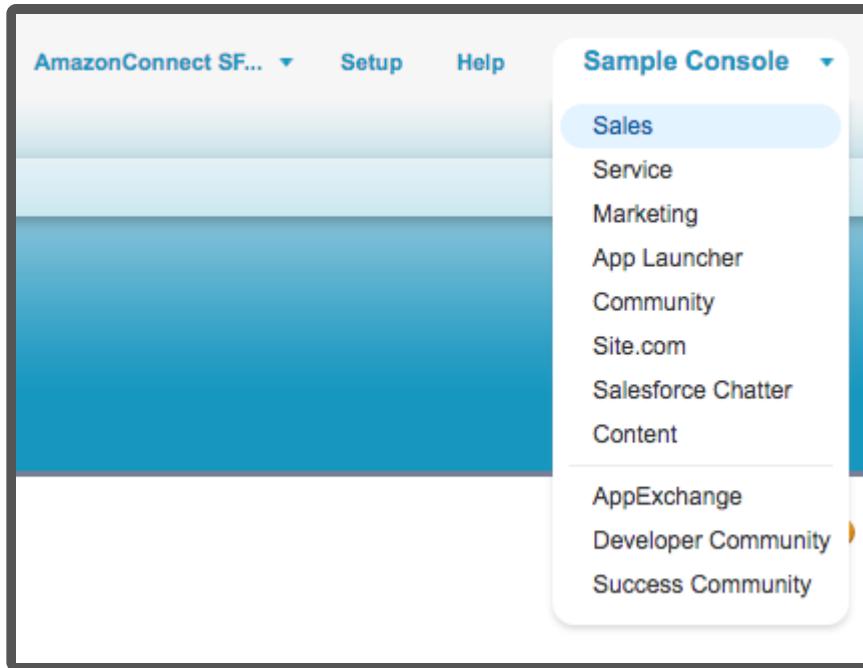
Make an inbound phone call to your Amazon Connect instance. The CCP is going to "ring" and you can answer the call.



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.

A screenshot of the "All Tabs" page within the Sales application. The top navigation bar includes links for Home, Chatter, Campaigns, Leads, Accounts, Contacts, Opportunities, Forecasts, Contracts, Orders, Cases, Solutions, Products, Reports, Dashboards, and a "+" icon. Below this, the title "All Tabs" is displayed. A "View:" dropdown shows "All Tabs". The page lists various tabs with icons: AC Contact Channel Analytics, AC Contact Trace Records, Accounts, AC CTI Adapters (which is highlighted with a red box), AC Real Time Queue Metrics, AC Voicemail Drops, Analytics, App Launcher, Documents, Duplicate Record Sets, Engagement Channel Types, External Managed Accounts, Files, Forecasts, Groups, and Home.

Select "AC CTI Adapters"

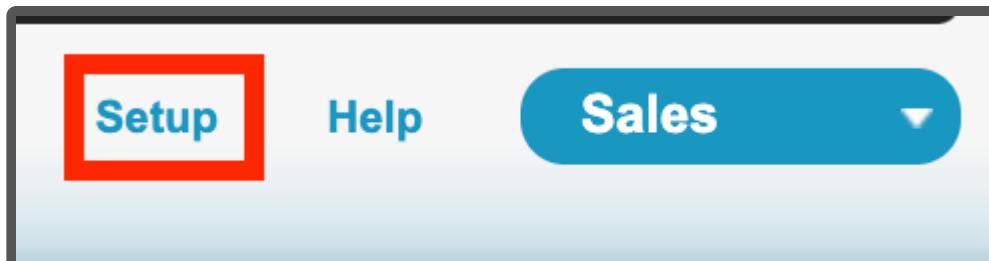
Create a new adapter. Fill in the CTI Adapter Name. For the Call Center Definition Name, type in ACConsoleAdapter. For the Amazon Connect Instance, type in the login url to the instance (this can be found in the Amazon Connect Instance details page), removing everything after ".com".

Overview

Telephony
Data storage
Data streaming
Application integration
Contact flows

Instance ARN: [REDACTED]
Directory: [REDACTED]
Service-linked role: AWSServiceRoleForAmazonConnect_x8eOtNYvgBDc9FIXHHQc [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:



Take Salesfo
Run your business

Visualforce Pages



Expand All | Collapse All

Build

Develop

Visualforce Pages

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

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

Visualforce Page
amazonconnect__AC_ClassicAdapter

Page Detail		Where is this used?	Preview	Name
Label	AC_ClassicAdapter			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:

The screenshot shows the Amazon Connect AWS console. On the left, there is a sidebar with the following menu items: Instances, Overview, Telephony, Data storage, Data streaming, Contact flows, Analytics tools, and **Approved origins** (which is highlighted in orange). The main content area has a breadcrumb navigation: Amazon Connect > guidedsetup-test-instance-w3dgh2 > Approved origins. The title of the page is "Approved domains". A sub-section titled "Domains" is shown, with a note: "Amazon Connect can integrate with other products including Customer Relationship Management (CRM) and Workforce Management (WFM). Add the origins (scheme + host + port) that Amazon Connect will need to have access to." Below this is a search bar labeled "Find resources" and a table header with a single visible column labeled "URL".

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

The screenshot shows a modal dialog box titled "Add domain". It has a text input field labeled "Enter domain URL" containing the value "https://f...visualforce.com". At the bottom right of the dialog are two buttons: "Cancel" and "Add domain" (which is highlighted in orange).

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.

[Edit](#) [Delete](#) [Add domain](#)

Find resources

URL

[https://\[REDACTED\].visualforce.com](https://[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 Classic interface. At the top, there's a blue header bar with the Salesforce logo, a user icon, and a search bar labeled "Search...". 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 "Call Centers" search bar and a "Build" section containing "Customize" and "Call Center" options, with "Call Center" being checked. The main pane displays a "Getting Started" section with a hammer icon and a "Recent Items" beta section at the bottom.

All Call Centers

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

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

Select "Amazon Connect CCP Adapter Classic 3.9"

Call Center Detail

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

General Information

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

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.

Call Center Users

[Manage Call Center Users](#)

Call Center Users by Profile

Total 0

Call Center

Amazon Connect CCP Adapter Classic: Manage Users

[All Call Centers](#) » [Amazon Connect CCP Adapter Classic](#) » [Manage Users](#)View: [All](#) [Create New View](#)[Add More Users](#) [Remove Users](#)

Full Name ↑

Alias

Username

No records to display.

Click on the "Add More Users" button.

Amazon Connect CCP Adapter Classic: Search for New Users

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

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

--None--	--None--		AND
--None--	--None--		

Filter By Additional Fields (Optional):

- You can use "or" filters by entering multiple items in the third column, separated by commas.
- For date fields, enter the value in following format: 23/05/2018
- For date/time fields, enter the value in following format: 23/05/2018 15:42

Find

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

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

Repeat the steps to add more users.

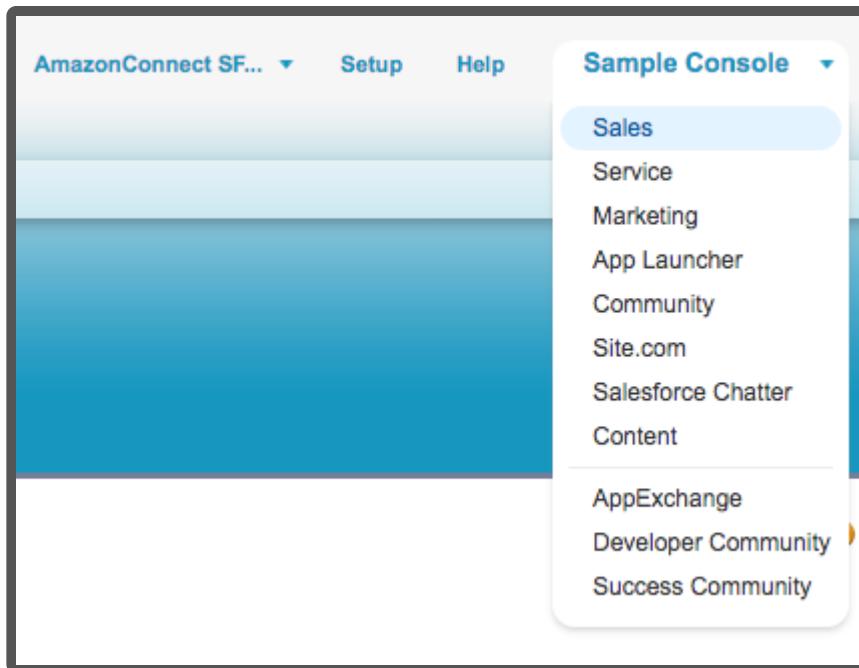
Amazon Connect CCP Adapter Classic: Manage Users

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

View: All **Create New View**

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

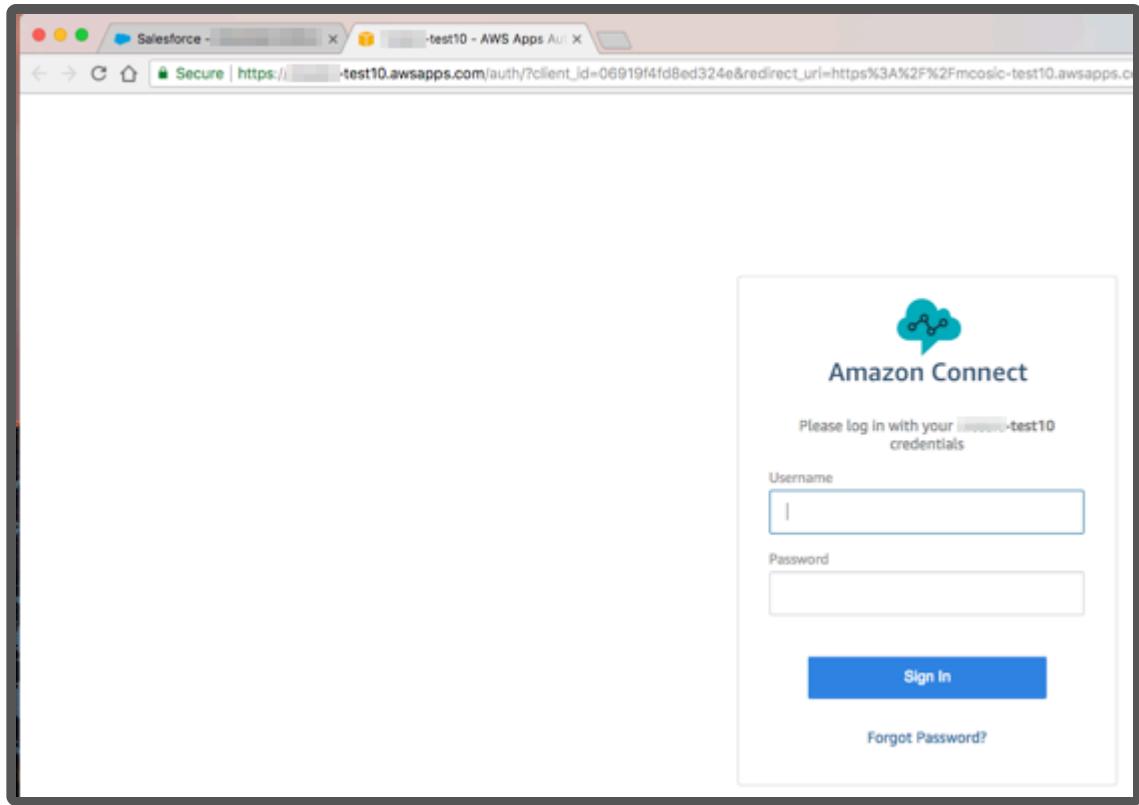
From the top-right corner, select Sales application.



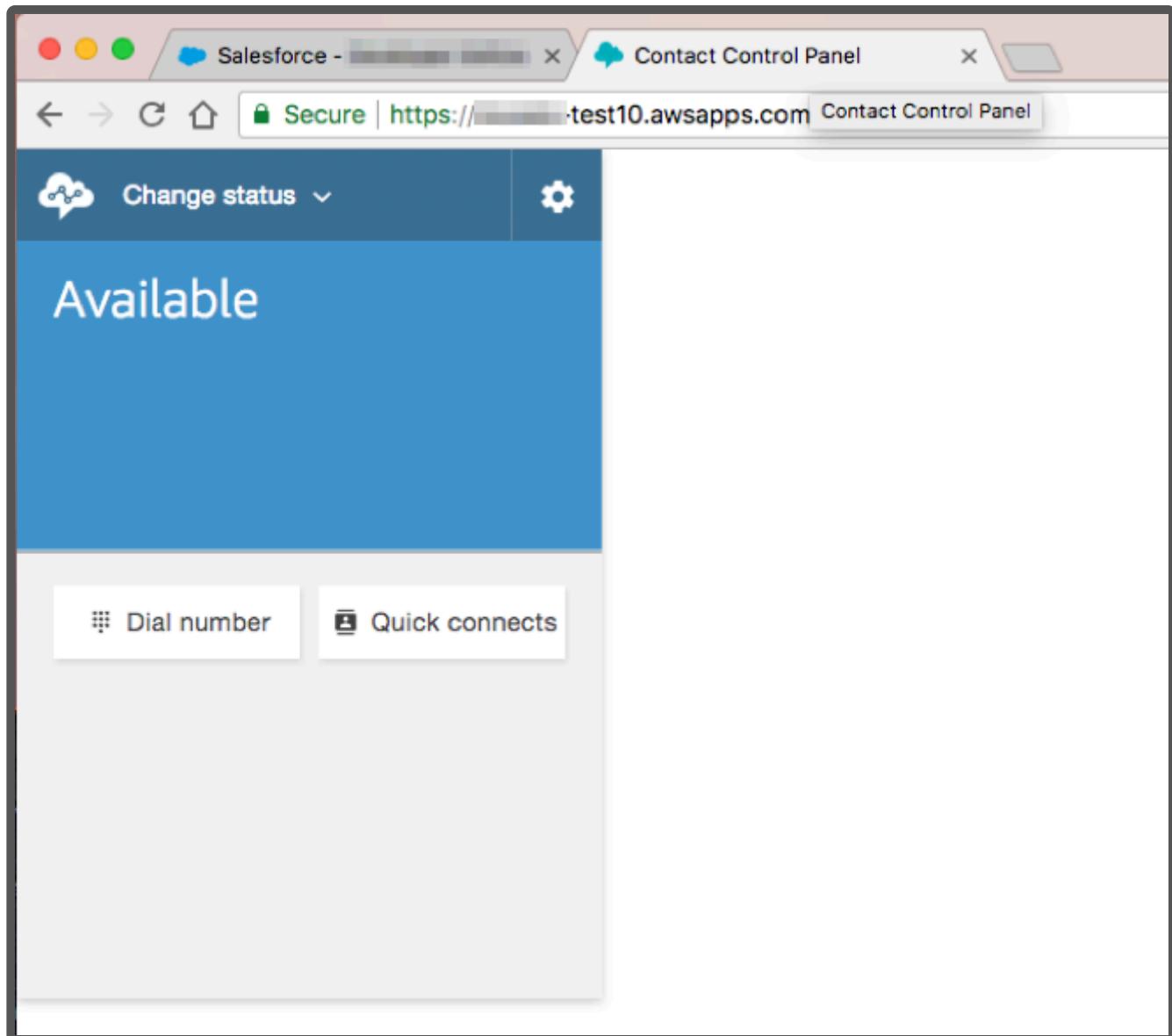
On the left-hand side, you will be able to see the Phone container.

A screenshot of the Salesforce Chatter interface. At the top, it shows the Salesforce logo, a user icon with '18', a search bar, and a 'Search' button. The navigation bar includes Home, Chatter, Campaigns, Leads, Accounts, Contacts, Opportunities, Forecasts, Contracts, Orders, and Cases. On the left, there's a sidebar with a 'Sign in to CCP' button and a 'Create New...' button. The main content area shows a feed for the group 'AmazonConnect SFCDryRun' from Wednesday, 23 May 2018. It has options to 'Post', 'File', 'New Event', and 'More'. A text input field says 'Share an update, @mention someone...'. Below it, there's a search bar and a 'Sort By Latest Posts' dropdown. It also says 'There are no updates.' At the bottom, there's 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.'

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.



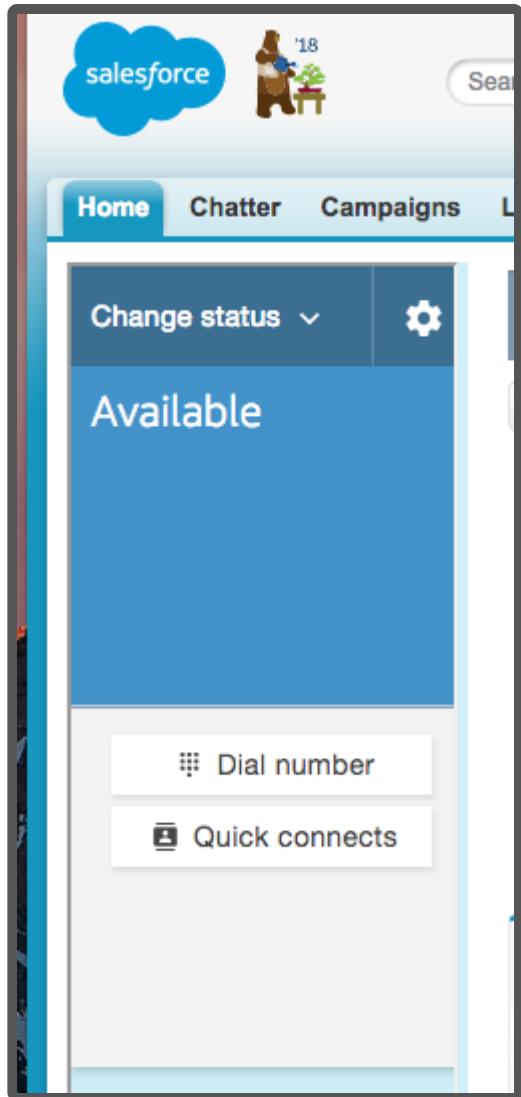
Enter your credentials and click Sign in. Allow Microphone access (if asked by browser). Once Login is successful, the new tab with CCP will stay open, as this tab is going to carry the audio for voice calls.



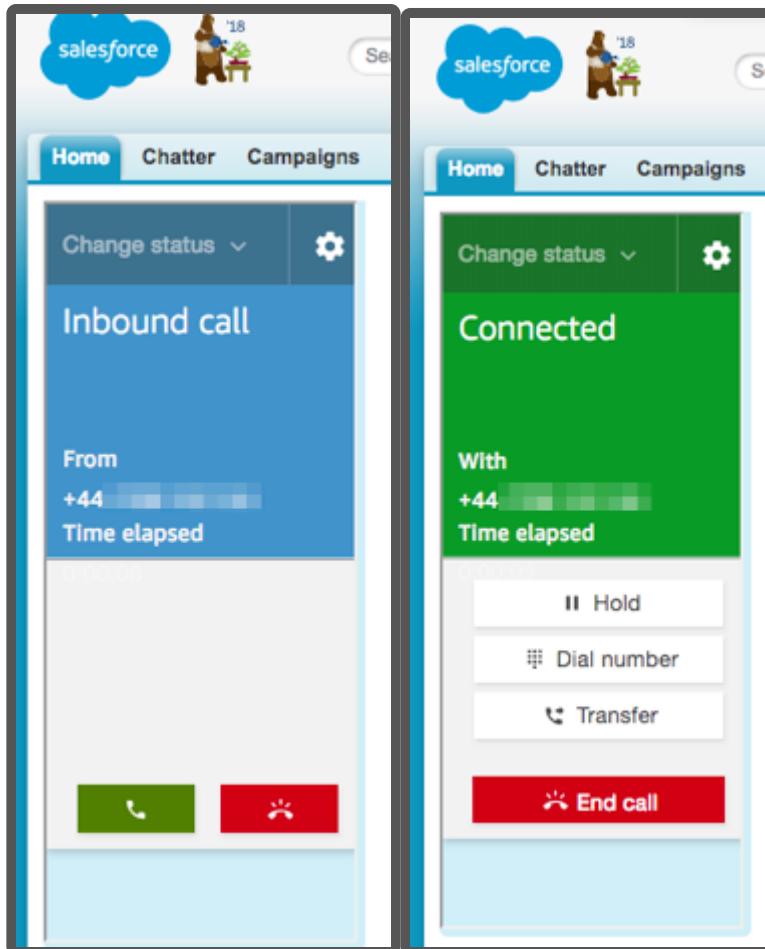
Switch back to Salesforce tab in your browser.

The screenshot shows the Salesforce Contact Control Panel interface. At the top, there's a navigation bar with links for Home, Chatter, Campaigns, Leads, Accounts, Contacts, Opportunities, Forecasts, Contracts, Orders, and Cases. On the left, a sidebar displays a "Change status" dropdown set to "Offline", a "Dial number" button, a "Quick connects" button, and a prominent blue "Set to Available" button. The main content area features a feed titled "AmazonConnect SFDCDryRun" from Wednesday, 23 May 2018. The feed includes options to Post, File, New Event, or More, and a text input field for sharing updates. Below the feed, a search bar and a sorting option ("Sort By Latest Posts") are visible. A message states "There are no updates." To the right, a calendar section shows "Today 23/05/2018" and a note that "You have no events scheduled for the next 7 days." A "New Event" button is located in the top right corner of the calendar area.

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 2nd tab. If the 2nd tab is closed, the audio will be lost. The 2nd CCP instance can also run in a separate browser window, if preferred.

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

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

Select "Amazon Connect CCP Classic"

Amazon Connect CCP Adapter Classic

All Call Centers » Amazon Connect CCP Adapter Classic

Call Center Detail

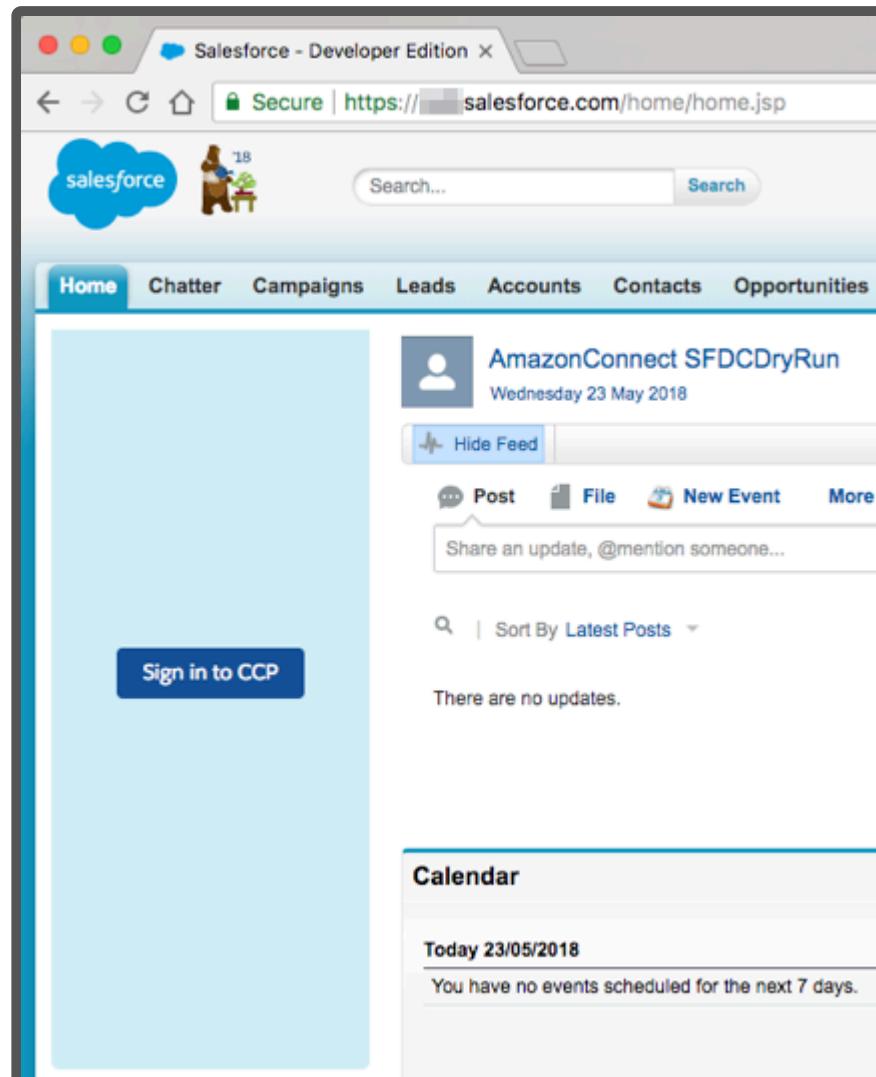
Edit Delete Clone

Amazon Connect Salesforce CCP Adapter

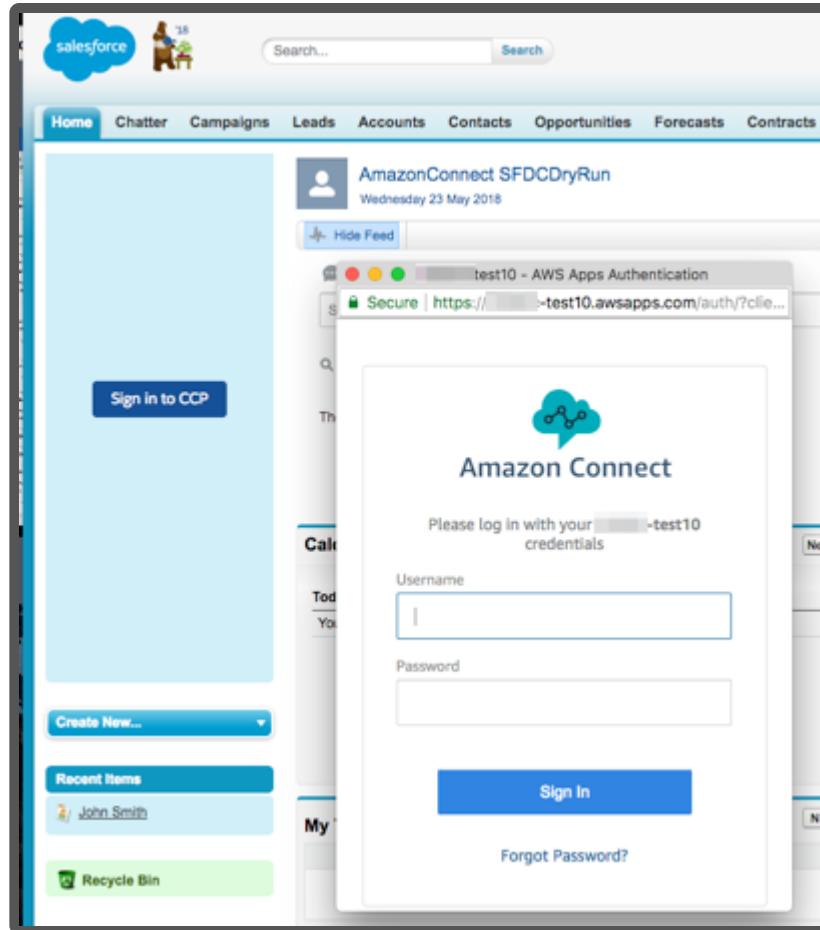
Internal Name	AmazonConnectSFCCPAdapterClassic
Display Name	Amazon Connect CCP Adapter Classic
Description	Amazon Connect Call Center
CTI Adapter URL	/apex/ACSFCCP_Classic
Use CTI API	true
Softphone Height	400
Softphone Width	250
Salesforce Compatibility Mode	Classic

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

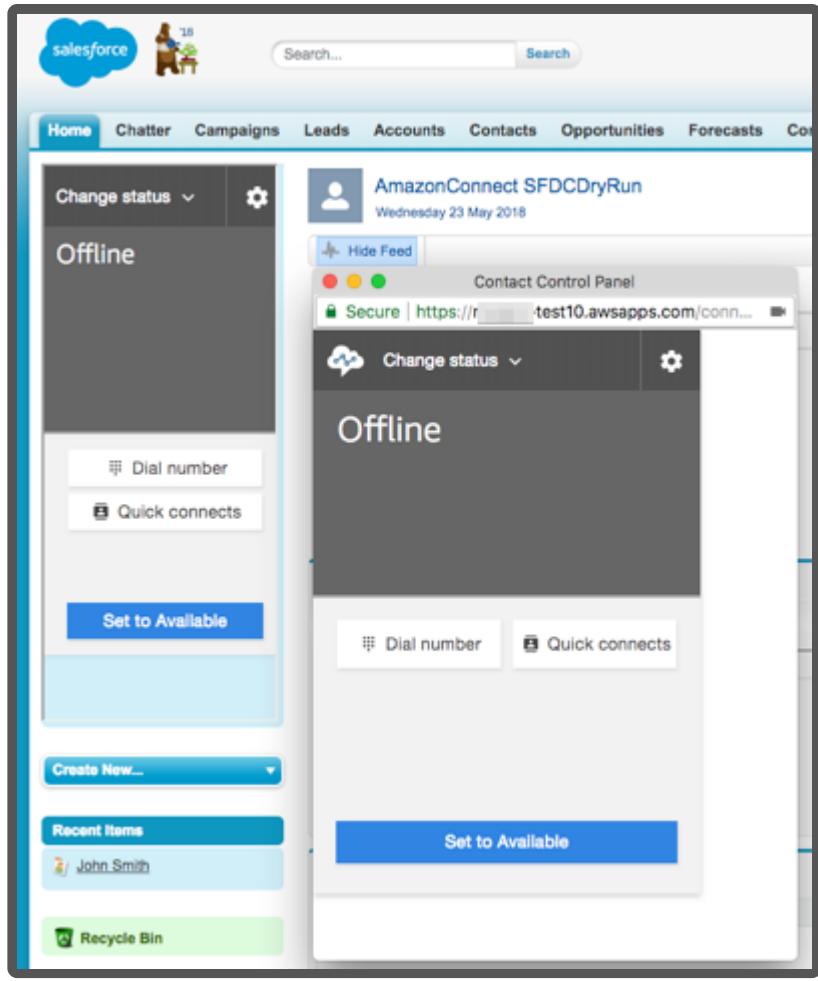
You may also notice that "Amazon Connect CCP Medialess" field is set to "true". This basically means that embedded CCP instance will not carry any media. Set the value to "true" and click on the Save button. Go back to Sales application. If CCP is already logged in, please log out.



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



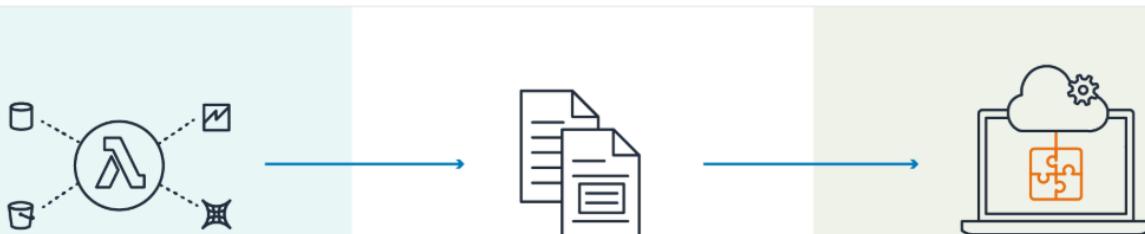
Enter your credentials and click Sign In. The CCP application will login, but popup window will stay open and it will host the 2nd CCP which will carry the audio stream. This window can be minimized or moved to 2nd screen.



Setting Up The Salesforce Lambdas Manually

Below are manual setup instructions for the Salesforce Lambdas.

How it works: Deploying applications



Search and discover

Browse or search the AWS Serverless Application Repository to find an application

Configure

Configure the application. You can set environment variables, parameter values, and more before deploying the app

Deploy and manage

Deploy the application to your AWS account. You can then manage it from the AWS Management Console

Salesforce Lambda Prerequisites

Consider the following prerequisites before you install the Lambda package.

Determine your production Environment

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

Determine your Consumer Key and Secret

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

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

1. Log in to Salesforce

2. Navigate to Setup > Create > Apps

The screenshot shows the Salesforce Setup interface under the 'Apps' tab. The 'Connected Apps' section is highlighted, showing a table with columns for Action, Connected App Name, Description, and Version. There is one entry: 'New' (Action), 'Connected App Integration' (Connected App Name), 'AWS Lambda Function' (Description), and '1.0' (Version). Below the table is a 'Connected Apps Help' link.

3. Click on the "New" button for the Connected Apps at the bottom of the page

4. In the following form, fill out the Connected App Name, API Name and Contact Email with values of your choice. We recommend "Amazon Connect Integration" as the Connected App Name and the default value for the API name.

New Connected App

Basic Information

Connected App Name	<input type="text" value="Amazon Connect Integration"/>
API Name	<input type="text" value="Amazon_Connect_Integration"/>
Contact Email	<input type="text"/>

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"

▼ API (Enable OAuth Settings)

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](#)

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

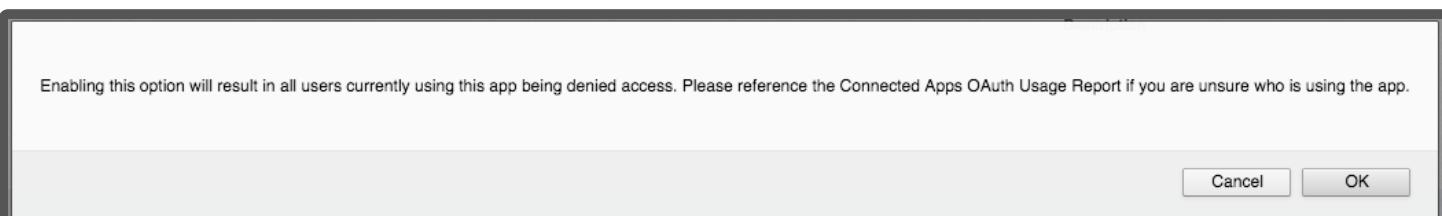


14. On the page that appears, click "Edit Policies"

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"

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.

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)

The screenshot shows the 'New Profile' dialog box. At the top, there is a message: 'Enter the name of the new profile.' Below it, a warning message says: 'You must select an existing profile to clone from.' The form fields are as follows:

- Existing Profile:** A dropdown menu showing 'System Administrator'.
- User License:** A dropdown menu showing 'Salesforce'.
- Profile Name:** An input field containing 'API Only'.

At the bottom right of the dialog are two buttons: 'Save' and '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:

The screenshot shows the profile details for 'API Only'. At the top, it says 'Profile API Only' and has a 'Back to List: Profiles' link. Below that, it states: '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.' It also notes: '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.' A horizontal bar of permissions follows, including: Login IP Ranges [0], Enabled Apex Class Access [2], Enabled Visualforce Page Access [11], Enabled External Data Source Access [0], Enabled Named Credential Access [0], Enabled Service Presence Status Access [0], and Enabled Custom Permissions [0]. The 'Profile Detail' section shows:

Name	API Only
User License	Salesforce
Description	

With buttons for 'Edit', 'Clone', 'Delete', and 'View Users'. To the right, it says 'Custom Profile' with a checked checkbox. At the bottom right is a 'New' button.

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

The screenshot shows the 'System' tab selected in the navigation bar. Below it, a section titled 'System Permissions' is shown with the sub-instruction: 'Permissions to perform actions t...'.

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

The screenshot shows a single checkbox labeled 'Lightning Experience User'. The checkbox is currently unchecked.

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

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

The screenshot shows the 'System' settings page. On the left, there's a sidebar with a link to 'Learn More' about system settings. The main area lists several configuration sections: 'System Permissions' (Permissions to perform actions), 'Login Hours' (Settings that control when users can log in), 'Login IP Ranges' (Settings that control the IP addresses), 'Service Providers' (Permissions that let users switch to other providers), 'Session Settings' (Settings that control required session timeout), 'Password Policies' (Profile Based password policies, which is highlighted with a red box), and 'Default Experience' (Setting for assigning a default communication experience). Below this is the 'Password Policies' edit screen.

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"/>

Buttons: Edit, Clone, Delete, View Users

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

The screenshot shows the 'Password Policies' edit screen. The 'User password expire in' dropdown is set to 'Never expires'. Other settings include: '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), and two unchecked checkboxes for 'Obscure secret answer for password resets' and 'Require a minimum 1 day password lifetime'. There is also a checked checkbox for 'Don't immediately expire links in forgot password emails'.

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	Amazon Connect Integration

15. Click "Manage Profiles"

Profiles

No profiles associated with this app. Manage Profiles

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

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"/> i
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="<None Specified>"/>	i
User License	<input type="text" value="Salesforce"/>	i
Profile	<input type="text" value="API Only"/>	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. 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', and 'Permission Sets' (which is selected). Below that are 'Custom Code' and 'Custom Permissions'. A note says ' 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.' and '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'. There are buttons for 'All' (with dropdown), '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 red box highlights the 'AC Administrator' row.

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 the Salesforce logo. The main heading is 'Welcome to Salesforce!'. Below it is the text 'Click below to verify your account.' followed by a large blue button with the text 'Verify Account'. 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?

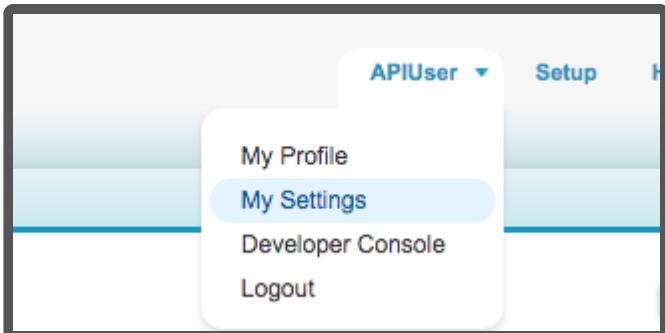
* Answer

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



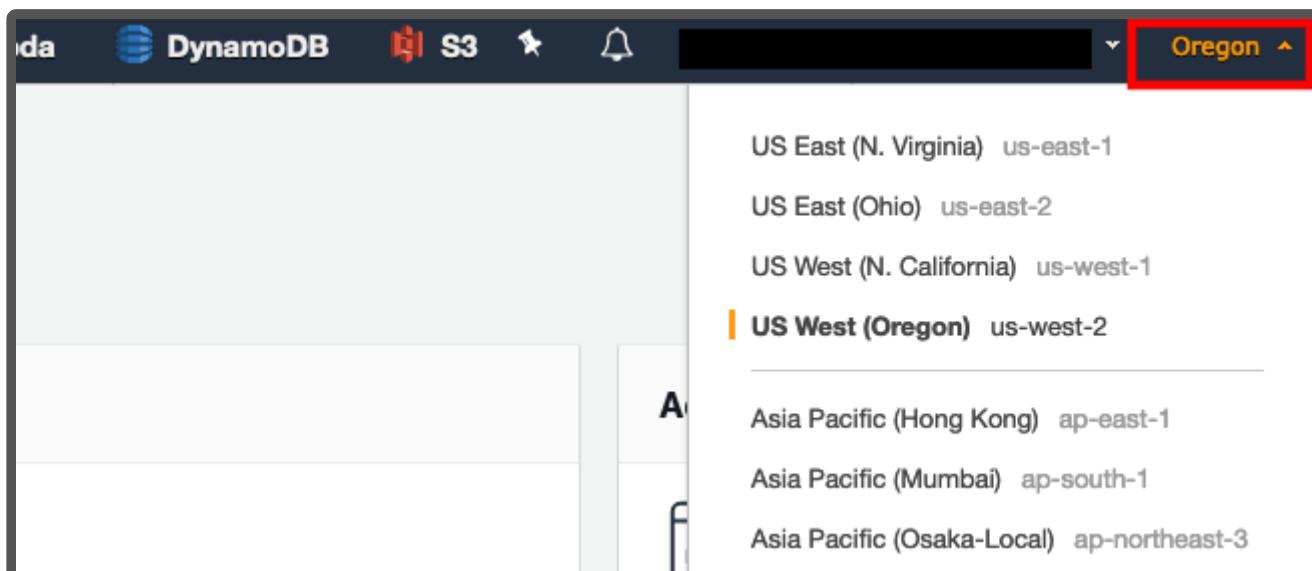
Allow Authorization Code and Credentials Flows



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
v5.22	v5.22
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/>)

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

4. Select AmazonConnectSalesForceLambdas and click "Deploy"

AmazonConnectSalesForceLambdas — Version

Review details and configure parameters below to deploy the application

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

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. **LambdaLoggingLevel:** 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 console interface. In the top left, it says 'Lambda > Functions'. Below that, there's a search bar with 'Add filter' and a dropdown menu with 'keyword : aws-serv' and a close button. The main area is titled 'Functions (31)' with a refresh icon. It has columns for 'Function name', 'Description', and 'Runtime'. One function is listed: 'aws-serverless-repository-AmazonConnec-sfInvokeAPI-2R3T34AMGSWS' (Python 3.6).

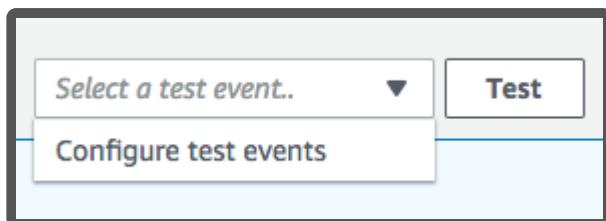
8. The package provides a single Lambda function (sfInvokeAPI) that supports multiple operations, like lookup, create and update. For the initial validation, sample events are provided within the function. Click on the function name and check the list of files in the editor.

The screenshot shows the AWS Lambda function editor. On the left, there's a sidebar labeled 'Environment' with a small icon. 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.

```
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

eventLookup ▾

Test

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

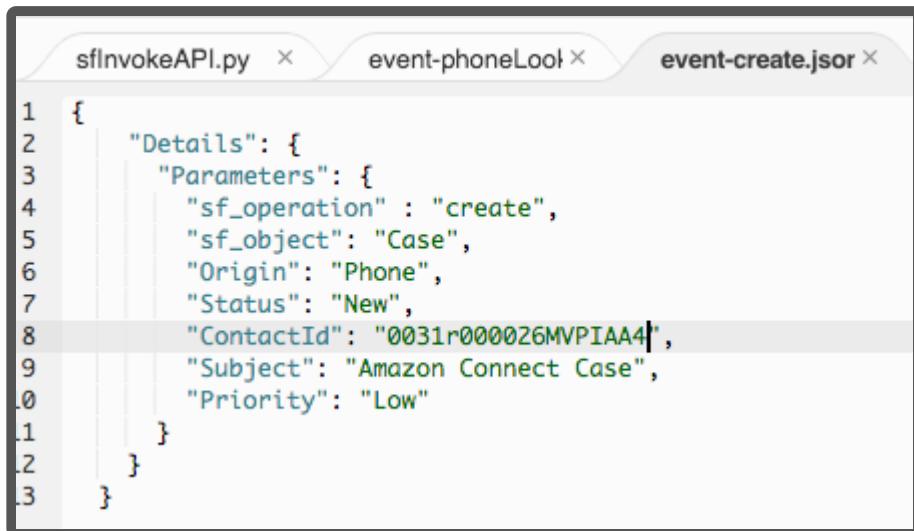
 Execution result: succeeded ([logs](#))

▼ Details

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

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

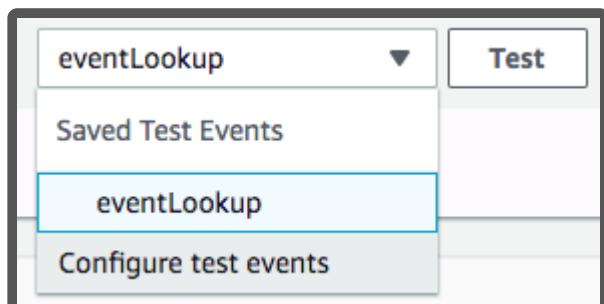
15. As a next step, we are going to use the ContactId provided and create a Case in Salesforce. Double-click on "event-create.json" file and set the ContactId value from the previous step. Copy the JSON text into your clipboard.



event-create.json

```
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

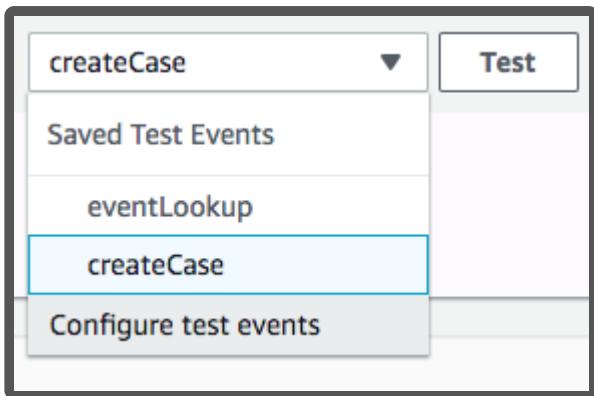
The area below shows the result returned by your function execution.

```
{  
  "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:

```
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 the 'Configure test event' dialog box. At the top, it says 'Configure test event' and has a close button. Below that, a message states: '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.' There are two radio buttons: 'Create new test event' (unchecked) and 'Edit saved test events' (checked). Under 'Saved Test Event', there is a dropdown menu with 'closeCase' selected. Below the dropdown is a code editor window displaying the JSON payload from the previous step:

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

24. Click "Create" button

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

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.

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.

SETUP > OBJECT MANAGER
AC CTI Adapter

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

SETUP > OBJECT MANAGER
AC CTI Adapter

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**.

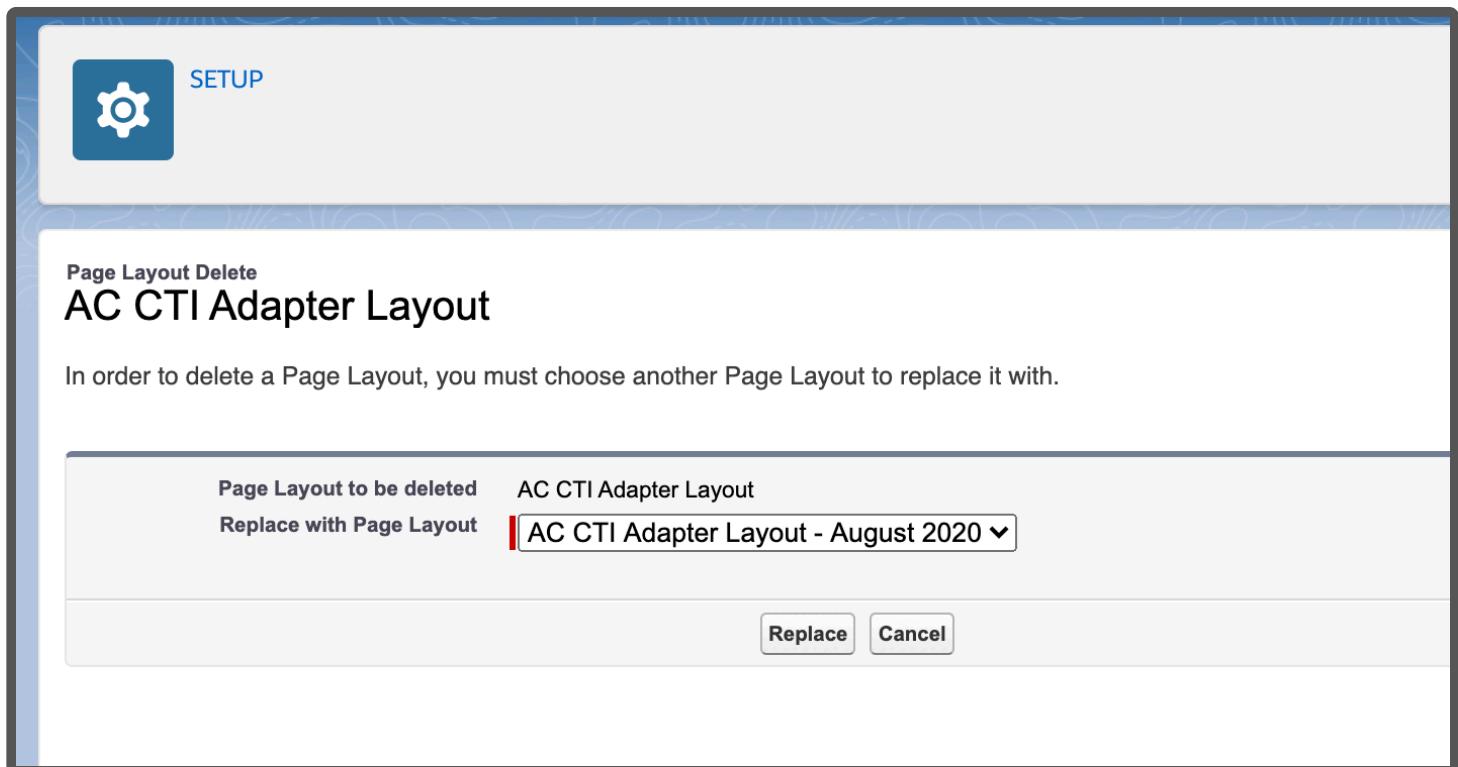
Deletion problems

Back to Previous Page

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

A red arrow points from the word "Delete" in the error message to the "Delete" button.

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 & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Delete & Lock Page 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 & 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

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.

14. Click **Download** and save your script before clicking **Continue**.

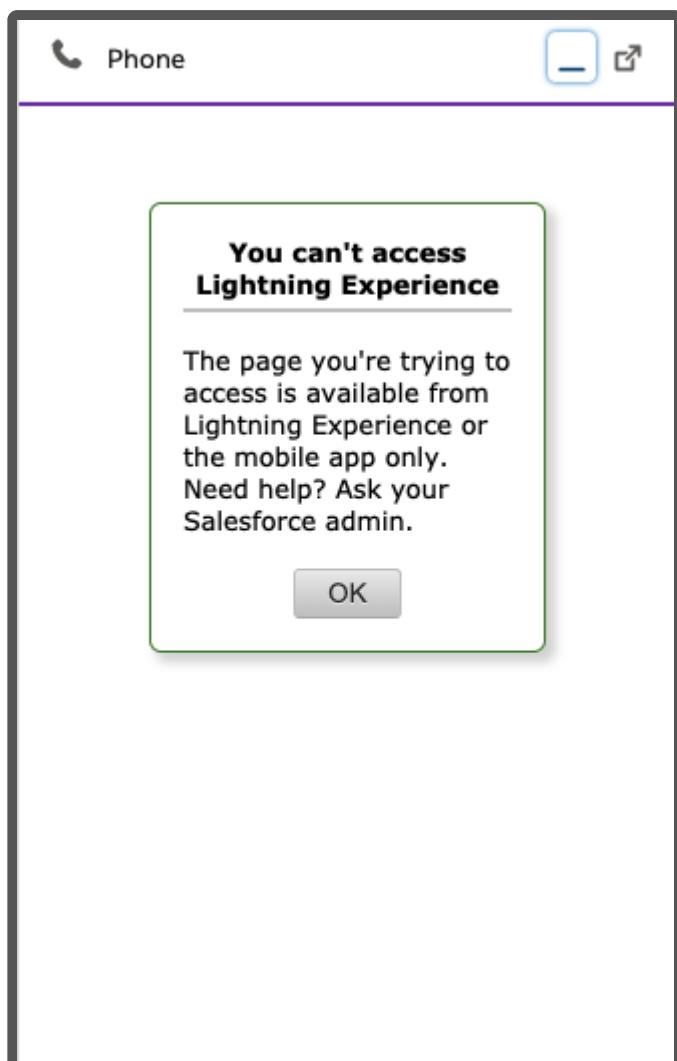
15. Use the CTI Block primitives in the editor to re-create your script as a CTI Flow.

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.

The screenshot shows the Salesforce Setup interface under the Session Settings tab. In the Clickjack Protection section, there are four checkboxes:

- Enable clickjack protection for Setup pages (unchecked)
- Enable clickjack protection for non-Setup Salesforce pages (checked)
- Enable clickjack protection for customer Visualforce pages with standard headers (unchecked)
- Enable clickjack protection for customer Visualforce pages with headers disabled (unchecked)

A red arrow points to the second checkbox, "Enable clickjack protection for non-Setup Salesforce pages". A tooltip for this checkbox states: "Protect against clickjack attacks and allow framing on whitelisted external domains".

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.

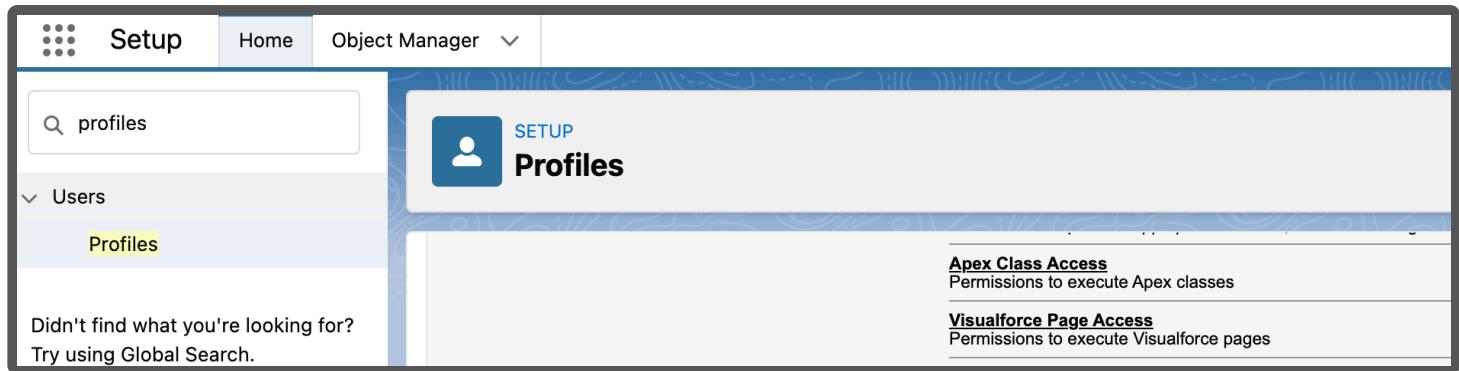
All screenpop functionality native to v3 now needs to be recreated using CTI Flows. Please review the [CTI Flow Examples](#) for more details, all screenpop functionality from v3 has been recreated.

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?

The screenshot shows the 'Edit Toolkit for Amazon Connect' interface. At the top right are 'Save' and 'Cancel' buttons. Below is a section titled 'Toolkit for Amazon Connect Information' with a 'Location' header. Under 'Location', there are four checkboxes labeled 'Disable the CCA Case Trigger', 'Disable the CCA Contact Trigger', 'Disable the Case Contact CCA Trigger', and 'Disable the Task Trigger', all of which are checked. Below these is a 'Url' field with a placeholder 'http://'. At the bottom right of the form are 'Save' and 'Cancel' buttons.

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.

The screenshot shows the 'AC CTI Adapter Detail' configuration page. At the top right are 'Edit', 'Delete', and 'Clone' buttons. The page displays various adapter settings:

- CTI Adapter Name: ACLightningAdapter
- Amazon Connect Instance: https://sfadaptest.awsapps.com/
- Custom Ringtone: (checkbox checked)
- Softphone Popout Enabled: (checkbox checked)
- Mediiless: (checkbox unchecked)
- Audio Device Settings: (checkbox unchecked)
- Owner: (user icon)
- Amazon Connect Instance Region: us-east-1
- Call Center Definition Name: ACLightningAdapter
- Debug Level: Off
- Presence Sync Enabled: (checkbox checked)
- Phone Type Settings: (checkbox checked)

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=0sp0N00000Caid
```

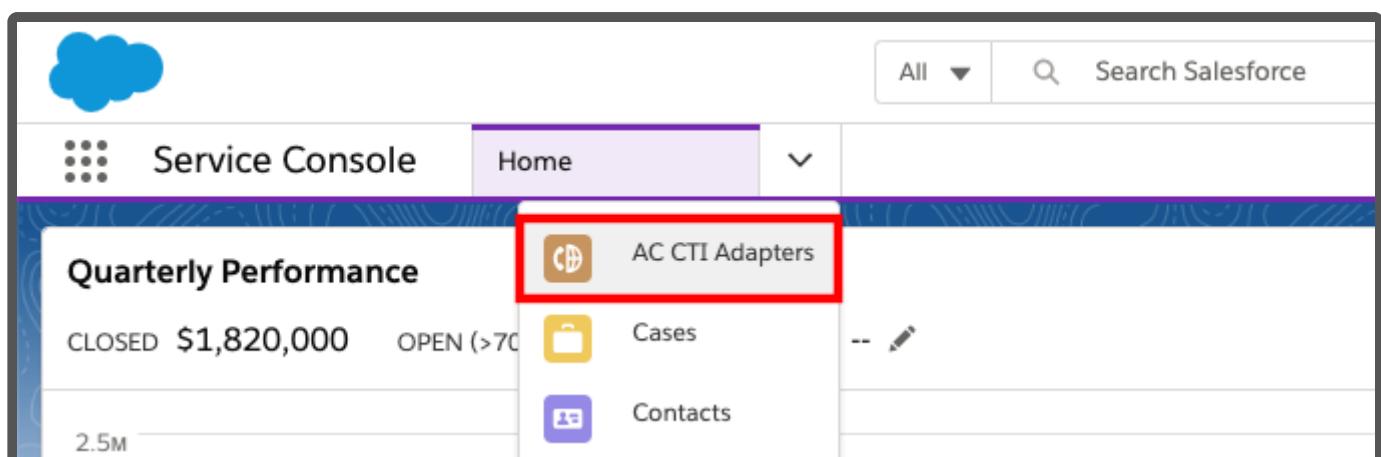
The 'RelayState' will be in the following format (replace **us-west-2** with the region you are using):

<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 mar 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 statue 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

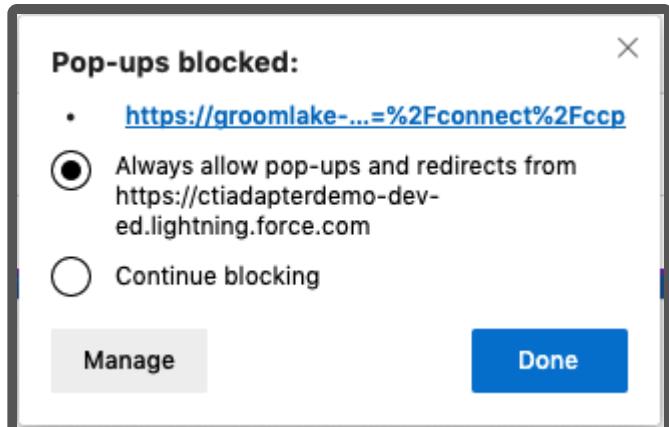
SSO Relay State

```
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

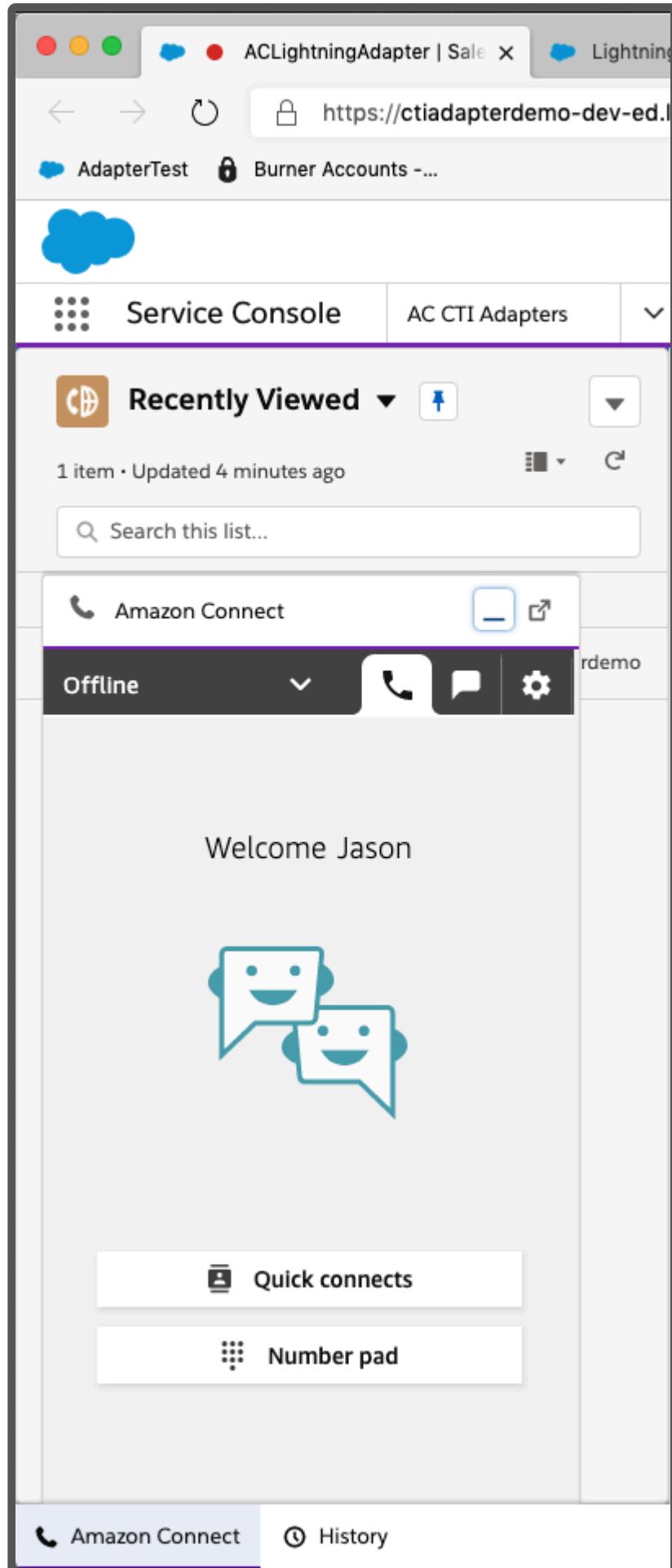
a. **NOTE:** If you receive a blocked popup warning, select the warning and change the setting to always allow popups from your Salesforce org, then refresh the browser again



11. 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 are handled quickly. You can manage your agents' capacity and availability for work to ensure that they're given assignments that they can handle. You can also define which agents can work on different types of work items. Omni-Channel routes all of these assignments to the correct agents automatically. Agents no longer have to work items manually from a queue, and managers no longer have to triage or dispatch work to 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](#).

The screenshot shows the 'Omni-Channel Settings' page. At the top, there is a button labeled 'Show diagram ▾'. Below it, a section titled 'First, you need to enable Omni-Channel. Then, [create Service Channels](#)' is displayed. A large orange arrow points to the 'Enable Omni-Channel' checkbox, which is checked. To the right of the checkbox, the text 'This must be checked' is written in red. At the bottom of the form, there are 'Save' and 'Cancel' buttons.

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

Save Cancel

looking for?

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	Available	
Edit	Break	
Edit	Day_Dreaming	
Edit	Lunch	
Edit	Offline	
Edit	Wrap Up	

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 accept 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</p><p>Outbound Campaign Chan</p></div>
<p>Add </p> <p> Remove</p>	

Save Cancel

Configure Enabled Service Presences Status Access

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

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

The screenshot shows the Salesforce Setup interface for managing profiles. The top navigation bar includes a purple user icon, the word "SETUP", and the title "Profiles". Below the navigation, there are three sections: "StdExceptionTemplate", "Unauthorized", and "UnderConstruction". The next section is "Enabled External Data Source Access", which displays "No External Data Sources enabled" and an "Edit" button. The following section is "Enabled Named Credential Access", showing "No Named Credential enabled" and an "Edit" button. The final section is "Enabled Service Presence Status Access", which is highlighted with a yellow background. This section contains a table with one row, where "Service Presence Status Name" is listed as "Available", "Day_Dreaming", "Offline", and "On Break". A red box highlights the "Service Presence Status Name" column, and a red arrow points to the "Edit" button. To the right of the table, the text "Matches Connect Statuses" is displayed in orange.

Service Presence Status Name
Available
Day_Dreaming
Offline
On Break

Enabled Custom Permissions

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

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

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

▼ Single SignOn (SSO)

SSO Url
SSO Relay State

▼ Customizations

User Defined
Created By [Bomi Lee](#), 8/3/2020, 1:19 PM

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

Attributes

[New AC CTI Attribute](#)

No records to display

CTI Flows

[New AC CTI Flow](#)

No records to display

Presence Sync Rules

[New AC Presence Sync Rule](#)

No records to display

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:

AC Presence Sync Rule Edit
Connect agent switches to Lunch

Save Save & New Cancel

Information

Presence Sync Rule Name	Connect agent switches
CTI Adapter	ACClassicAdapter
Source	Connect Agent State Change
Operand A	Connect Agent New State
Operand A Value	
Comparator	Equal to
Destination	
Operand B	Salesforce Agent State
Operand B Value	Lunch
Value	Lunch

Active

Save Save & New Cancel

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.

The screenshot shows the Amazon Connect Sample Console interface. At the top left is the 'AmazonConnect SF...' logo with a dropdown arrow. Next to it are 'Setup' and 'Help' links. On the right is a dropdown menu labeled 'Sample Console' with a list of options: Sales (highlighted in blue), Service, Marketing, App Launcher, Community, Site.com, Salesforce Chatter, Content, AppExchange, Developer Community, and Success Community.

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.

The 'All Tabs' page displays a grid of tabs with their corresponding icons and names. The tabs are arranged in two columns. The first column includes: AC Contact Channel Analytics (calculator icon), AC Contact Trace Records (document icon), Accounts (envelope icon), AC CTI Adapters (globe icon, highlighted with a red box), AC Real Time Queue Metrics (computer monitor icon), AC Voicemail Drops (phone receiver icon), Analytics (bar chart icon), and App Launcher (grid icon). The second column includes: Documents (document icon), Duplicate Record Sets (list icon), Engagement Channel Types (person icon), External Managed Accounts (building icon), Files (cloud icon), Forecasts (chart icon), Groups (people icon), and Home (house icon).

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

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

The 'Attributes' section shows a table with one row. The first column is labeled 'Attributes' and contains the text 'No records to display'. The second column contains a single button labeled 'New AC CTI Attribute' with a red box drawn around it.

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

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

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

8. Select Text as the **Type**

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

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

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

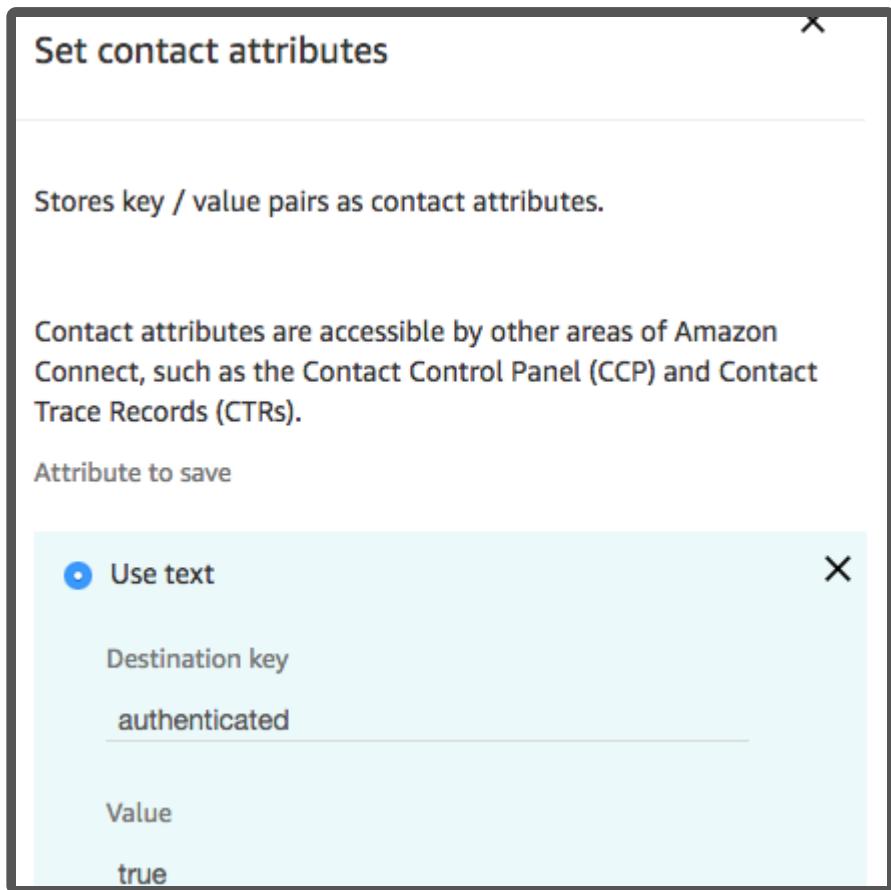
12. Choose **Save**

The screenshot shows the 'AC CTI Attribute Edit' dialog box. Under the 'Information' tab, the following settings are visible:

- CTI Adapter: ACClassicAdapter
- CTI Attribute Name: Authenticated
- Label: Is Authenticated?
- Type: Text
- Format: {{authenticated}}
- Default Value: unk
- Display: Key-Value
- Style: color:red
- Active: checked

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

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:



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

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

Attributes

Is Authenti... bfc5c3t



[« Back to List: C](#)

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](#)

CTI Adapter Name **ACClassicAdapter**

Owner

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

Amazon Connect Instance Region

Custom Ringtone

Call Center Definition Name

Softphone Popout Enabled

Debug Level

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:

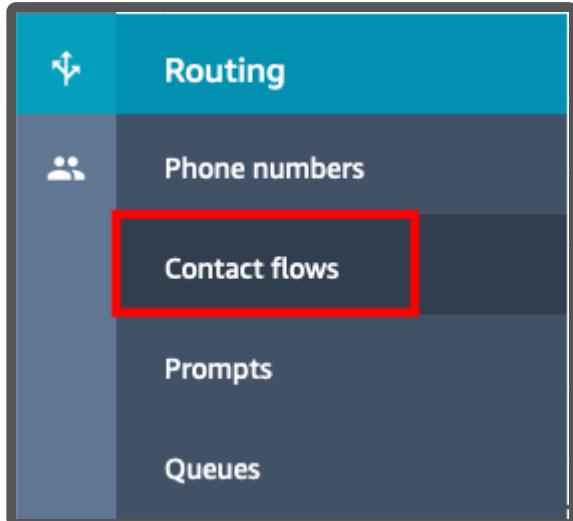
The screenshot shows the AWS CloudFormation console with the 'Parameters' tab selected. A table lists 25 parameters, with one specific parameter, 'PostcallRecordingImportEnabled', highlighted by a red box. The 'Value' column for this parameter is also red.

Key	Value
AmazonConnectInstanceId	
AmazonConnectQueueMaxRecords	
AmazonConnectQueueMetricsMaxRecords	
CTREventSourceMappingMaximumRetryAttempts	
CTRKinesisARN	
ConnectRecordingS3BucketName	
ConnectReportingS3BucketName	
HistoricalReportingImportEnabled	
LambdaLoggingLevel	
PostcallCTRImportEnabled	
PostcallRecordingImportEnabled	true

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

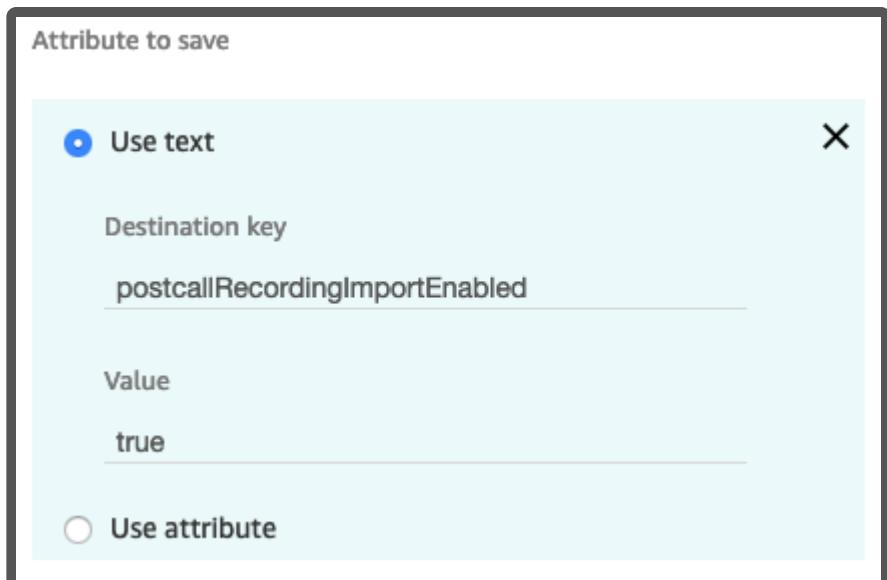
Enabling call recording streaming

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. The left sidebar has 'Users' expanded, with 'Permission Sets' selected. A search bar at the top contains 'Perm'. The main content area is titled 'Permission Sets' and shows a permission set named 'AC_CallRecording'. The 'Manage Assignments' button is highlighted with a red box. Below it is 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). At the bottom, there's an 'Apps' section with 'Assigned Apps' and 'Assigned Connected Apps'.

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

 **SETUP**

Permission Sets

Assign Users

All Users

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

Action	Full Name ↑	Alias	Username
<input type="checkbox"/> Edit			
<input checked="" type="checkbox"/> Edit Login			
<input checked="" type="checkbox"/> Edit Login			
<input checked="" type="checkbox"/> Edit Login			
<input type="checkbox"/> Edit Login			
<input type="checkbox"/> Edit Login			
<input type="checkbox"/> Edit Login			
<input type="checkbox"/> Edit Login			

[Assign](#) | [Cancel](#)

Enable call recording streaming on the Contact Channel Analytics page

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

 '21  Search... [Search](#) [Switch to Lightning Experience](#)

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

- AC Contact Channel Analytics**
- AC Contact Trace Records
- Accounts
- AC CTI Adapters
- AC Guided Setup
- AC Voicemail Drops
- App Launcher
- Article Management
- Individuals
- Knowledge
- Leads
- Libraries
- Licenses
- List Emails
- Locations
- Location Trust Measures

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 links: Buttons, Quick Actions, Mobile & Lightning Actions, Expanded Lookups, Related Lists, Report Charts, and Visualforce Pages (which is highlighted). On the right, there is a "Quick Find" search bar and a list of items. The "Blank Space" item is currently selected. Other items listed include "Section", "ACSFCCP_CallTask", "ACSFCCP_PostCallU...", "AC_CallRecordingTask", and "ACSFCCP_CallRecor...".

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 with a play button, a progress bar showing "0:00 / 0:00", and a volume icon. Navigation buttons at the bottom include "Edit", "Delete", "Create Follow-Up Task", and "Create Follow-Up Event".

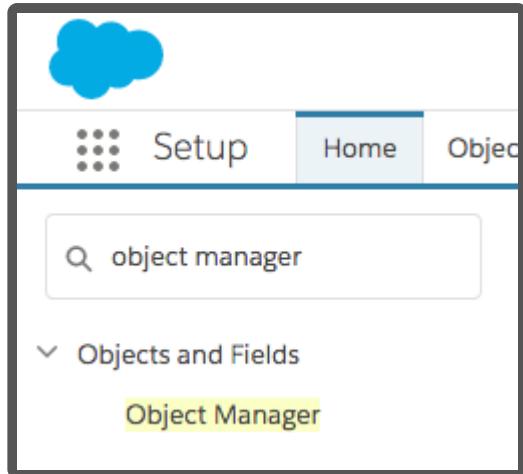
4. To have access to the recording, the user must have an active session with Amazon Connect. This can be achieved by either logging in to the CCP softphone, or by logging in to Amazon Connect outside of Salesforce. After the session is established, a page refresh should make the player appear.

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.

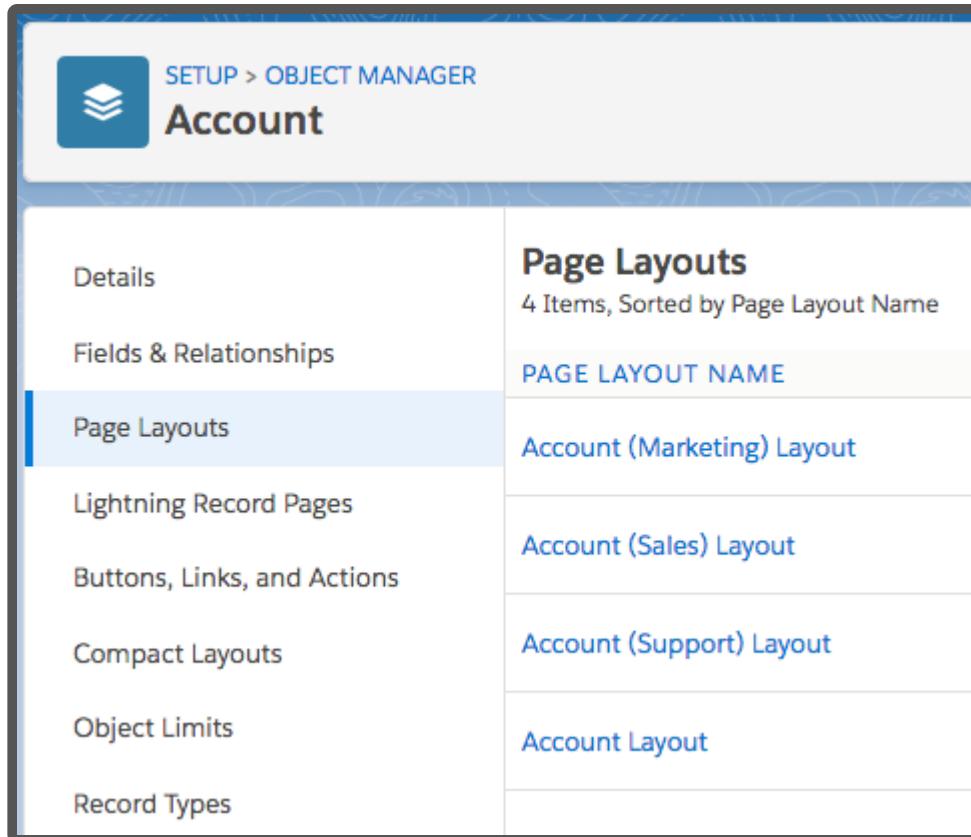
1. Log in to your Salesforce Org
2. Navigate to **Setup** then in type *Object Manager* in Quick Find



3. Click on the "Account" object

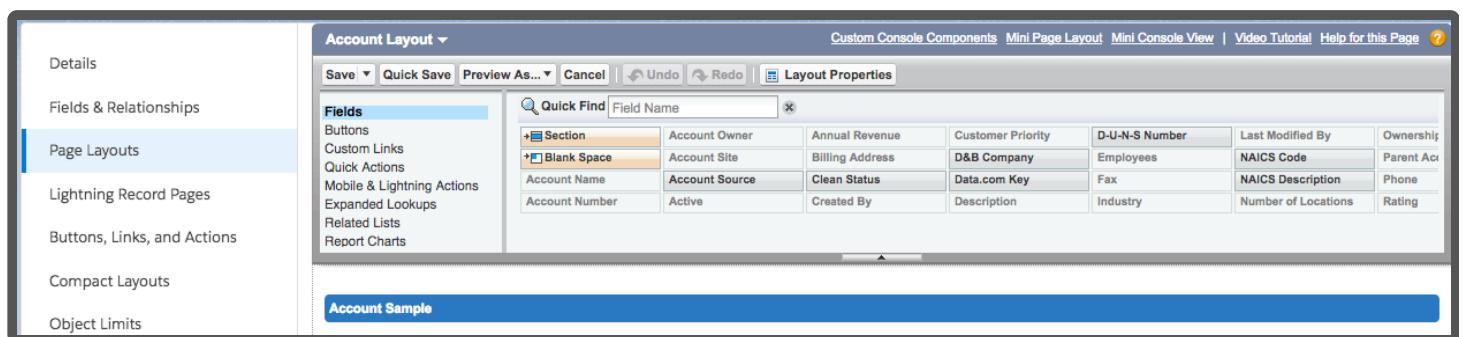
A screenshot of the Salesforce Object Manager page. The title bar says 'SETUP' and 'Object Manager'. Below the title, it says '34 Items, Sorted by Label'. There's a table with three columns: 'LABEL', 'API NAME', and 'DESCRIPTION'. The first row shows the 'Account' object, with 'Account' listed under both 'LABEL' and 'API NAME' and an empty 'DESCRIPTION' field.

4. Click on the "Page Layouts"



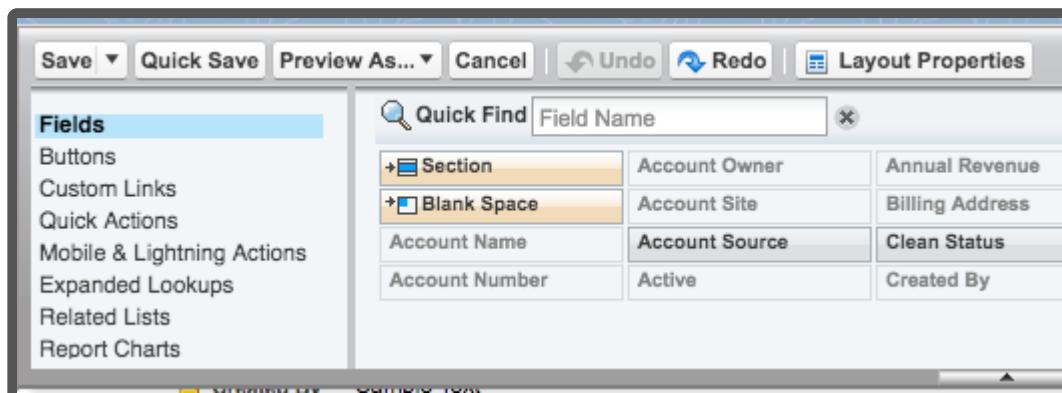
The screenshot shows the Salesforce Setup Object Manager for the 'Account' object. The left sidebar has tabs for 'Details', 'Fields & Relationships', 'Page Layouts' (which is selected), 'Lightning Record Pages', 'Buttons, Links, and Actions', 'Compact Layouts', 'Object Limits', and 'Record Types'. The main content area is titled 'Page Layouts' and shows '4 Items, Sorted by Page Layout Name'. It lists four page layouts: 'Account (Marketing) Layout', 'Account (Sales) Layout', 'Account (Support) Layout', and 'Account Layout'. The 'Account Layout' is highlighted.

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



The screenshot shows the 'Account Layout' editor. The left sidebar has tabs 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 rows for 'Section' and 'Blank Space'), 'Account Owner', 'Annual Revenue', 'Customer Priority', 'D-U-N-S Number', 'Last Modified By', and 'Ownership'. Below the table is a section titled 'Account Sample'.

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



The screenshot shows the 'Fields' tab selected in the layout editor. The left sidebar has tabs 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 columns for 'Section' (with rows for 'Section' and 'Blank Space'), 'Account Owner', 'Annual Revenue', 'Billing Address', 'D&B Company', 'Employees', 'NAICS Code', 'Parent Ac...', and 'Rating'. A 'Quick Find' search bar is at the top of the table.

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

Save ▾ Quick Save Preview As... Cancel Undo Redo Layout Proper

Fields

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

Quick Find Field Name

→ <input type="checkbox"/> Section	Account Owner	Annual Rev
→ <input checked="" type="checkbox"/> 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

→ <input type="checkbox"/> Section	Account Owner	Annual Revenue	Customer Priority	D-U-N-S Number	Last Modified By	Ownership
→ <input checked="" type="checkbox"/> Blank Space	Account Site	Billing Address	D&B Company	Employees	NAICS Code	Parent Ac
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 Sample Text
SLA Expiration Date 20/09/2018 SLA Serial Number Sample Text
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 Call Logging View

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)

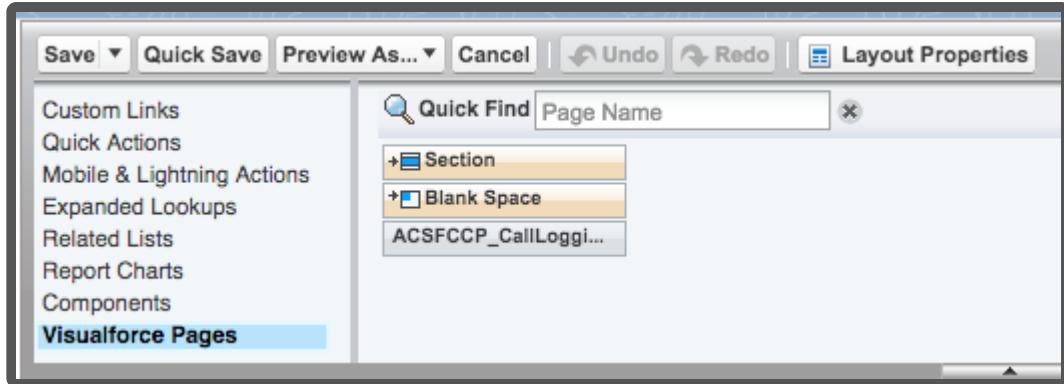
Description Sample Text

... Custom Links (Header not visible)

Billing

... Call Logging View

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

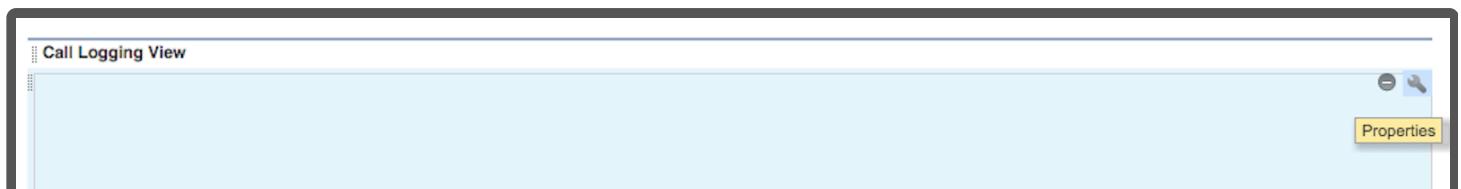


11. Drag and drop "ACSFCCP_CallLogging_View" item to the "Call Logging View" section

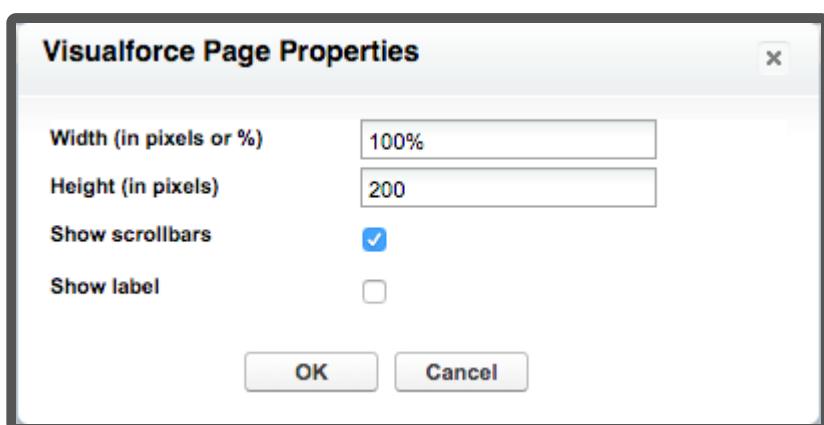
This screenshot shows the same Visualforce Pages editor interface after adding a component. The 'Visualforce Pages' sidebar is still selected. In the main area, the 'ACSFCCP_CallLogging_View' component has been added to the 'Call Logging View' section, indicated by a red circle with a slash and the text 'ACSFCCP_CallLoggi...'. Below this, the 'Description Information' section is visible with 'Description' and 'Sample Text' fields. The bottom navigation bar shows the standard Save, Quick Save, Preview As..., Cancel, Undo, Redo, and Layout Properties options.

VF ACSFCCP_CallLogging_View

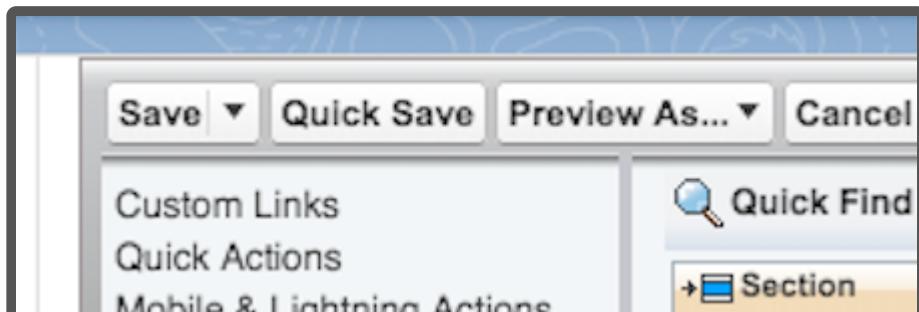
12. Hover the newly added component and click on the "Setting" icon



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

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.

 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".

Work Limits

Work Triggers

Work Validation

Omni-Channel Settings

Configurations

Decline Reasons

Statuses

Configurations

Channels

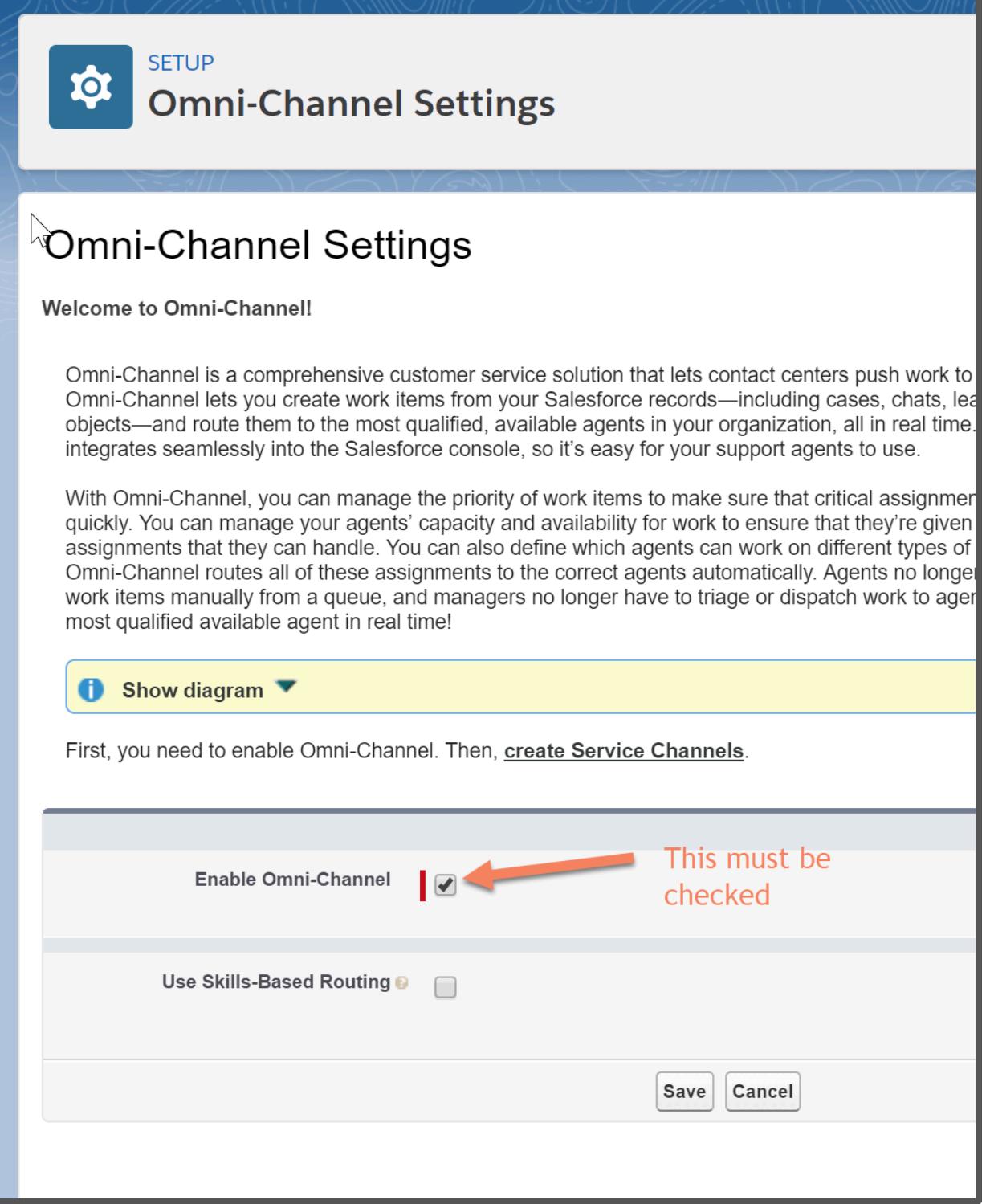
Places

Presence Limits

Presence Triggers

Presence Validation

looking for?



The screenshot shows the 'Omni-Channel Settings' page in the Salesforce Setup. At the top, there's a blue header bar with the 'SETUP' logo and the title 'Omni-Channel Settings'. Below the header, the main content area has a heading 'Omni-Channel Settings' with a small icon to its left. A sub-section titled 'Welcome to Omni-Channel!' contains a paragraph about the service. Another section below it discusses managing work items and agent priority. A 'Show diagram' button is present. The main configuration area shows two checkboxes: 'Enable Omni-Channel' (which is checked) and 'Use Skills-Based Routing'. A red arrow points to the checked 'Enable Omni-Channel' checkbox, with the text 'This must be checked' written next to it. At the bottom right of the configuration area are 'Save' and 'Cancel' buttons.

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 search for work items manually from a queue, and managers no longer have to triage or dispatch work to agents. Agents can see the most qualified available agent in real time!

Show diagram ▾

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

Enable Omni-Channel This must be checked

Use Skills-Based Routing

Save Cancel

Create 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 has a 'Users' section with a 'Queues' link, which is highlighted with a yellow box and a hand cursor icon. The main content area is titled 'SETUP Queues' and contains a heading 'Queues'. It explains that queues allow groups of users to manage a shared workload more effectively. Below this is a 'View' dropdown set to 'All' and a link to 'Edit | Create New View'. At the bottom of the page is a table with columns for Action, Label, Queue Name, Queue Email, Supported Objects, Modified By, and Last Modified.

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.

This screenshot shows the 'Queues' screen from the previous image. An orange arrow points to the 'New' button in the top right corner of the table header. The table has columns for Action, Label, Queue Name, Queue Email, Supported Objects, Modified By, and Last Modified. The 'Supported Objects' column lists various Amazon Connect objects. The 'Last Modified' column shows the date '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	1
Case	
Goal	
Knowledge Article Version	
Lead	
Live Agent Session	
Live Chat Transcript	
Macro	
Metric	
Order	
Quick Text	
Scorecard	

The interface shows a list of available objects on the left and selected objects on the right. An orange arrow points from the 'Amazon Connect Call Campaign' entry in the available list to the 'Selected Objects' list. A red circle highlights the 'Add' button in the center, which has a red number '2' indicating pending additions. The 'Selected Objects' list currently shows '1' item.

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--

The 'Available Members' list contains four entries labeled 'User:' followed by a redacted name. The 'Selected Members' list is currently empty, showing '--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

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



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

New

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

Amazon Connect Historical Report Data; Amazon Connect Call Campaign; Agent Work; Case; Goal;

Create a Service Channel

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

 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 accepted to retrieve records.

View: All ▼ [Edit](#) | [Create](#)

Action	Label ↑
Edit Del	Call Campaign



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.

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	Live Agent	[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"/> 2
Salesforce Object	<input type="text" value="Amazon Connect Call Campaign"/> 2
Custom Console Footer Component	<input type="text"/> 3

Save

Cancel

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



SET

Service

[« Back to List:](#)

Basic Info

Custom Conso

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

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
Edit Del	TestRouting	TestRouting	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.

We have resources up Omni-Channel

Create Routing Configuration
Need help creating a Routing Configuration? See the Salesforce help documentation.

Routing Configuration
Learn more about Routing Configurations.

Set Up Omni-Channel
Snuggle up with your agents and learn how to set up an end-to-end process.

Save Cancel

Basic Information

Routing Configuration Name	Call Campaign Routing Co	1
Developer Name	Call_Campaign_Routing_C	
Overflow Assignee	<div style="border: 1px solid #ccc; padding: 5px; background-color: #fff;"> 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.</div>	
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.

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 routing model also determines the number of open work items each agent can handle.

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

User ▾

Routing Settings

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

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

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

Work Item Size

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

Units of Capacity 3
Percentage of Capacity

4 →

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



SETUP

Routing Configurations

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

Basic Information

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

▼ Routing Settings

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

▼ Related Queues

Label	Queue Name

You have created your Routing Configuration.

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

Queues

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

View: All ▾ Edit | Create New View

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

Action	Label	Queue Name	Queue Email	Supported Objects
Edit Del	Call Campaign	Call_Campaign		Amazon Connect Call Campaign
Edit Del	TestChatQueue	TestChatQueue		Amazon Connect Historical Report Data; Amazon Connect Call Campaign; Agent Work Log; Case; Contact; Customer Profile; Feedback; Feedback Response; Feedback Request; Feedback Template; Feedback Text; Knowledge Article Version; Lead; Live Agent Session; Live Chat Transcript; Macro; Message; Scorecard; User Provisioning Request; User Presence; Coaching; Feedback; Feedback Question Set; Feedback Request; Feedback Template; Performance Cycle

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

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

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

Configuration with Omni-Channel Routing

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

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	TestRouting	1	Most Available	5.00	
Call Campaign Routing Config	Call_Campaign_Routing_Config	2	Most Available	5.00	

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Select our Routing Configuration from the Lookup window.

Queues

Edit Queue
Call Campaign

Queue Edit

Queue Name and Email Address

Enter the name of the queue and the email address to use when sending notifications (for example, when a 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](#)

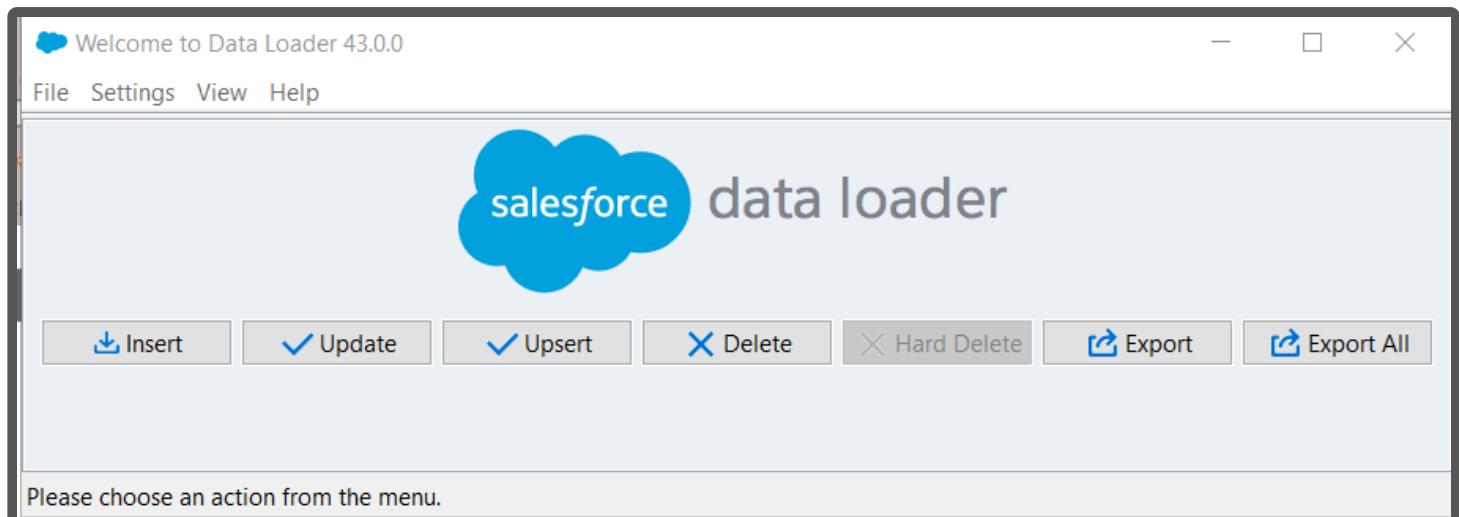
Supported Objects

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:

< 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	▼
<	>

Create the where clauses to your query below.

Fields	Operation	Value

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:

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	▼
< >	

Create the where clauses to your query below.

Fields	Operation	Value
Add condition	Clear all conditions	

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

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

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

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

	A	B	C	D	E	F	G
1	OWNERID	ACCOUNT__C	CASE__C	CONTACT__C	LEAD__C	OPPORTUNITY__C	PHONE_NUMBER__C
2	00G1U000000EIDcUAK			0031U000004WGR5QAO			(702) 555-0111
3	00G1U000000EIDcUAK			0031U000004WGR6QAO			(702) 555-0112
4	00G1U000000EIDcUAK			0031U000004WGR7QAO			(702) 555-0113
5	00G1U000000EIDcUAK			0031U000004WGR8QAO			(702) 555-0114
6	00G1U000000EIDcUAK			0031U000004WGR9QAO			(702) 555-0115
7	00G1U000000EIDcUAK			0031U000004WGRAQAA4			(702) 555-0116
8	00G1U000000EIDcUAK			0031U000004WGRBQA4			(702) 555-0117
9	00G1U000000EIDcUAK			0031U000004WGRCQAA4			(702) 555-0118

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

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

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)

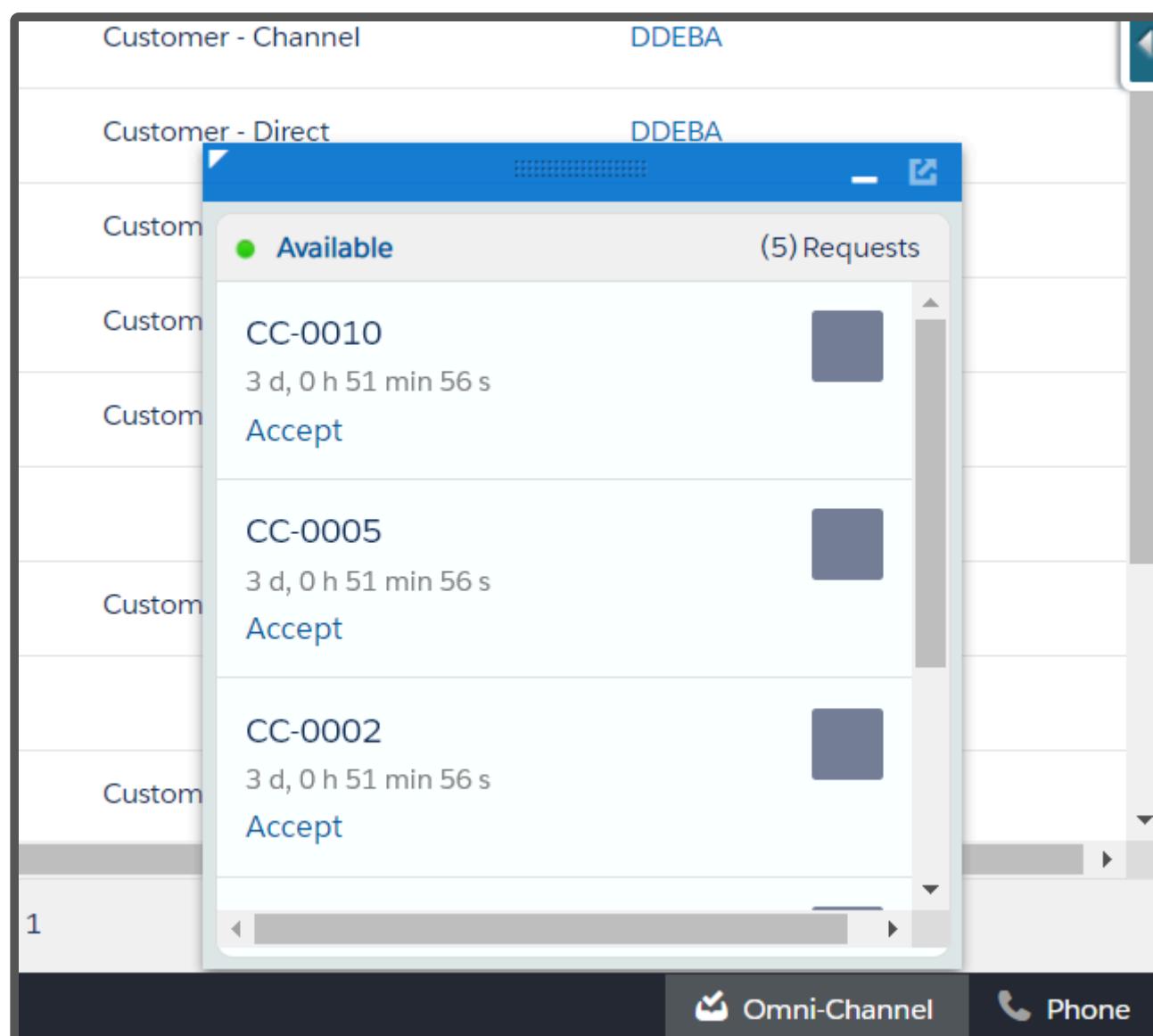
Contact (Contact)

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 data 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".



A screenshot of a reporting interface. It shows two sections: "Queues" and "Agents". The "Queues" section is active, displaying "Contact metrics" and a grey gear icon for configuration. The "Agents" section is inactive, displaying "Agent performance" and a grey gear icon. Both sections have a downward arrow icon indicating they can be expanded.

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.

A screenshot of the "Historical metrics" configuration page for the "Queues" report. It shows settings for "Interval" (Total), "Time range" (Nov 16, 2018, 12:00 AM - Nov 23, 2018, 12:00 AM), and "Time Zone" (UTC). A "Save" button and a gear icon for configuration are visible at the top right.

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

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

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

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

- | | |
|-----------------------------------------------------------------------------|------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Agent interaction and hold time | <input checked="" type="checkbox"/> 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 ! | <input type="checkbox"/> Break time ! |

[Cancel](#)

[Apply](#)

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

Save



Save as

Download CSV

Share report

Schedule

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

Schedule report



First, name your report.

Name sflIntervalQueue

[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 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]2/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' section of the Amazon Connect console. On the left, there's a sidebar with icons for Queues, Agents, and Contact metrics. The main area is titled 'Historical metrics'. Below it, there are two sections: 'Queues' and 'Agents', each with 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.

This screenshot shows the configuration for the 'Agents' historical metrics report. At the top, it says 'Historical metrics: Agents'. There are dropdown menus for 'Time range' (set to 'Nov 16, 2018, 12:00 AM - Nov 23, 2018, 12:00 AM') and 'Time Zone' (set to 'UTC'). A 'Save' button is at the top right, and a gear icon for configuration is in the top right corner of the main area.

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 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

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

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

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

[Cancel](#)

[Apply](#)

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

[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/[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

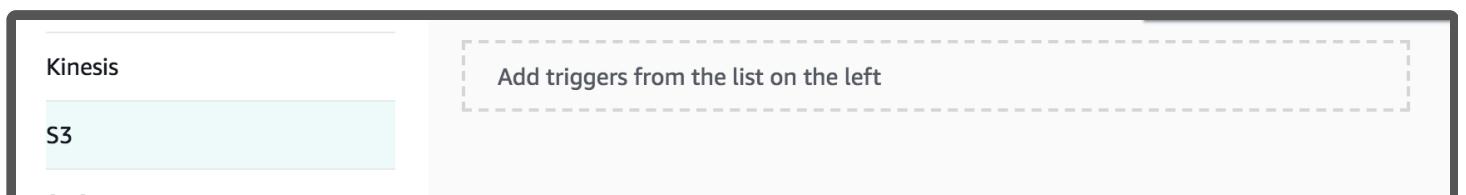
Last run: Friday, November 23, 2018 5:45:07 PM UTC

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.

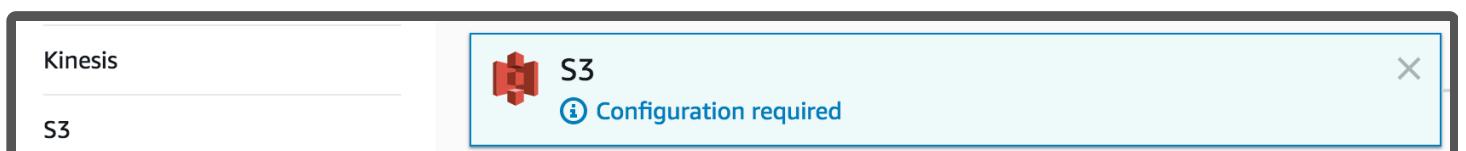
Viewing 1 to 98			
Name	Last modified	Size	Storage class
[REDACTED] SfIntervalAgent-2018-11-21T17:00:00Z.csv	Nov 21, 2018 5:15:08 PM GMT+0000	413.0 B	Standard
[REDACTED] SfIntervalAgent-2018-11-21T17:30:00Z.csv	Nov 21, 2018 5:45:07 PM GMT+0000	413.0 B	Standard
[REDACTED] SfIntervalAgent-2018-11-21T18:00:00Z.csv	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 [dropdown]

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 [dropdown]

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

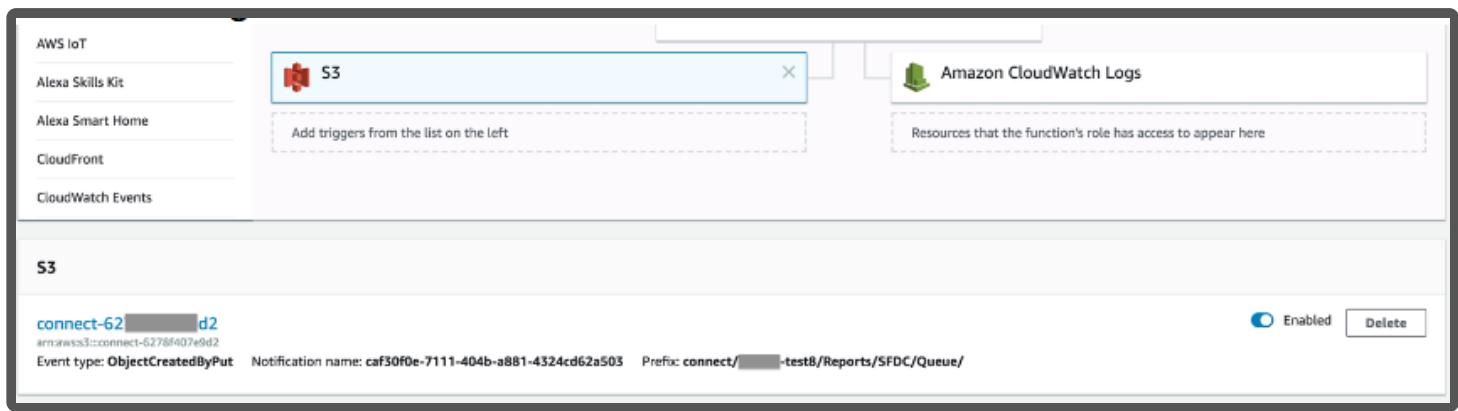
Suffix
Enter a single optional suffix to limit the notifications to objects with keys that end with matching characters.
e.g. .jpg

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).

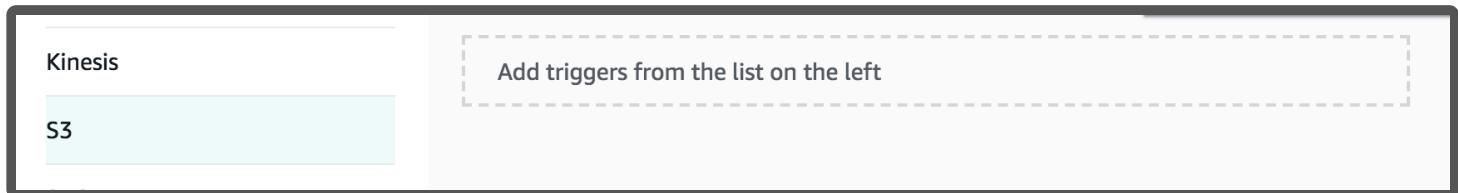
Cancel Add

The final configuration should look like this:

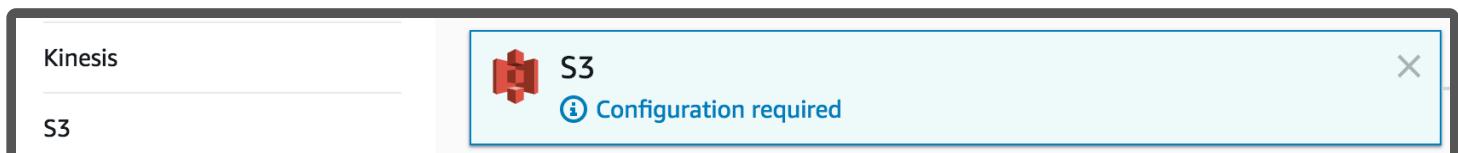


This Lambda function transfers the Queue reporting data to your SFDC instance. Next, we have to repeat steps for Agent reporting Lambda function.

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:

AWS IoT

Alexa Skills Kit

Alexa Smart Home

CloudFront

CloudWatch Events

S3

connect-62[REDACTED]d2 arn:aws:s3:::connect-6278f407e9d2

Event type: **ObjectCreatedByPut** Notification name: 6d7b80c0-e705-454d-9ae1-ec5cd63cd03d Prefix: connect/[REDACTED]-test8/Reports/SFDC/Agent/

Enabled Delete

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

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

App Launcher

Search apps or items...

Visit AppExchange

Service Manage customer service with accounts, contacts, cases, and more

Marketing Best-in-class on-demand marketing automation

Sample Console (Salesforce Classic) Lets agents work with multiple records o... 1

Community Salesforce CRM Communities

Salesforce Chatter The Salesforce Chatter social network, including profiles and feeds

Content Salesforce CRM Content

Sales Console (Lightning Experience) Lets sales reps work with multiple rec... 1

Service Console (Lightning Experience) Lets support agents work with multiple... 1

Sales Manage your sales process with accounts, leads, opportunities, and more

Lightning Usage App View Adoption and Usage Metrics for Lightning Experience

Amazon Connect Toolkit Console Sample Salesforce Console application for the Amazon Connect ... 1

All Items

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

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

REPORTS		REPORT NAME	DESCRIPTION	FOLDER
Recent		Agent All Interval 30 Today		Amazon Connect Reports
Created by Me		Queue All Interval 30 Today		Amazon Connect Reports
Private Reports		Contacts Agent Hung Up First This ...		Amazon Connect Reports
Public Reports		Contacts Handled This Week		Amazon Connect Reports
All Reports		Contacts Queued This Week		Amazon Connect Reports
FOLDERS		Trend of Calls Abandoned This Week		Amazon Connect Reports
All Folders		Agent Service Level 60 Today		Amazon Connect Reports
Created by Me		Contacts Transferred In This Week		Amazon Connect Reports
Shared with Me		Contacts Transferred Out This Week		Amazon Connect Reports
FAVORITES		Contacts Handled Outbound This W...		Amazon Connect Reports
All Favorites		Contacts Handled Incoming/Outgoi...		Amazon Connect Reports
		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																			
Total Records 1																			
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																				
Total Records 1																				
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	
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". A modal window titled "AC CTI Flow Edit" is open, containing fields for "CTI Flow Name" (Create Screenpop), "Source" (Amazon Connect Voice Contact), "Description" (empty), "CTI Adapter" (ACLightningAdapter), "Event" (onConnecting), "Active" (checked), and a "Debug" checkbox. Buttons at the top of the modal 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 "Source" field in the "AC CTI Flow Edit" form. A dropdown menu is 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.

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

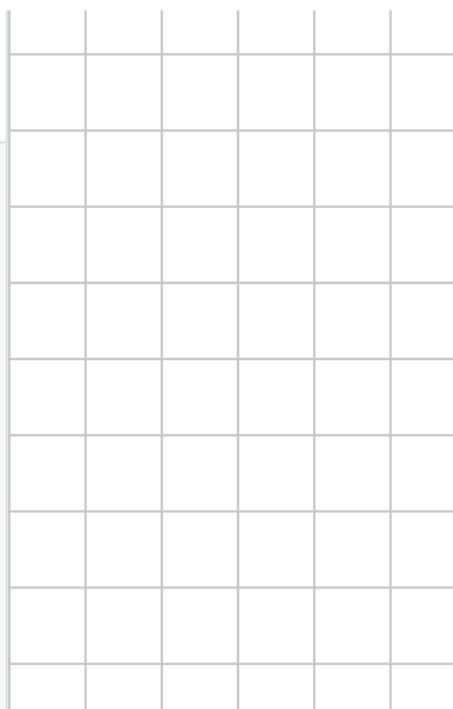
Main Menu Save

Download  Upload 

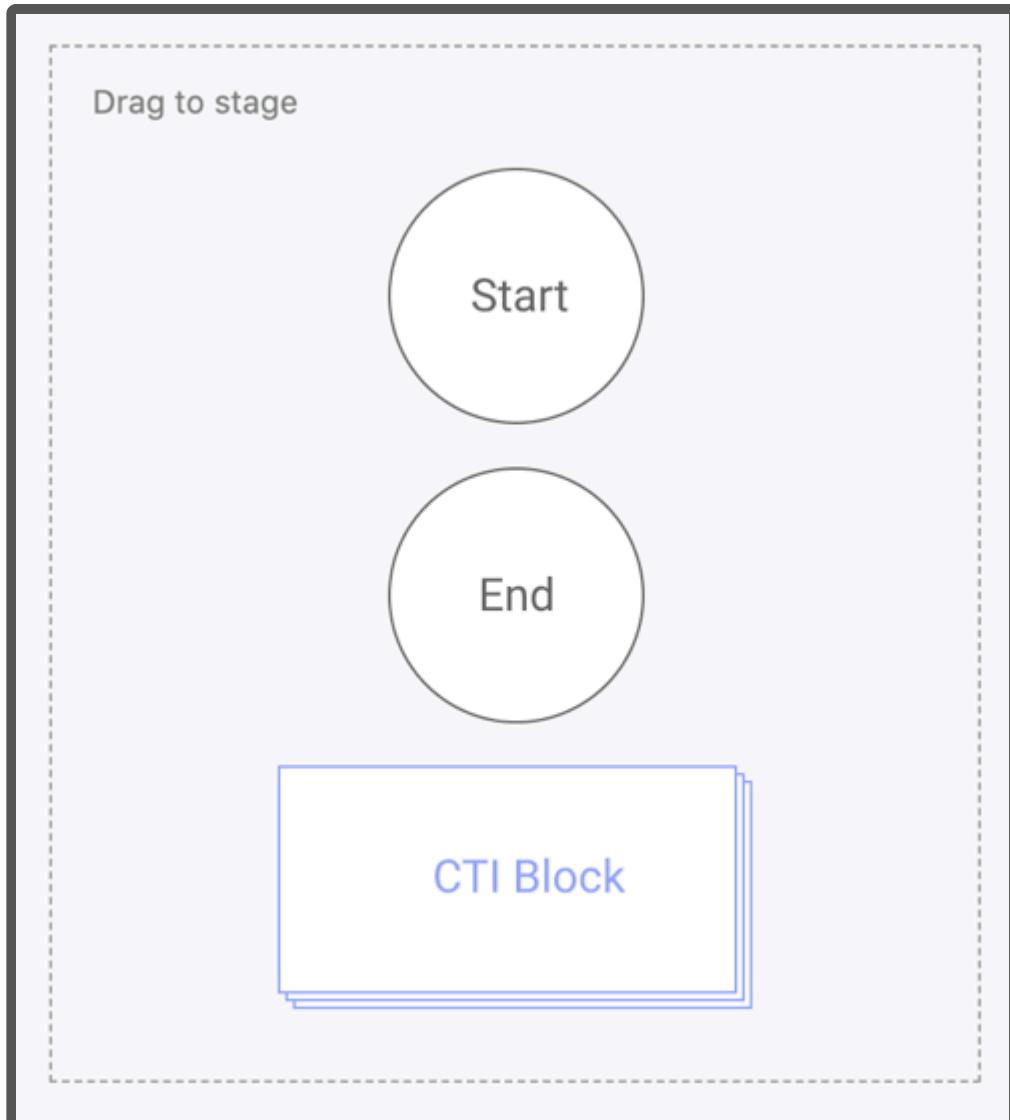
Drag to stage



```
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	Parameters	Select
Format Phone Number	Formats a phone number for a country code. What it calls: <code>ac.Utils.Common.formatPhoneNumber(...)</code>	Parameters	Select
Format Phone Number (E164)	Formats a phone number for a country code in E164 format. What it calls: <code>ac.Utils.Common.formatPhoneNumberE164(...)</code>	Parameters	Select
Get Softphone Layout	The query to get softphone layout. What it calls: <code>ac.Utils.Salesforce.getSoftphoneLayout()</code>		
Show Softphone Panel	The command to show softphone panel. What it calls: <code>ac.Utils.Salesforce.showSoftphonePanel()</code>		

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

Change type ▾

Get Customer Phone Number

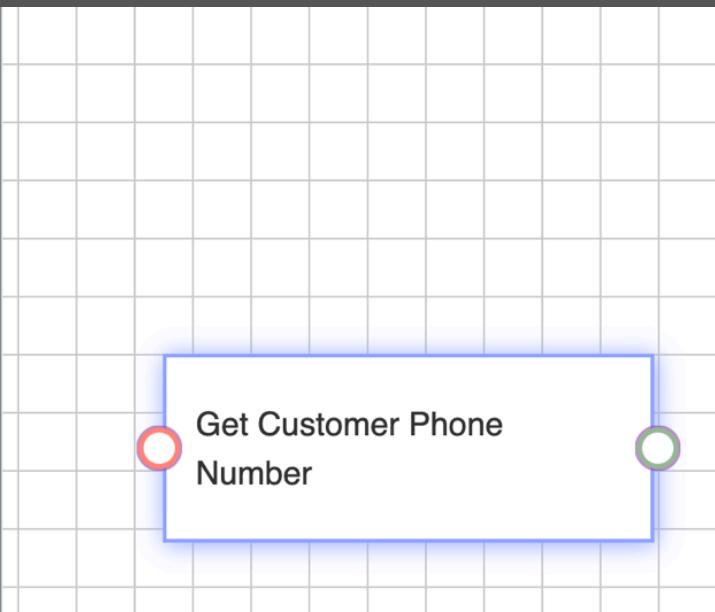
ID: uid-0

Remove About this action

Return Values

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

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



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

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

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

Change type ▾

Search And Screenpop

ID: uid-9

Remove About this action

Arguments

searchParams ⓘ

Enter a value

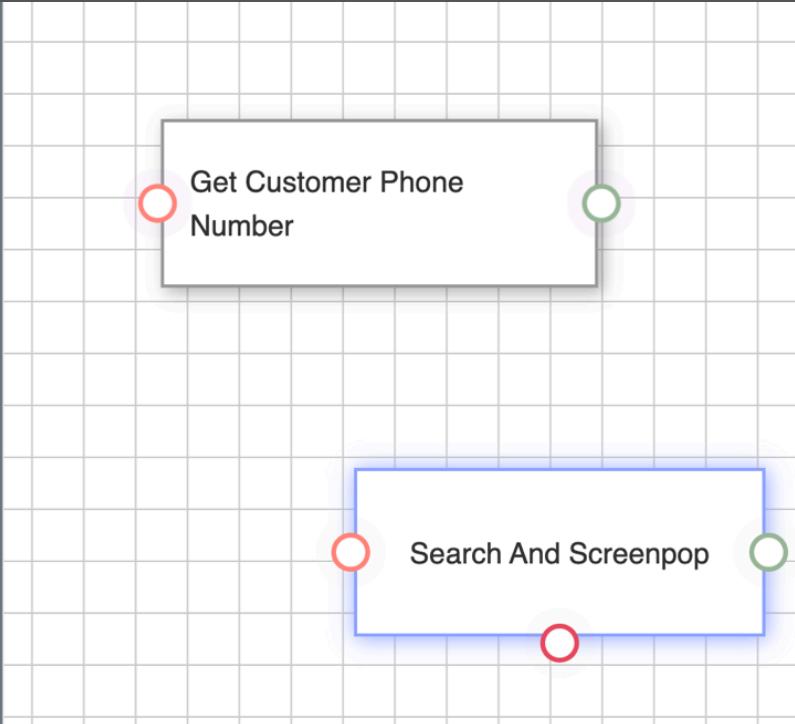
queryParams ⓘ

Enter a value

defaultFieldValues ⓘ

Add a field

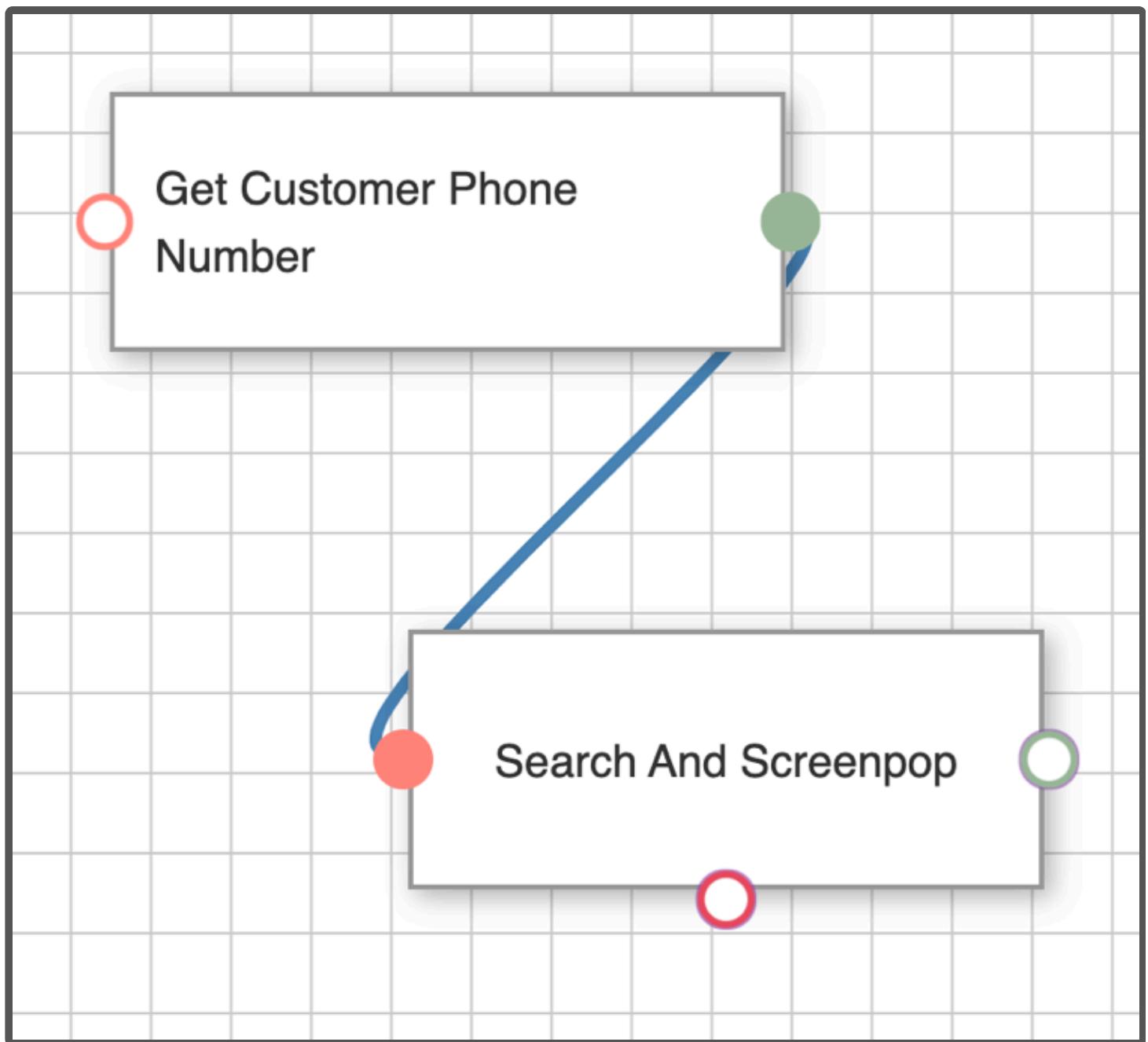
deferred ⓘ



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

Now, click on the pink socket, i.e. the "input" socket, which is to the left of the "Search and Screenpop" block. If the connection is successful, the sockets 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)

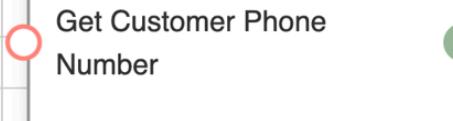
phone

country

Add a field

deferred

callType



Search And Screenpop

ID: uid-9

Remove

About this action

Arguments

searchParams

ValueOf

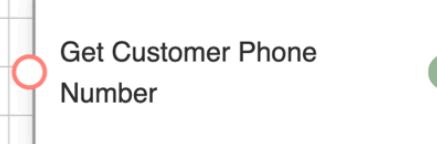
queryParams

Add New Value

Add a field

deferred

callType

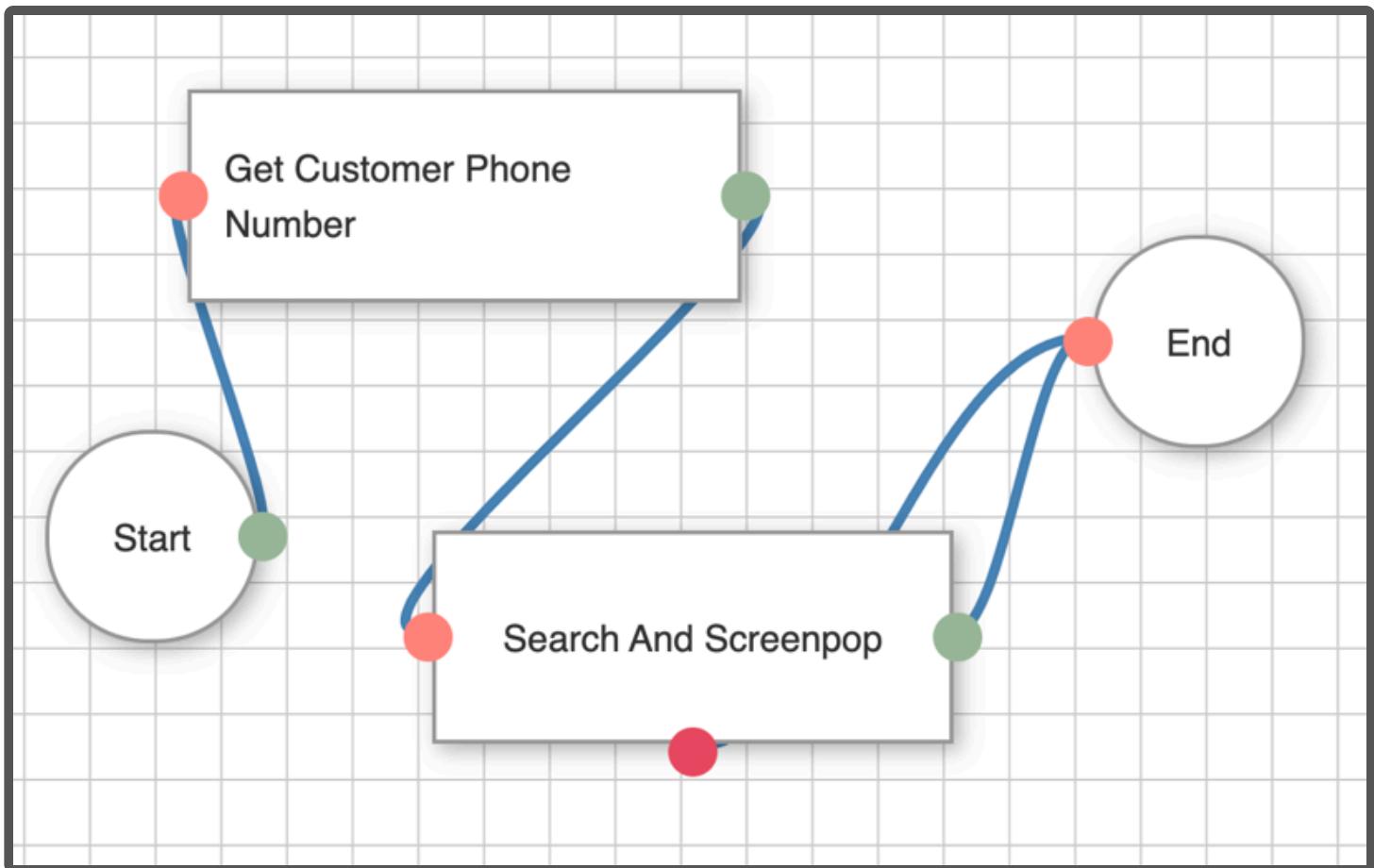


Start

End

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":44}: {"success":true,"results":null,"exception":null}, "uid-18": {"success":true, {"type": "Task", "Id":null, "CustomField__c": "RandomMessage"}, "uid-20": {"success":true,
```

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`.

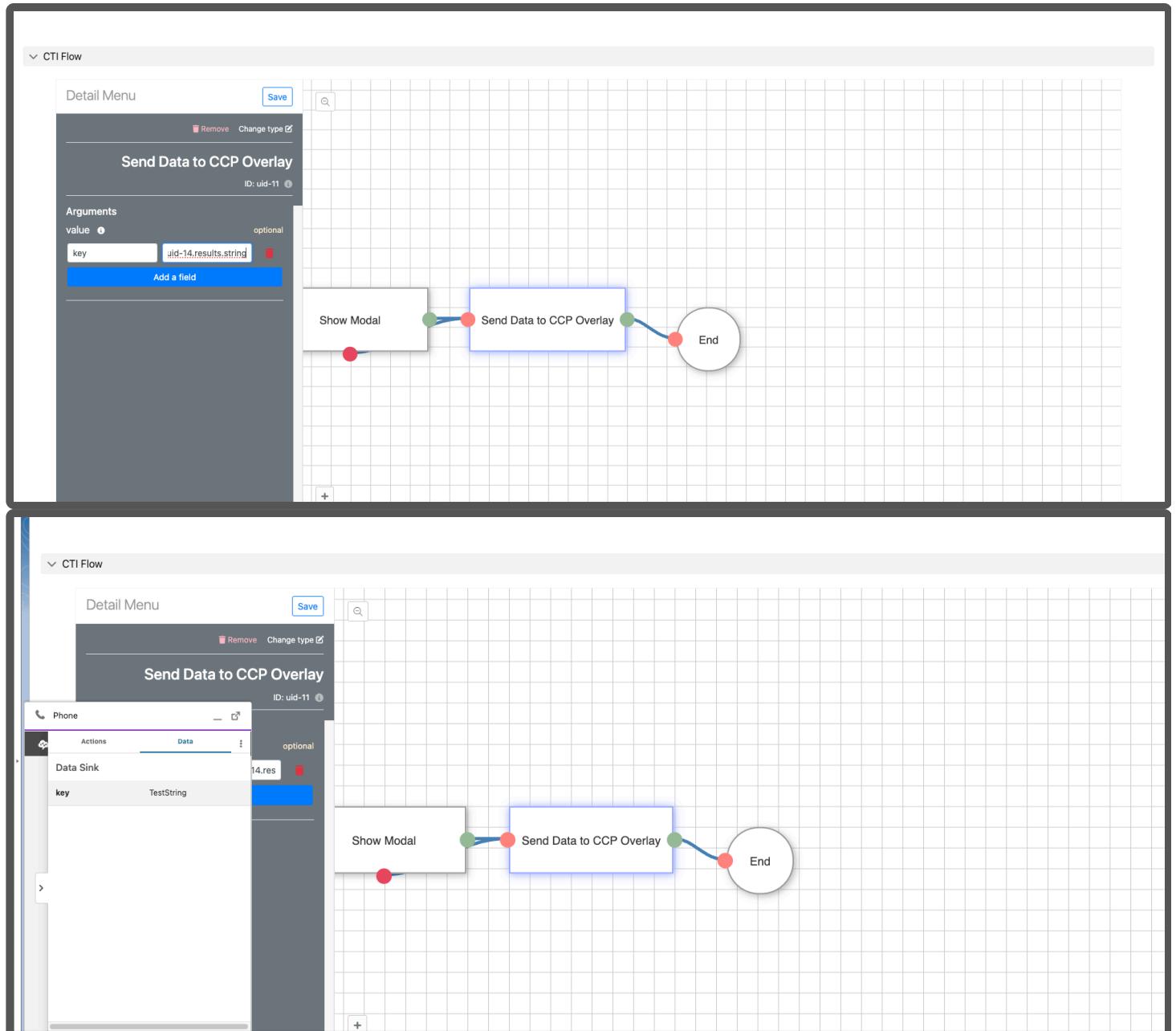
For certain CTI flow blocks, the return values can be more intricate. Take, for instance, the CTI flow block with "uid-17," which generates a Task record in Salesforce. To access the values `type`, `Id`, or `CustomField__c`, you need to use the format: `$.actions.uid-17.results.value.[0].CustomField__c`. 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

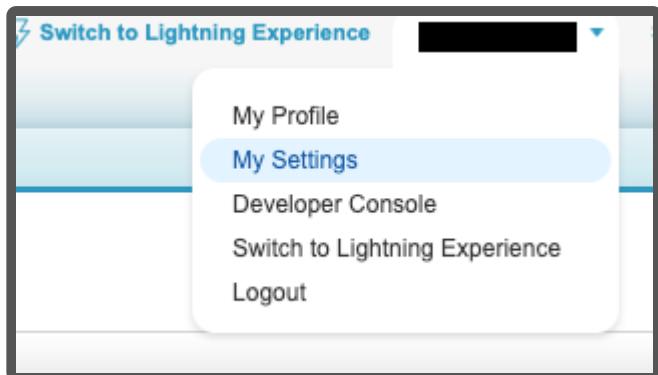
CTI Adapter will use Translation Workbench to maintain translated values for metadata and data labels in your Salesforce org. In order for that to work, you need to enable Translation Workbench in your org.

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.

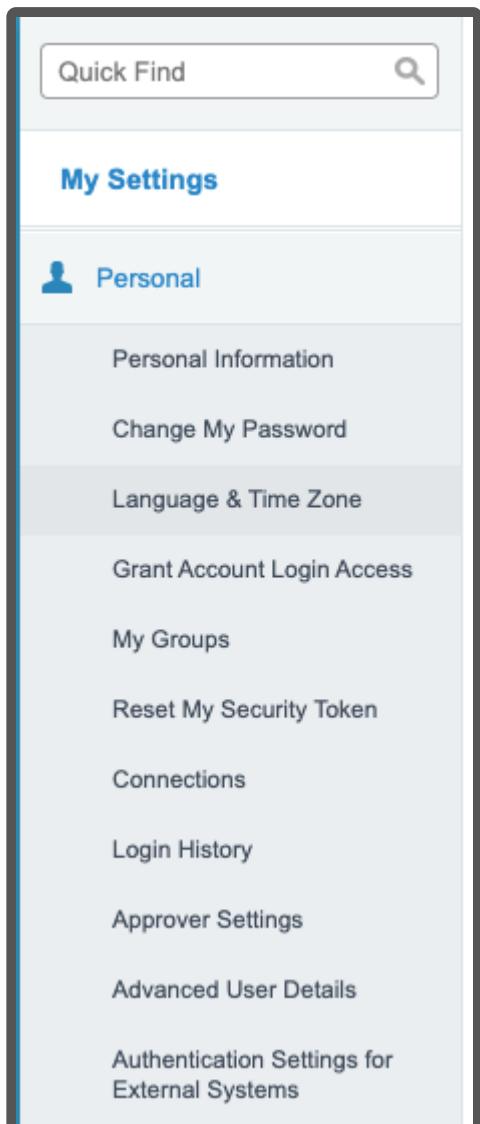
Setting your preferred language

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".



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)

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)

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.

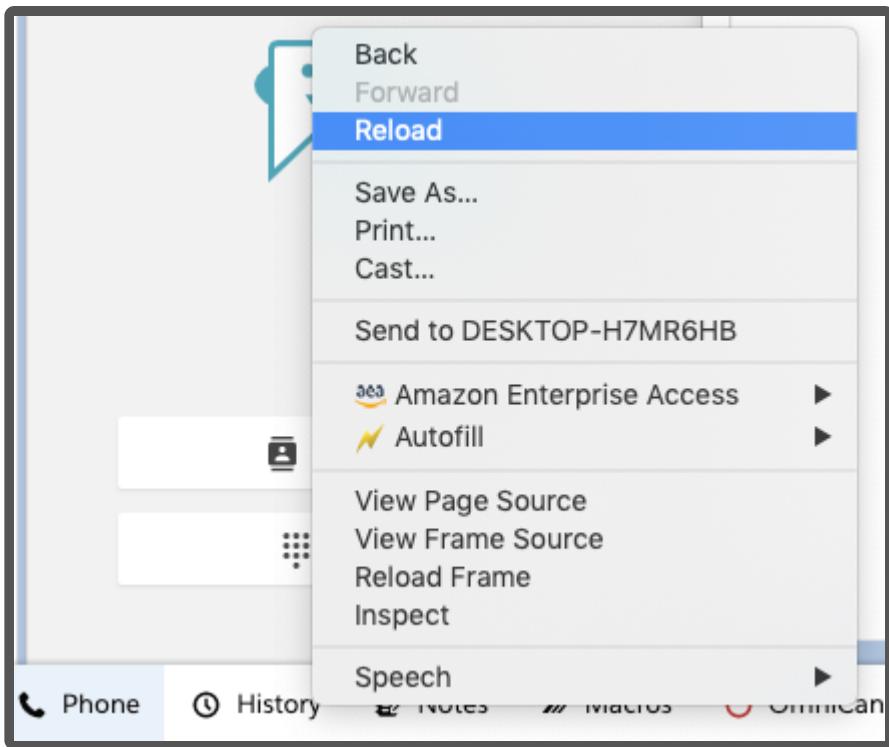
[Parámetros >](#)

[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 a user interface for managing CTI adapter configurations. At the top, there are tabs: Attributes (underlined in blue), CTI Flows, Presence Sync Rules, and Features. Below the tabs, there is a section titled "Attributes (0)" with a small icon of a document with a dollar sign.

- 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 sub-section titled "Actions". Under "Actions", there are three steps: "Step 1: Name and Flow", "Step 2: Payload (optional)", and "Step 3: Additional Data (optional)".

In "Step 1: Name and Flow", the "Action Name" is set to "Leave Voicemail". A note states: "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, the "CTI Flow" dropdown contains "Leave a Voicemail". A note below the dropdown says: "In this field, you will see all CTI Flows in this account whose source field is CCP Overlay." The "Order" is set to 0.

At the top right of the "Actions" section are four buttons: "Save" (dark grey), "Quick Save" (light grey), "Delete" (red border), and "Cancel".

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

Save Quick Save **Delete** Cancel

Step 2: Payload (optional)

Step 3: Additional Data (optional)

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

Save Quick Save **Delete** Cancel

Step 2: Payload (optional)

Step 3: Additional Data (optional)

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

Label



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

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

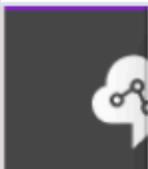
CCP Overlay

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.

This screenshot shows the 'Actions' interface. At the top, there are three tabs: 'Step 1: Name and Flow', 'Step 2: Payload' (optional), and 'Step 3: Additional Data' (optional). Below these tabs are four buttons: 'Save' (highlighted in dark grey), 'Quick Save' (light grey), 'Delete' (red border), and 'Cancel'. A descriptive text box states: '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.' There are two input fields: 'Action Name' containing 'Create Callback Task' and 'Order' containing '0'. A note below says: 'The name agents will see.' and 'In this field, you will see all CTI Flows in this account whose source field is CCP 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.

This screenshot shows the 'Actions' interface with the 'Step 2: Payload' tab selected. A note says: '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.' Below this, there is a 'Payload' section with a table. The table has two columns: 'Key' and 'Value'. One row is shown with 'Key' set to 'SubjectPrepend' and 'Value' set to 'Callback'. A blue 'New key' button is located at the bottom left of the payload area.

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

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

Label
First Name

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

Field Type

Text

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

▼

Order

0

Field Required

Cancel **Finish**

◀ Overview

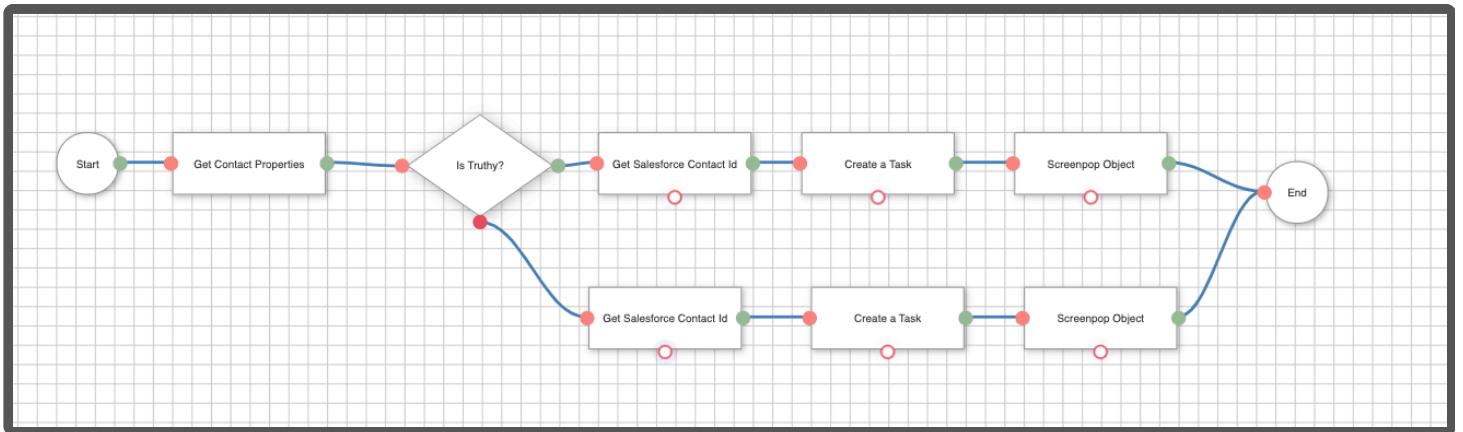
Actions

Step 1: Name and Flow	Save Quick Save Delete Cancel
Step 2: Payload (optional)	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.
Step 3: Additional Data (optional)	<p>Overview Form fields</p> <p>Field Name LastName This is the name of the field in your payload. It should be a camelCased word.</p> <p>Label Last Name The label is a human readable text shown to the agent next to the input field.</p> <p>Field Type Text You have the option to select a text input or a dropdown.</p> <p><input checked="" type="checkbox"/> Field Required</p> <p>Order 1</p> <p>Cancel Finish</p>

Actions

Step 1: Name and Flow	Save Quick Save Delete Cancel
Step 2: Payload (optional)	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.
Step 3: Additional Data (optional)	<p>Overview Form fields</p> <p>Field Name CallbackPhone This is the name of the field in your payload. It should be a camelCased word.</p> <p>Label Callback Number The label is a human readable text shown to the agent next to the input field.</p> <p>Field Type Text You have the option to select a text input or a dropdown.</p> <p><input type="checkbox"/> Field Required</p> <p>Order 2</p> <p>Cancel Finish</p>

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)) -- Blue Curve --> Decision{Is Contact Inbound?}
    Decision -- Red Line --> Green1(( ))
    Decision -- Blue Line --> Action[Send Data to CCP Overlay]
    Action -- Blue Curve --> Start
  
```

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.



Phone



Attributes

Recording Controls



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 Permissions Policies page. At the top, there are tabs for **Permissions**, **Groups**, **Tags**, and **Security credentials**. The **Permissions** tab is selected. Below the tabs, a section titled **▼ Permissions policies (1 policy applied)** is shown. A blue button labeled **Add permissions** is visible. Under the policy list, there is a row for the **AmazonConnect_FullAccess** policy, which is attached directly to a user. The policy name is displayed in a dropdown menu. The policy is highlighted in blue, indicating it is selected or applied.

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'.

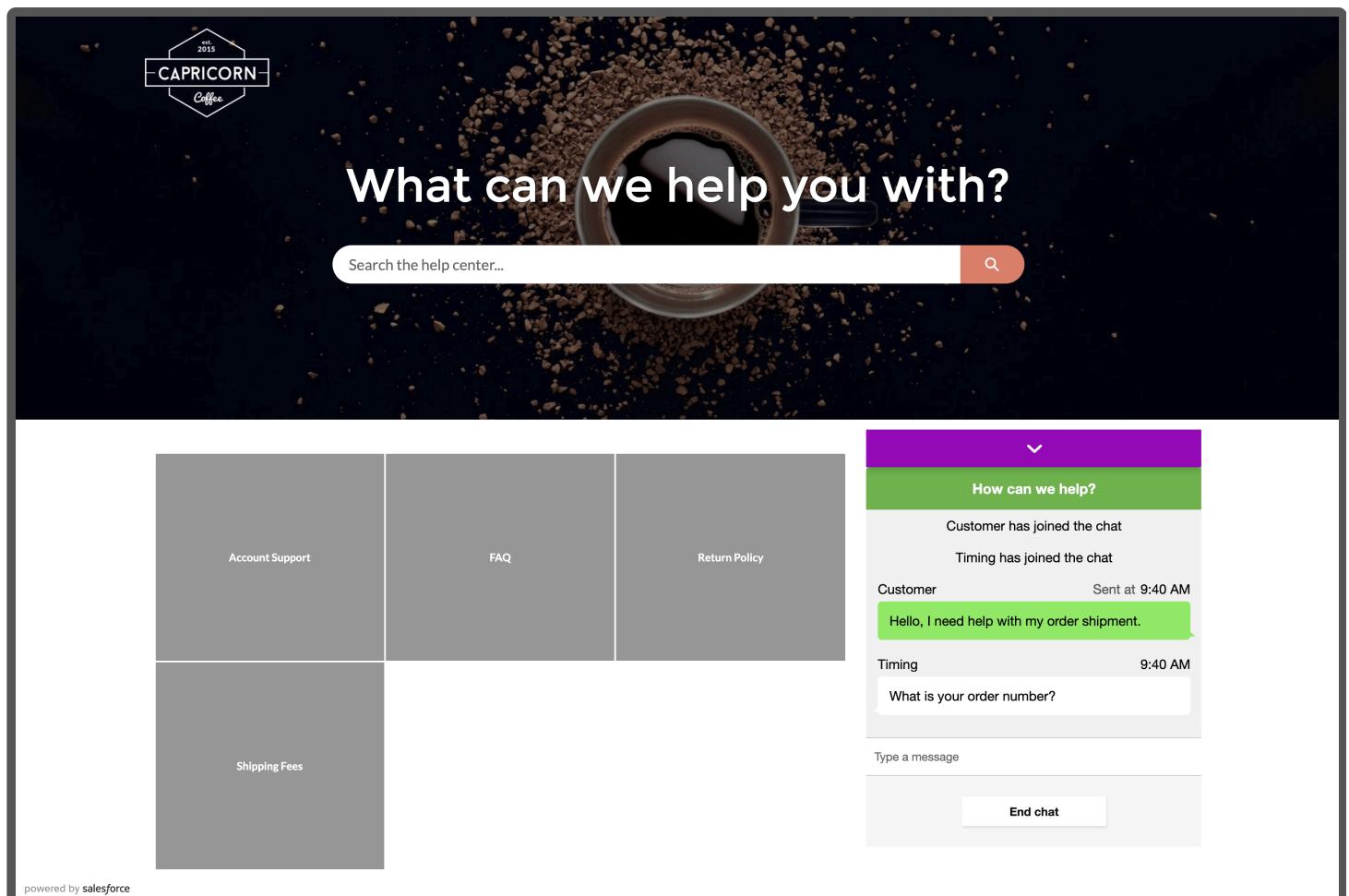
Label	AmazonConnectAPI
Name	AmazonConnectAPI
URL	https://connect.us-east-1.amazonaws.com
Authentication	
Certificate	[Redacted]
Identity Type	Named Principal
Authentication Protocol	AWS Signature Version 4
AWS Access Key ID	AKIAUYVLTXECVPVW5
AWS Secret Access Key	[Redacted]
AWS Region	us-east-1
AWS Service	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 Experience Cloud Sites page. At the top, there's 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's a "Digital Experiences" section. On the left, a sidebar includes links for "Lightning Experience Transition Assistant" (with a "Get Started" button), "Salesforce Mobile Quick Start", "Home", and "Administer" (with sub-links for Release Updates, Manage Users, Manage Apps, and Manage Territories). The main content area displays a table titled "All Sites" with two rows:

Action	Name	Description	URL	Status
Workspaces Builder				Preview
Workspaces Builder				Preview

At the bottom right of the main content area, there's a link to "Visit our Trailblazer Community | Help for this Page".

- Choose Help center template to create a new site

The screenshot shows the "Choose the Experience You Love" page. At the top, there's a navigation bar with "Back to Setup" on the left and "Help & Training" on the right. The main heading is "Choose the Experience You Love". Below the heading, there's a "BROWSE BY:" section with categories: All, Sales, Service, Commerce, and Installed. The page features five cards, each representing a different site template:

- Build Your Own (LWR)** by Salesforce: This card shows a screenshot of a responsive website with the heading "Unparalleled Performance". It highlights "Unparalleled Performance • Standards-Based Customization •". Below it, it says "Develop blazing fast digital experiences, such as websites, microsites, and portals, using the Lightning...".
- B2C Commerce** by Salesforce: This card shows a screenshot of an ecommerce store for "Organic bars, gels, and drinks". It highlights "Live search • Product filtering • Einstein Product Recommendations •". Below it, it says "Create a responsive ecommerce store that provides easy customization of store layout and template, configure...".
- Help Center** by Salesforce: This card shows a screenshot of a help center with the heading "What can we help you with?". It highlights "Self-Service • Curated Knowledge • Case Deflection • Guest Case Creation". Below it, it says "Give your customers the answers they're looking for. Customers can search for and read articles and contact...".
- Customer Account Portal** by Salesforce: This card shows a screenshot of a customer account portal for "Park Bank".
- Customer Service** by Salesforce: This card shows a screenshot of a customer service portal.
- Build Your Own** by Salesforce: This card shows a screenshot of a blank website template.

- Go to Builder of the new site

The screenshot shows the 'My Workspaces' section of the Experience Cloud site builder. It includes the following options:

- 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://dg9yx063wihht.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](/amazon-connect-salesforce-cti/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"
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://dg9yx063wiht.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 -->
    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' } });

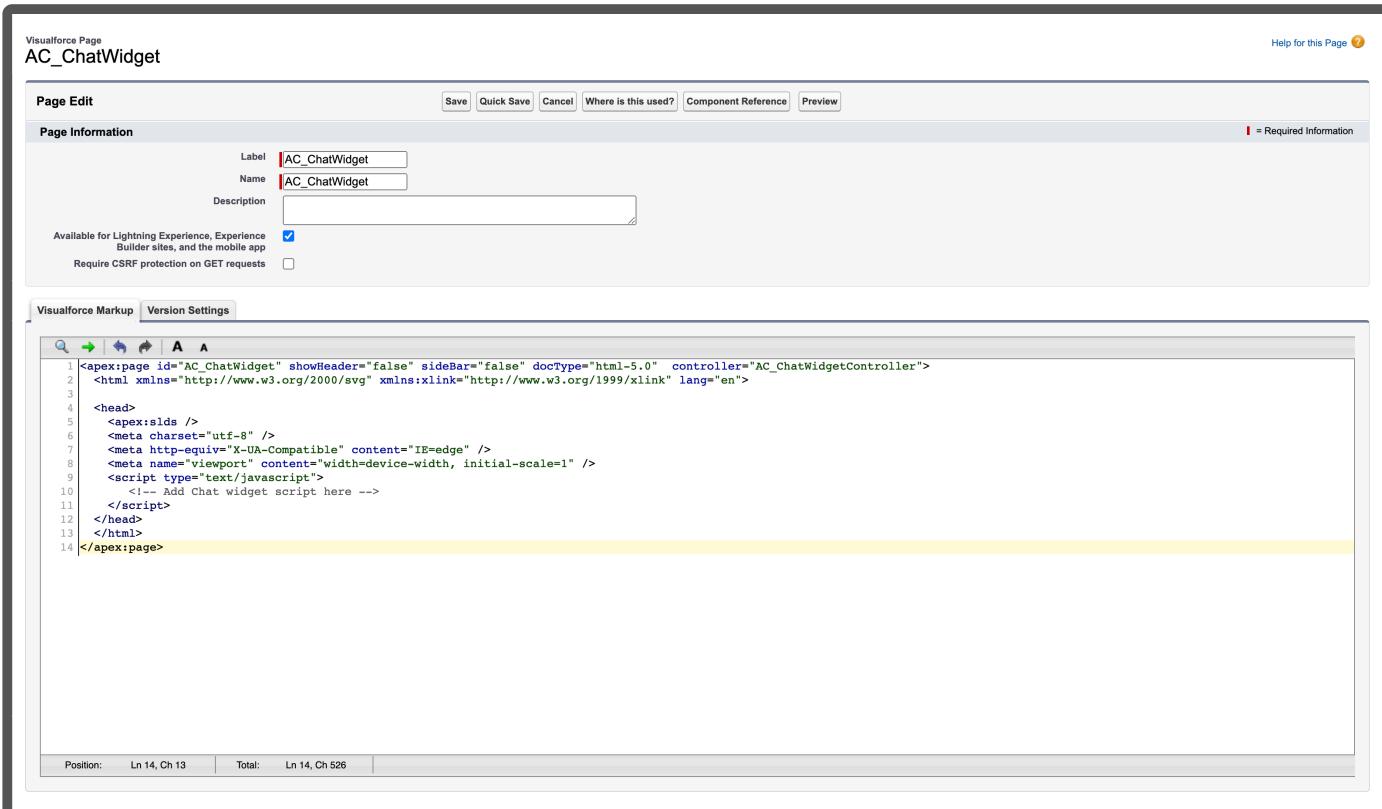
amazon_connect('snippetId',
'QVFJREFIaUpTVGJkNWhNc0Q1WHpHYnFQTkJyYXN0.....=');

amazon_connect('supportedMessagingContentTypes', [ 'text/plain',
'text/markdown' ]);

</script>
</head>
</html>
</apex:page>

```

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

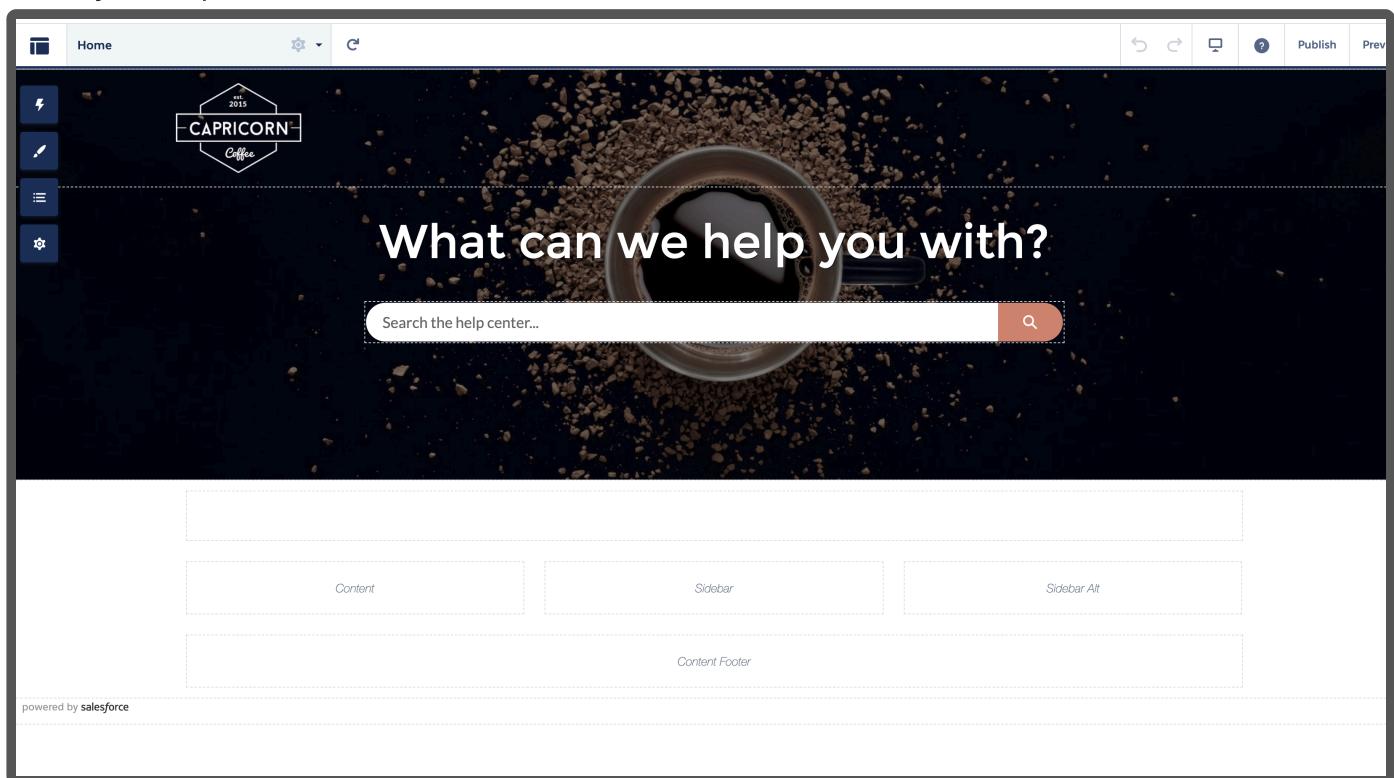


Setup Chat Widget for your Experience Cloud Sites.

- 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



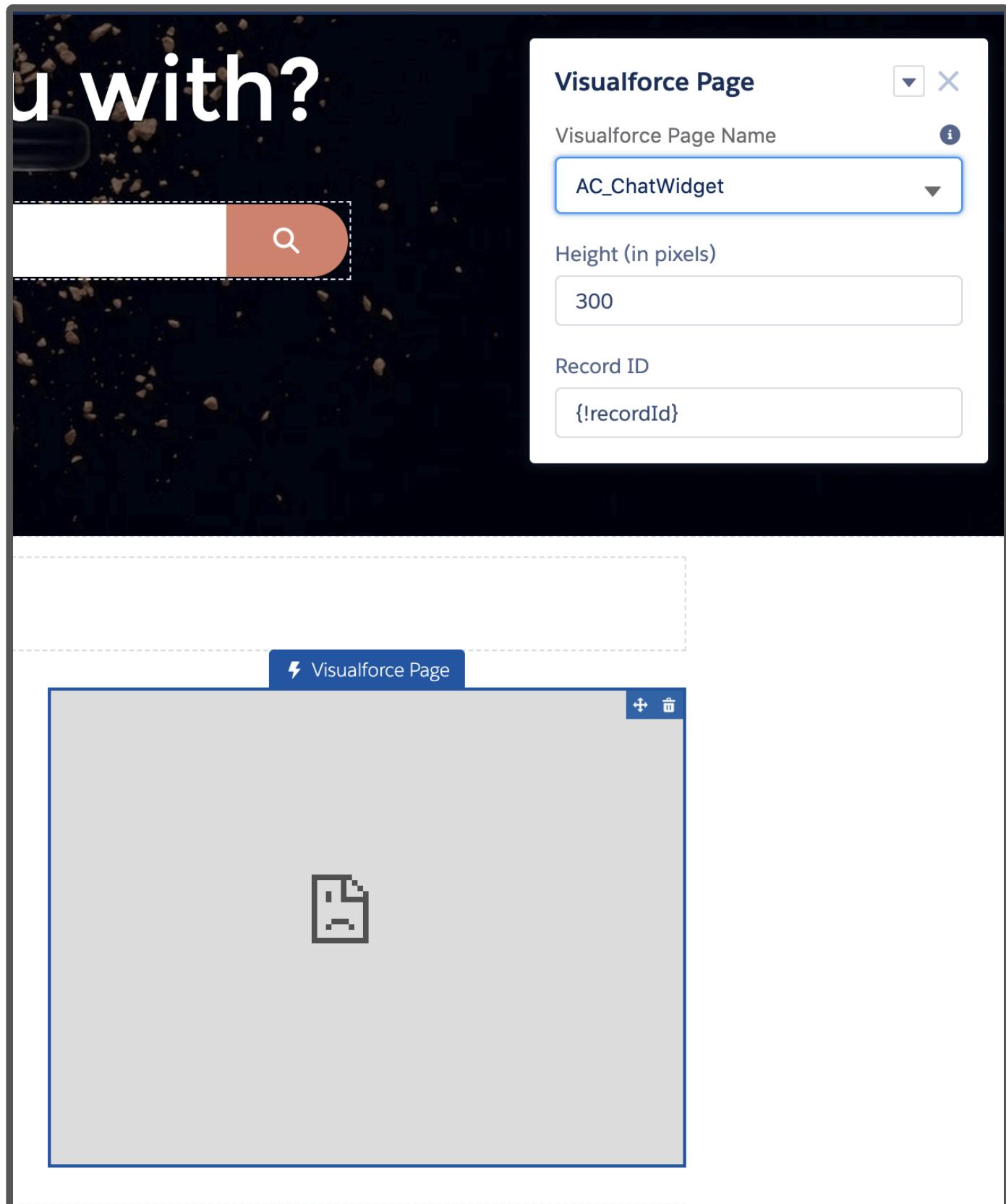
Components



▼ 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

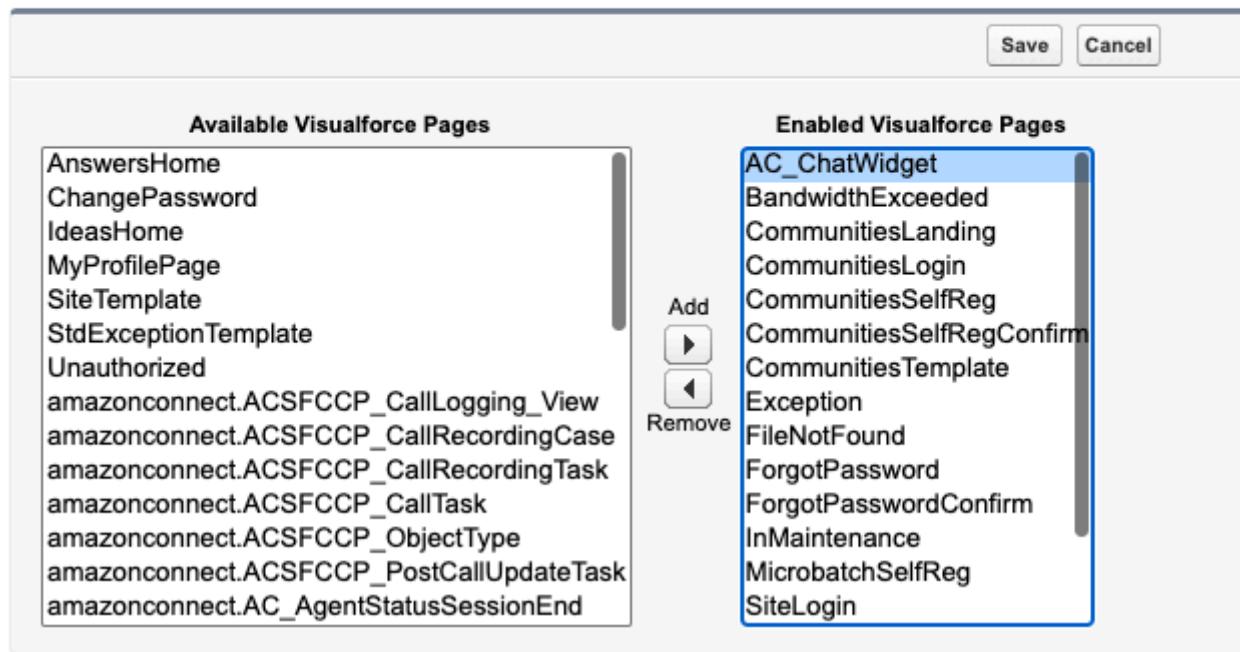
Guest User Profile

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

Enable Visualforce Page Access

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



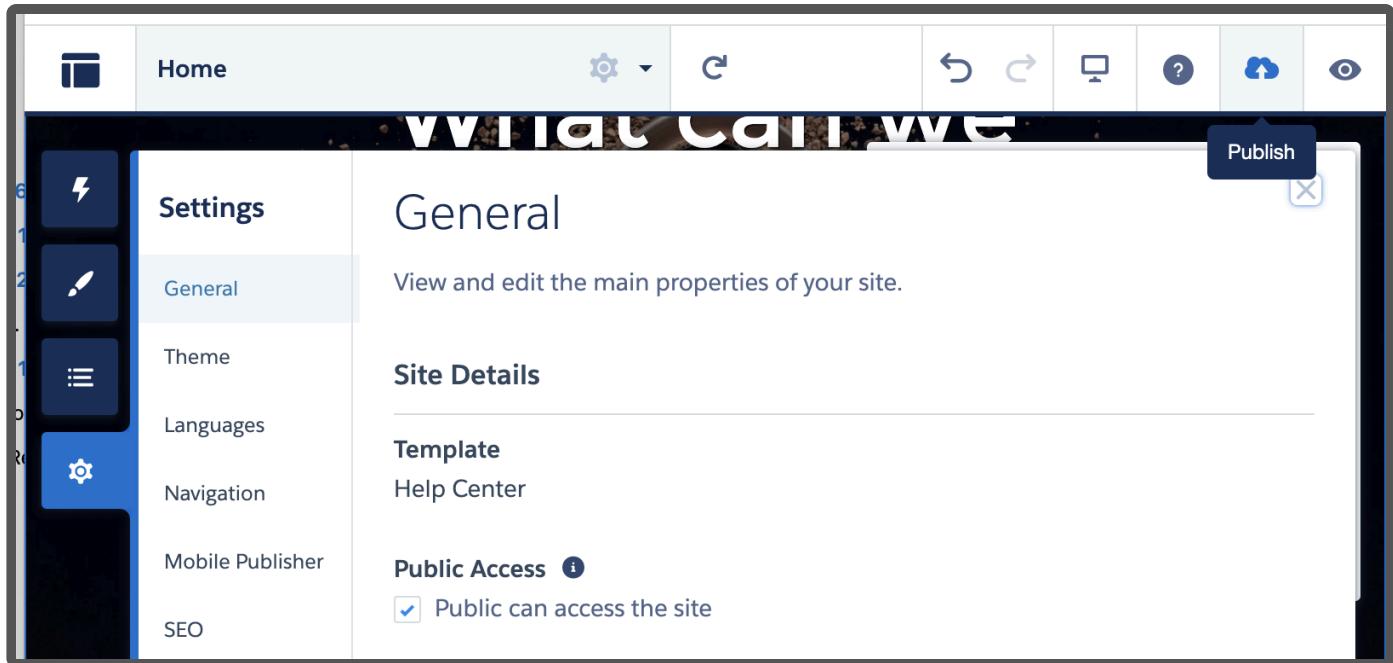
The screenshot shows a dialog box titled 'Enable Visualforce Page Access'. At the top right are 'Save' and 'Cancel' buttons. Below the title is a instruction: 'Select the Visualforce pages that you want to make accessible at this Salesforce site.' Two lists are present: 'Available Visualforce Pages' on the left and 'Enabled Visualforce Pages' on the right. Between them are 'Add' and 'Remove' buttons with arrows. The 'Enabled Visualforce Pages' list contains several items, including 'AC_ChatWidget' which is highlighted with a blue border.

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

widget)

- 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"/> i
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

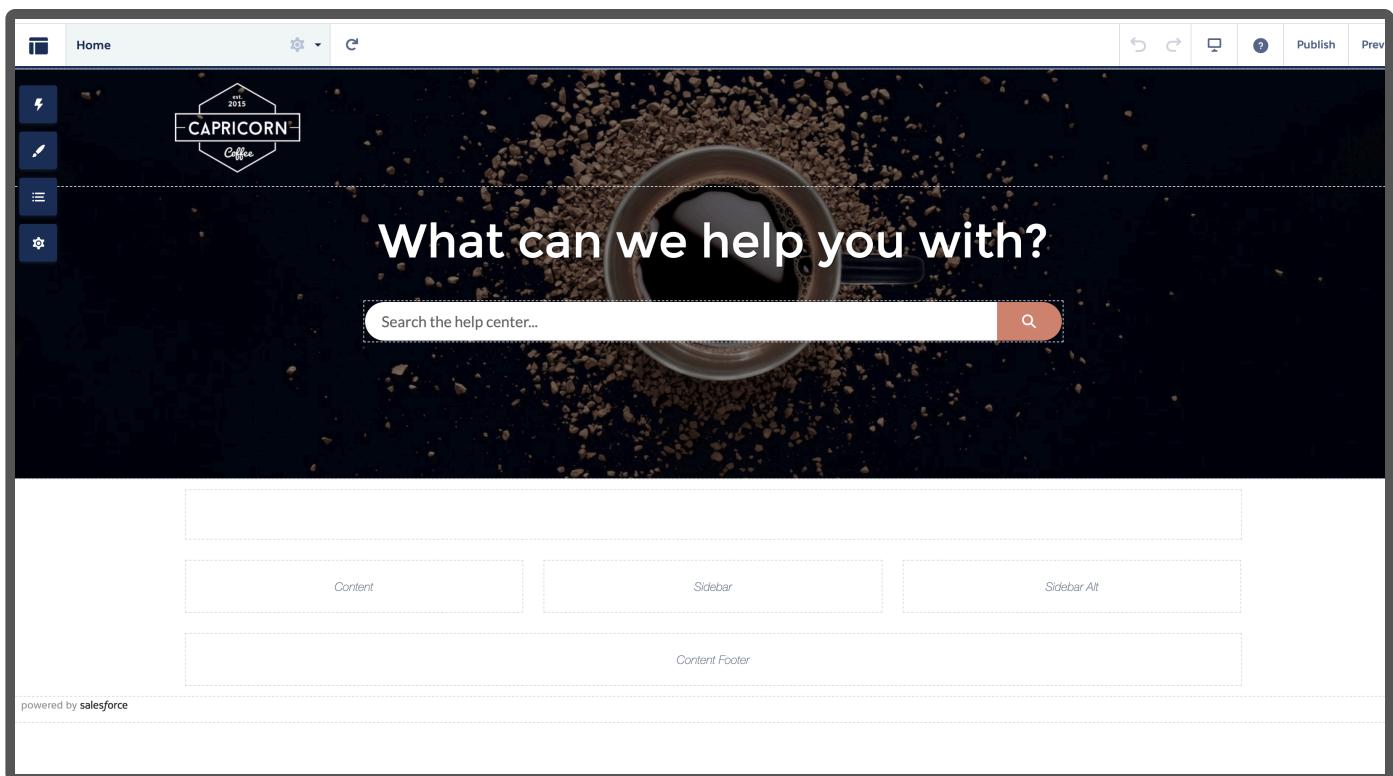
[Save](#) [Cancel](#)

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



Home



Components



▼ 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 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

MultiChat Management

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. With help of the MultiChat Management feature, agents will be able to easily identify the contact while switching.

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

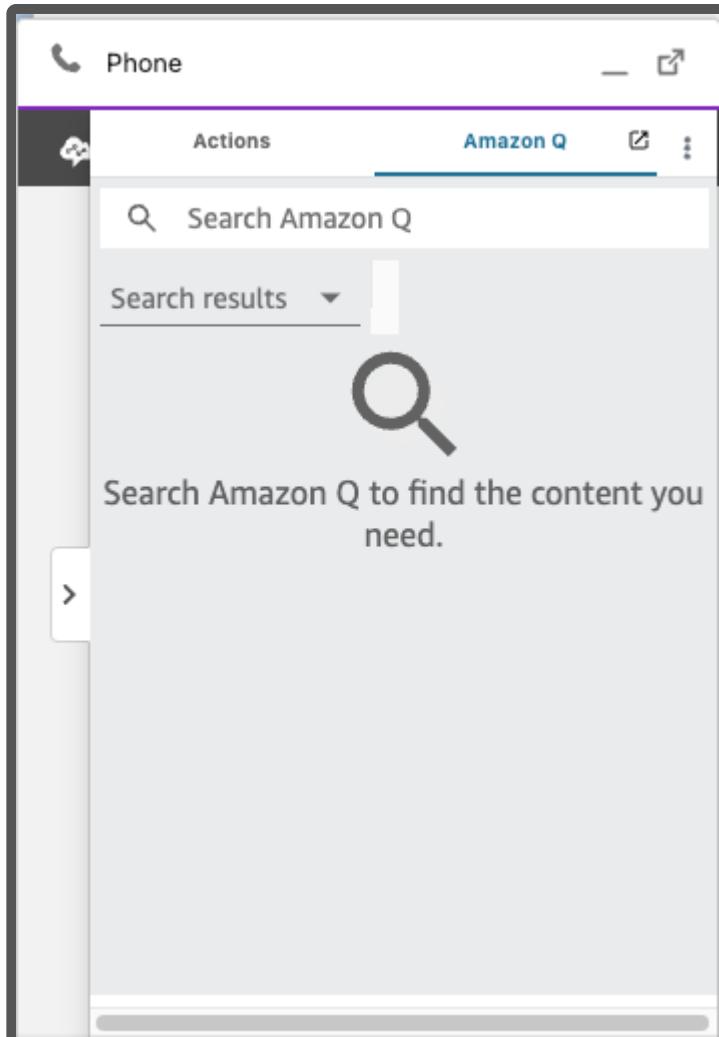
- It's essential to acknowledge that the "onViewContact" event can be triggered multiple times during the lifecycle of a single Chat contact.
- The advisable practice is to utilize only ScreenPop CTI Flow blocks within the CTI Flow associated with the "onViewContact" event.
 - Examples of CTI Flow blocks 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

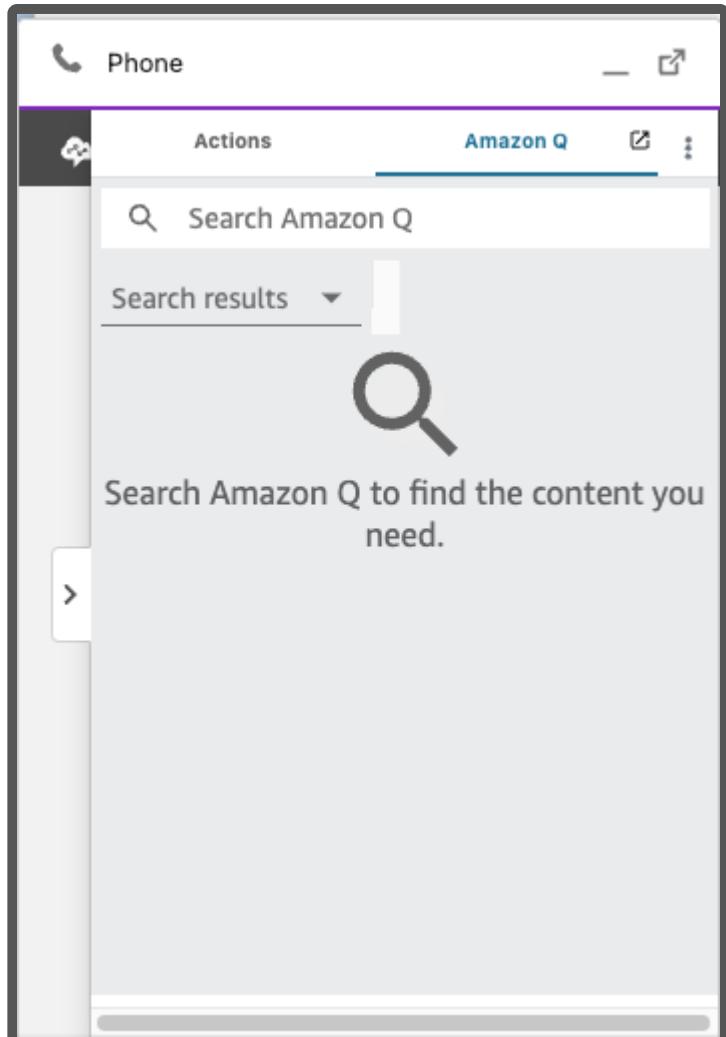
AC Feature	FEATURE_AMAZONQ_PANEL
AC Feature Name	FEATURE_AMAZONQ_PANEL
Value	Enabled:true
Active	<input checked="" type="checkbox"/>

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.

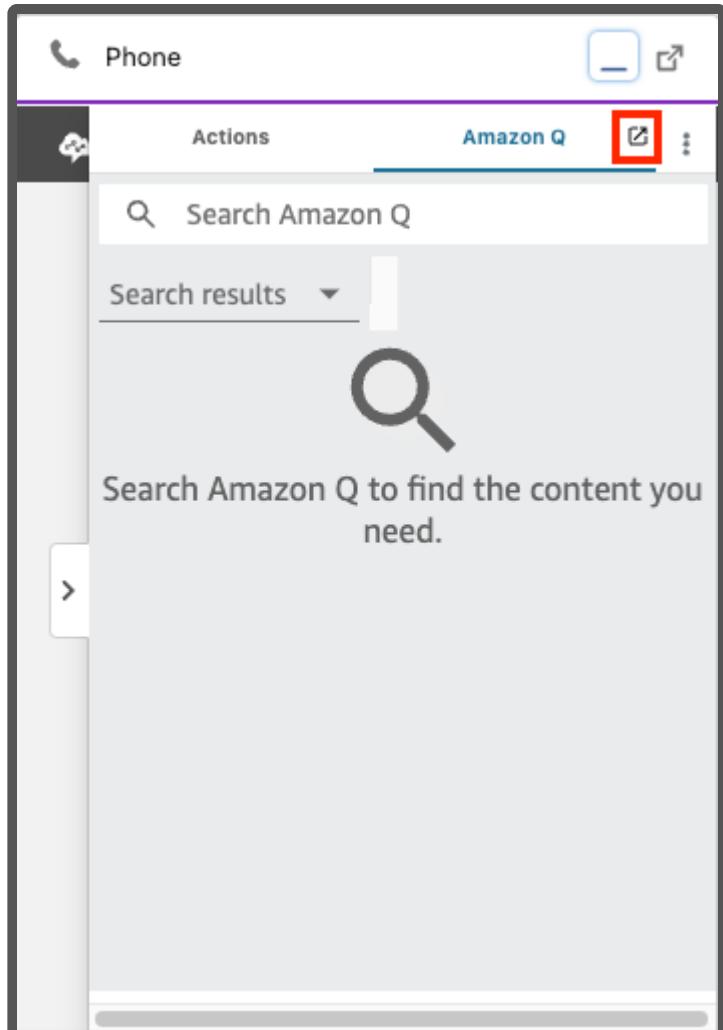
- `IgnorePermissionSet: true`

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.

er Profile Groups Files Leads Accounts Contacts Opportunities Reports Dashboards Products 

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](#)

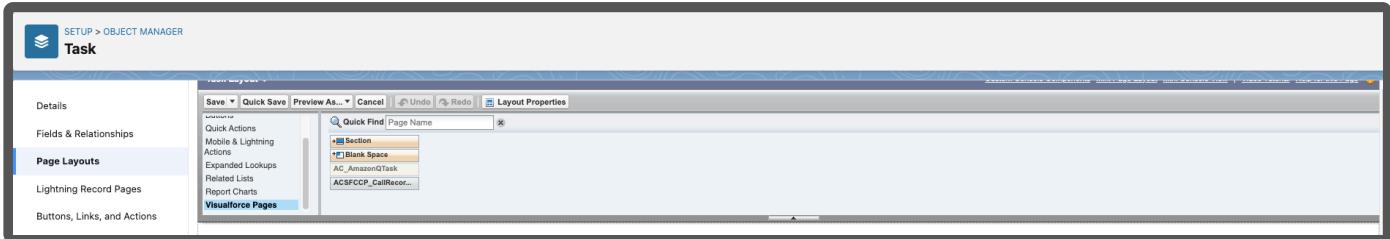
Search Amazon Q
Search results

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.

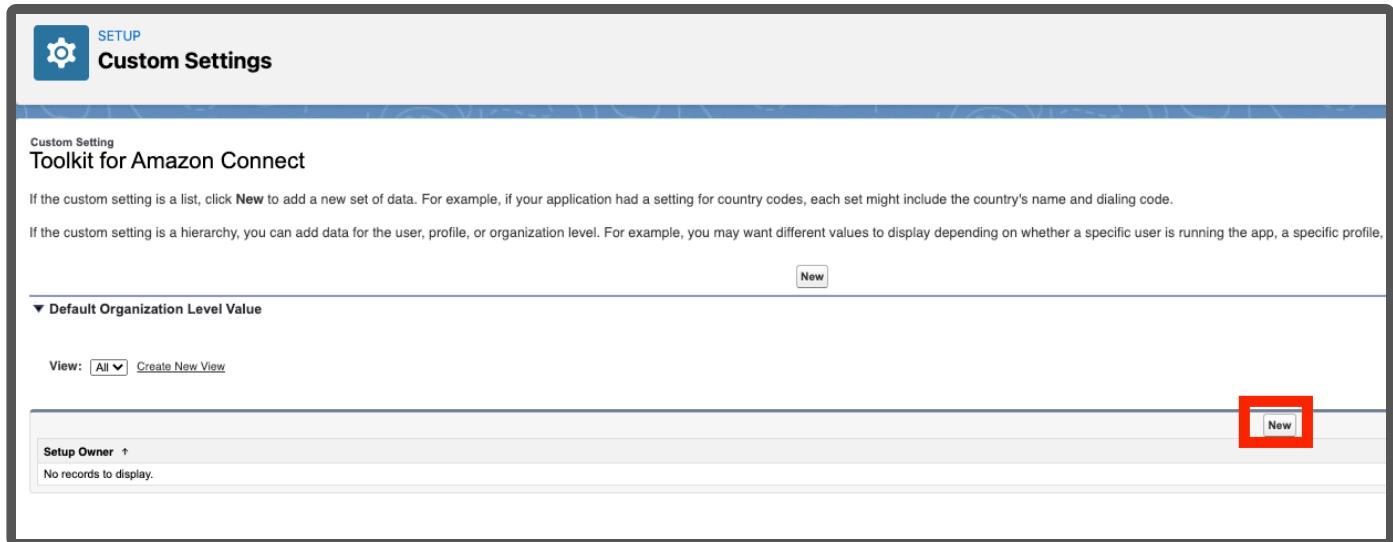
The integration between Voice Id and the CTI Adapter first requires that Voice Id is set up in the Amazon Connect instance that the CTI Adapter is integrated with. See [here](#) for full instructions.

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 Settings' page in Salesforce. At the top, there's a 'SETUP' button and a 'Custom Settings' section header. Below this, the title 'Toolkit for Amazon Connect' is displayed. A note explains that if the custom setting is a list, clicking 'New' adds a new set of data. Another note says if it's a hierarchy, you can add data for user, profile, or organization level. A 'Default Organization Level Value' section is shown with a 'View' dropdown set to 'All' and a 'Create New View' link. At the bottom, there's a table with a single row labeled 'Setup Owner' and a note 'No records to display.' On the far right of the table, there's a 'New' button, which is highlighted with a red box.

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

[« Back to List: Custom Object Definitions](#)

AC Voice Id Channel Detail

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

AC Voice Id Channel Name	Voice Id Channel 000000000
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.

Set Up for CITRIX VDI Platform

CTI Adapter enables agents to leverage Citrix remote desktop applications to offload audio processing to their local device and to automatically redirect audio to CTI Adapter opened in remote application. In order to know about audio improvement in CCP using 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

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 **VDPPlatform**
4. Set the **Value** to be **Name:CITRIX**

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.

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

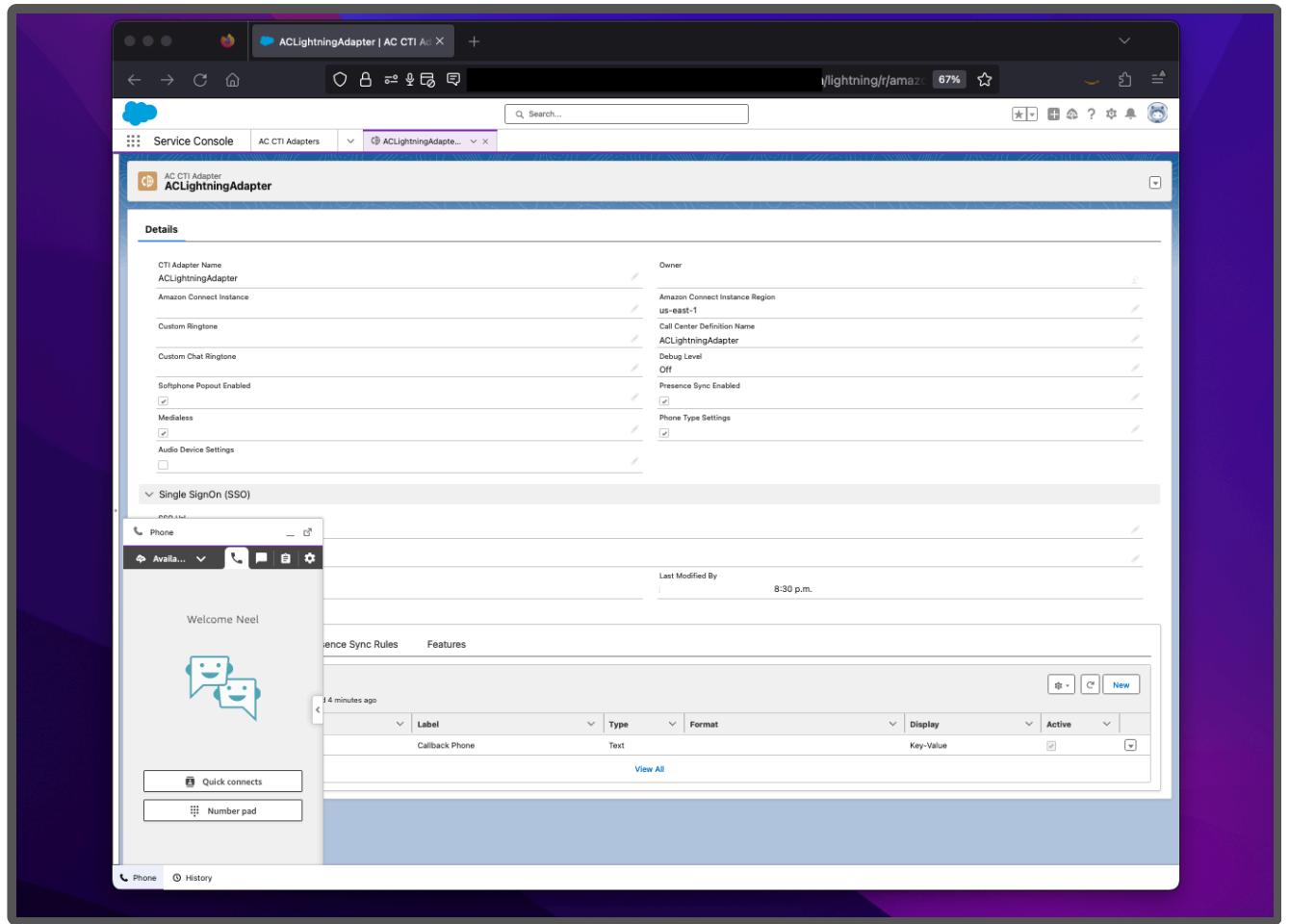
3. Open the relevant AC CTI Adapter.

4. In the details section, activate the "Medialess" option by marking the checkbox.

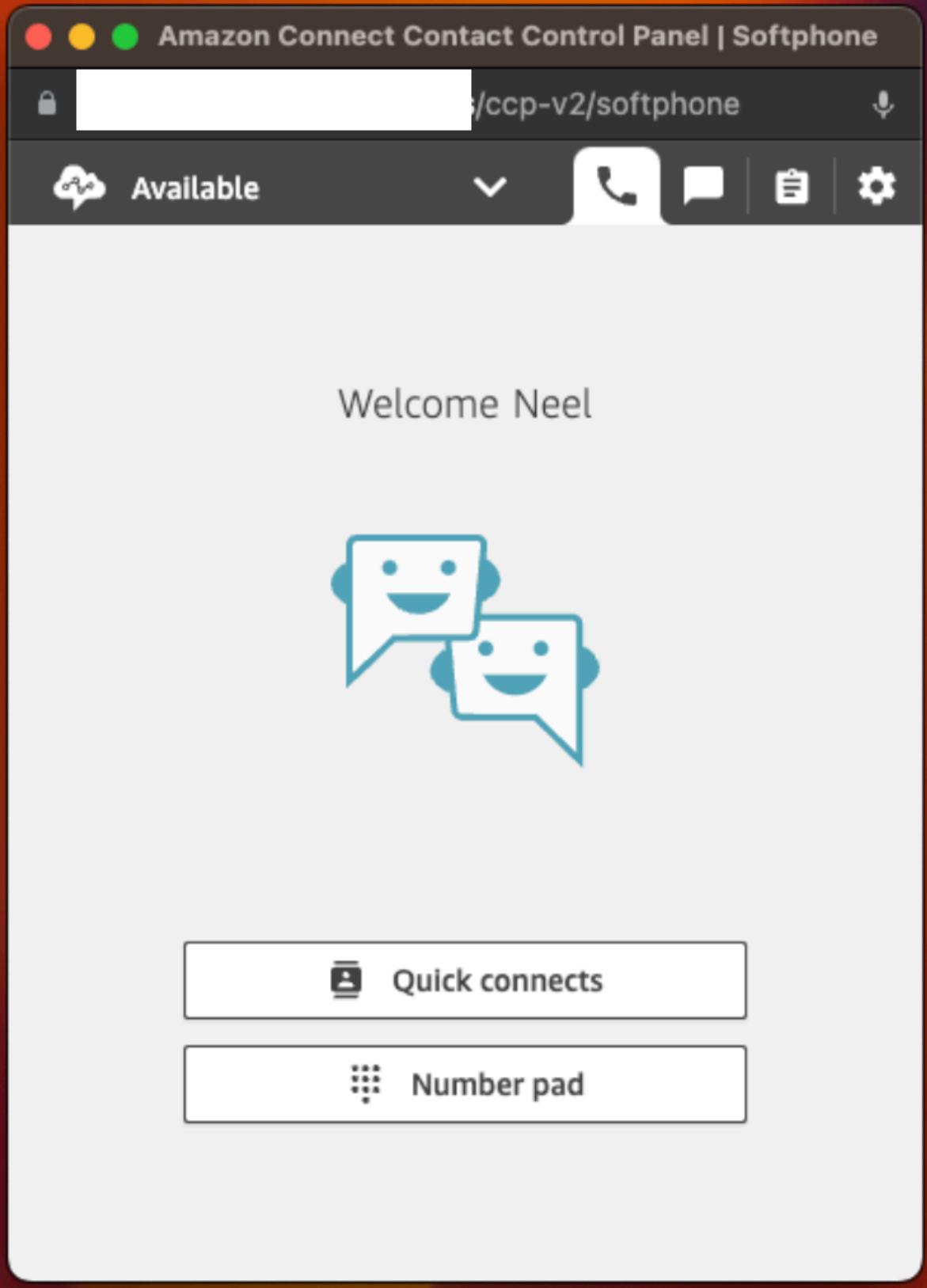
5. Refresh the browser. Launch the SoftPhone and log in to CCP.

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.

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

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

Destination key
sf_operation

Value
lookup

Use text

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

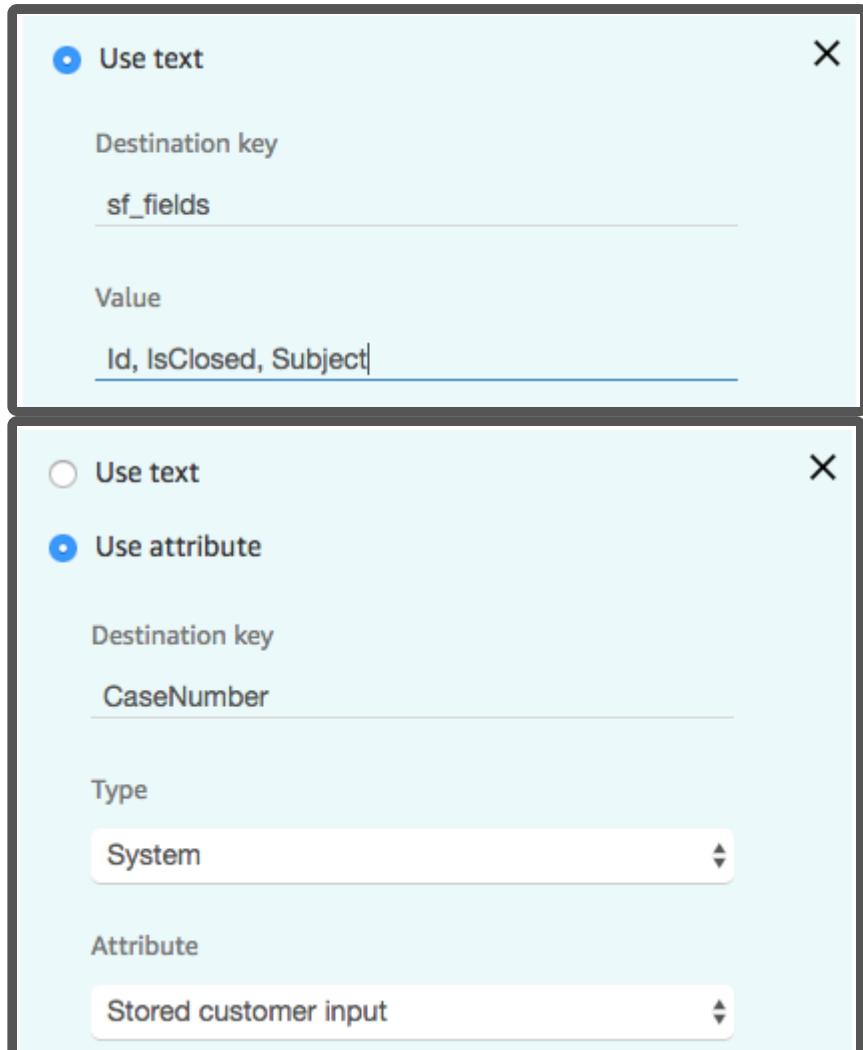
X

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 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 'sfInvokeAPI' 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

X

Destination key

Status

Value

New

Use text

Use attribute

X

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

X

Destination key

Subject

Value

Amazon Connect Case

Use text

X

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 'sflInvokeAPI' 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

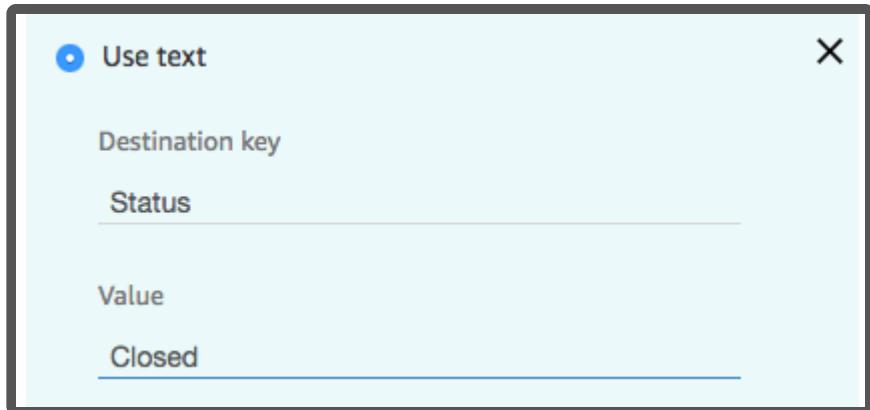
External



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 '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

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": "0031r000026MVPAA4",  
    "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

X

Destination key

sf_subjectId

Value

00303000001RZflAAW

Use attribute

X

Use text

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 {{ casId }}"
- casId: 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

X

Destination key

sf_feedElementId

Value

0D503000000ILY5CAO

Use attribute

Use text

X

Destination key

sf_commentType

Value

Text

Use attribute

Use text



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 API 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...](#)

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

Service Providers		Service Providers are now created via Connected Apps. Click here.
Name	Created Date	
No Service Providers		

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

Identity Provider

[Help for this Page](#) 

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

Quick Tips

- Certificates and Keys
- About Single Sign-On
- My Domain

Identity Provider Setup

[Edit](#) [Disable](#) [Download Certificate](#) [Download Metadata](#) 

▼ Details

Issuer <https://ctiadapterdemo-dev-ed.my.salesforce.com>

▼ Currently chosen certificate details

Label	Unique Name
SelfSignedCert_17Feb2020_221125	SelfSignedCert_17Feb2020_221125

Created Date 2/17/2020, 2:11 PM Expiration Date 2/17/2021, 4:00 AM

Key Size 2048

▼ SAML Metadata Discovery Endpoints

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

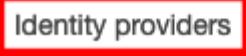
1. Login to the [AWS console](#)
2. Open the [AWS identity and Access Management \(IAM\) Console](#)
3. Select **Identity providers**

Identity and Access Management (IAM)

Dashboard

▼ Access management

- Groups
- Users
- Roles
- Policies

Identity providers 

Account settings

4. Choose **Add Provider**

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

Add an Identity provider

Configure provider

Provider type

SAML

Establish trust between your AWS account and a SAML 2.0 compatible Identity Provider such as Shibboleth or Active Directory Federation Services.

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

 AWS service EC2, Lambda and others	 Another AWS account Belonging to you or 3rd party	 Web Identity Cognito or any OpenID provider	 SAML 2.0 federation Your corporate directory
--------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------

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 SalesforceConnect ▾

[Create new provider](#) [Refresh](#)

Allow programmatic access only
 Allow programmatic and AWS Management Console access

Attribute SAML:aud ▾

Value*

Condition [+ Add condition \(optional\)](#)

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' wizard in the AWS IAM console. Step 2 is selected. A search bar at the top right contains the text 'SalesforceConnectPolicy'. Below the search bar is a table with one row. The row contains a checkbox checked, the policy name 'SalesforceConnectPolicy', and a column labeled 'Used as' with the value 'None'.

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.com
Contact Phone	
Logo Image URL	Upload logo image or Choose one of our sample logos
Icon URL	Choose one of our sample logos
Info URL	
Description	

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	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="text"/> 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="text"/> <div style="border: 1px solid #ccc; padding: 5px; width: 100%;"> Insert Field Insert Operator ▾ \$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=""/> <code>'arn:aws:iam::YOURACCOUNT:saml-provider/SalesforceConnect' & ',' & 'arn:aws:iam::YOURACCOUNT:role/SalesforceConnectRole'</code>
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

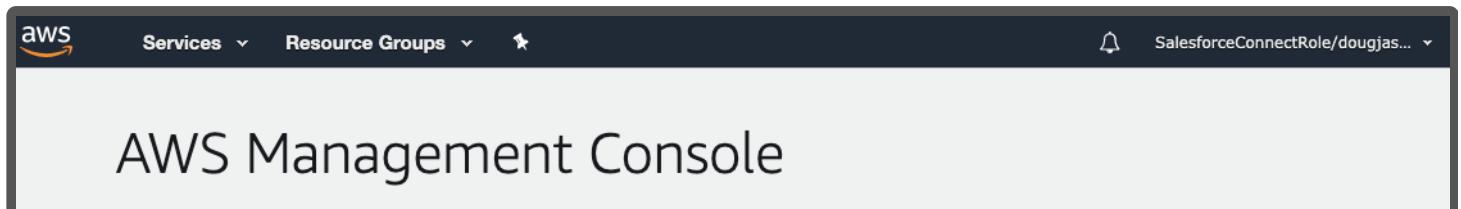
20. At the top of the Connected App description, select **Manage**
21. Scroll down to the **SAML login Information** section
22. Copy the **IdP-Initiated Login URL** to your computer's notepad
23. Scroll down to find the Profiles section, then select **Manage Profiles**
24. Select a profile from the 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 'Account overview' page. The top navigation bar shows 'Amazon Connect > guidedsetuptest-instance-w3dgh2 > Overview'. Below the navigation, there's a section titled 'Access information' with an 'Access URL' field containing the value 'https://guidedsetuptest-instance-w3dgh2.my.connect.aws'. To the right of this, under 'Emergency access', there is a button labeled 'Log in for emergency access' which is highlighted with a red box. A warning message below the button states: '⚠️ Warning: Use this login method only for emergencies. Do not use for your day-to-day operations.'.

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 steps: 'Select source' (done), 'Add user details' (selected), and 'Verify user details'. The 'Add user details' step has three input fields: 'First name' (Jason), 'Last name' (Douglas), and 'Login name' (j+ctiadapterdemo@amazon.com). Below these are three sections: 'Routing Profile' (Basic Routing Profile), 'Security Profiles' (Admin), and 'Phone Type' (Soft phone, Auto-Accept Call unchecked, After call work (ACW) timeout: 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 `Instanceld` 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.

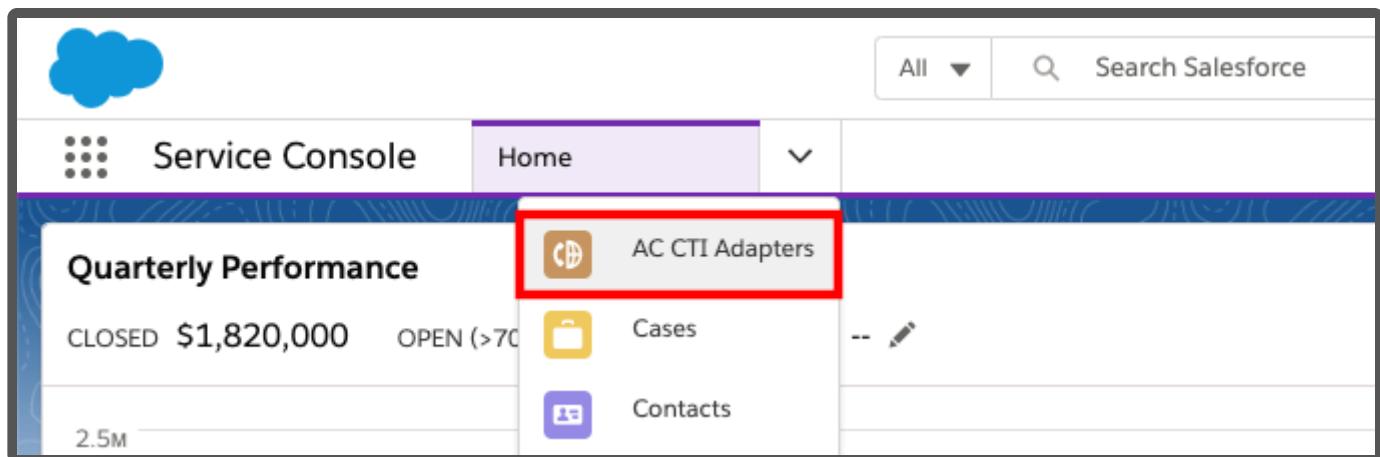
5. Once you validate the full URL, you are ready to add it to the Lightning Adapter

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.

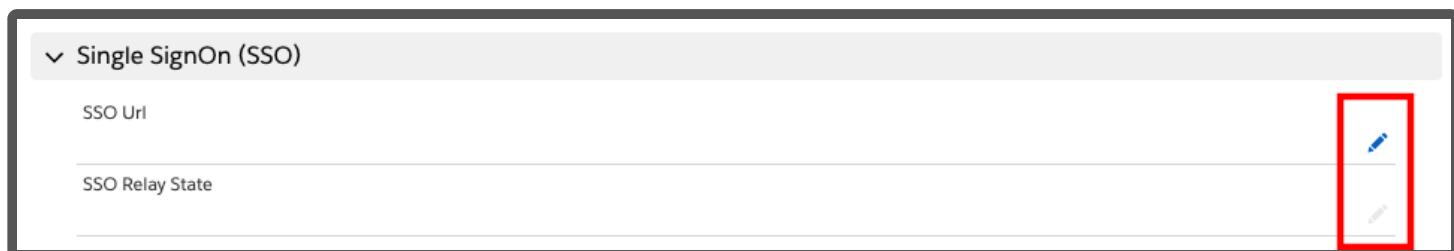
1. Log in into your Salesforce org and go to the **Service Console**

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=0sp0N00000Caid&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

Single SignOn (SSO)

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

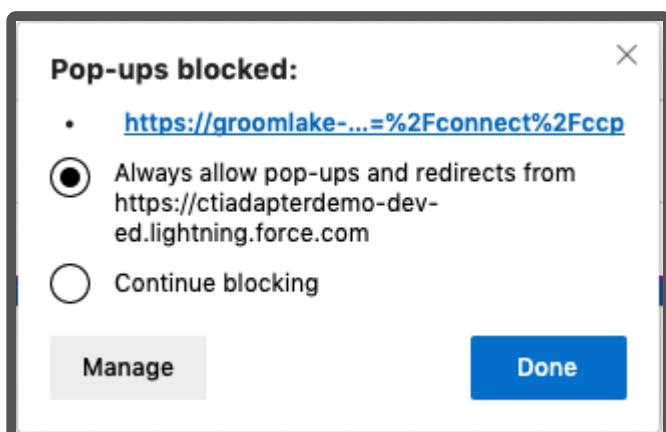
SSO Relay State
app=0sp6g000000XZyd&RelayState=https://us-west-2.console.aws.amazon.com/connect/federate/YOUR-INSTANCE-ID?
destination=%2Fconnect%2Fccp

9. Choose **Save**

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

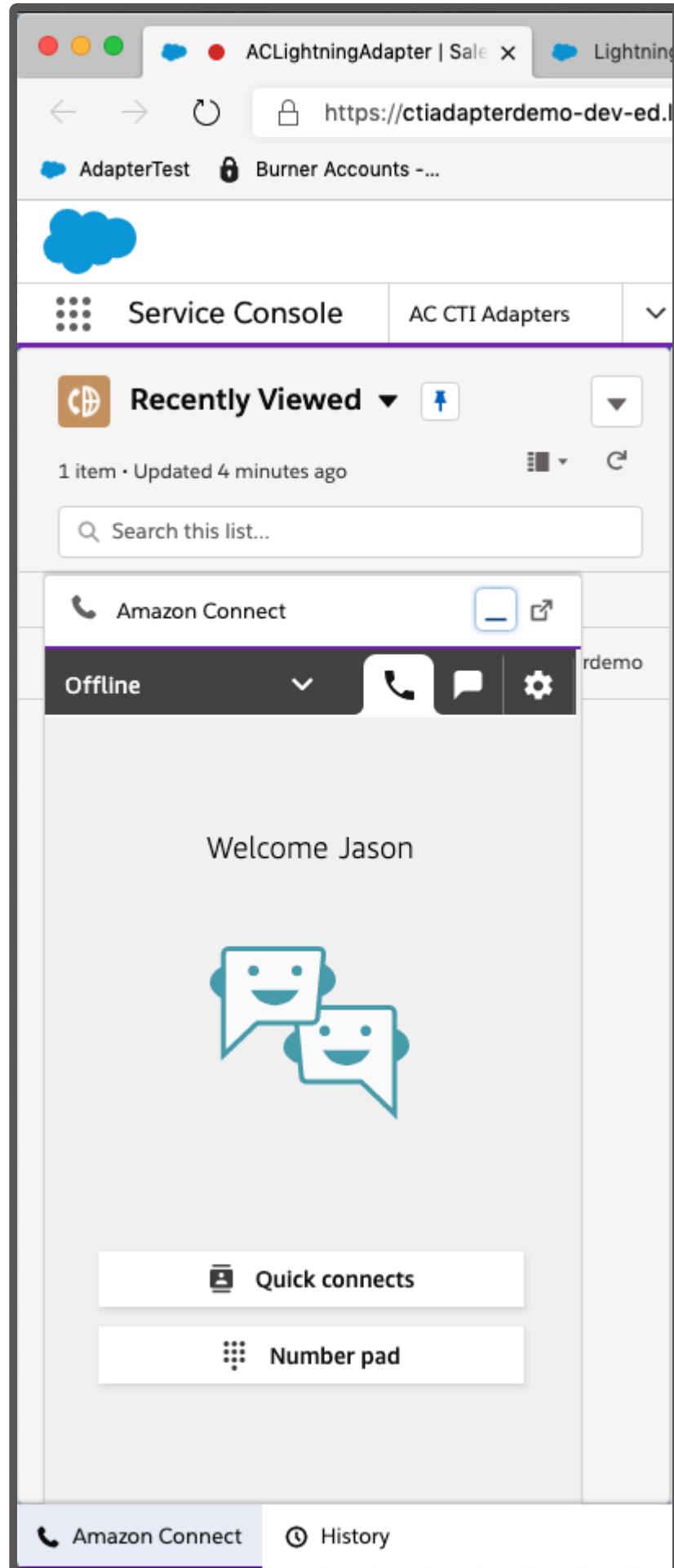
a. **NOTE:** If you receive a blocked popup warning, select the warning and change the setting to always allow popups from your Salesforce org, then refresh the browser again



11. 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: Amazon Connect Chat Contact

Event: onClickToDial

[Download](#)

Screen Pop on Customer Phone Number

Source: Amazon Connect Voice Contact

Event: onConnecting

[Download](#)

Screen Pop a Case on Contact Attribute Data (if it exists) or Pop a New Case (if it does not)

Source: Amazon Connect Voice Contact

Event: onConnecting

[Download](#)

Create a Task (Call Activity) and Pop That Task

Source: Amazon Connect Voice Contact

Event: onConnecting

[Download](#)

Screenpop on Customer Email Address (in contact attribute data)

Source: Amazon Connect Chat Contact

Event: onConnecting

[Download](#)

Create a Task (Call Activity) and Pop That Task

Source: Amazon Connect Chat Contact

Event: onConnecting

[Download](#)

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 Reference Urls

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.