# Integrate Third Party Gadget and User Interface into PCCE

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# Introduction

This document describes the steps to integrate third party gadget and third party User Interface (UI) into Package Contact Center Enterprise (PCCE).

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# **Prerequisites**

# Requirements

Cisco recommends that you have knowledge of Cisco Package Contact Center Enterprise

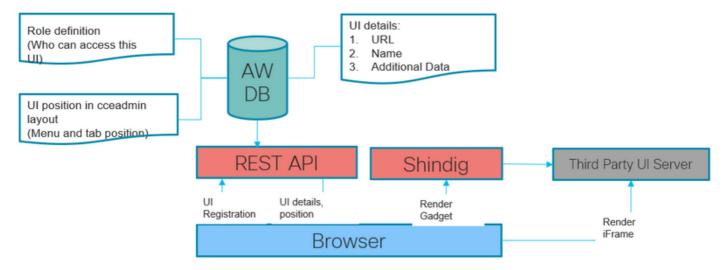
# **Components Used**

The information used in the document is based on PCCE 12.5(1) version.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any step.

# **Background Information**

With PCCE 12.5 release start the support of third-party User Interface (UI) integration into the Contact Center Enterprise (CCE) Administration. This feature enables to host such UI's on CCE Web Administration tool to provide administrative Single Pane of Glass (SPOG) experience. You start with a browser where you register your third party application or user interface. An Application Programming Interface (API) layer stores the details into the Administration Workstation (AW) database and additional information like where to place this user interface in the SPOG. You can render any UI interface or you can render a gadget via shindig.



# Configure

# **Manage Third-Party Integration**

Step 1. In Unified CCE Administration, navigate to Overview > Features > Third-party Integration.

**Note**: Only system administrators can add, edit, or delete a third-party user interface and customize the Unified CCE Administration layout. Third-party gadgets can be added or modified only from a principal AW machine.

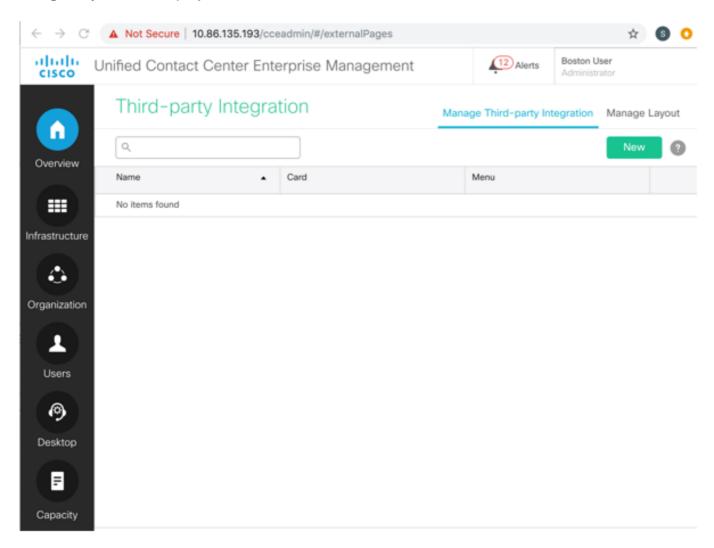


Third Party Integration page has two tabs:

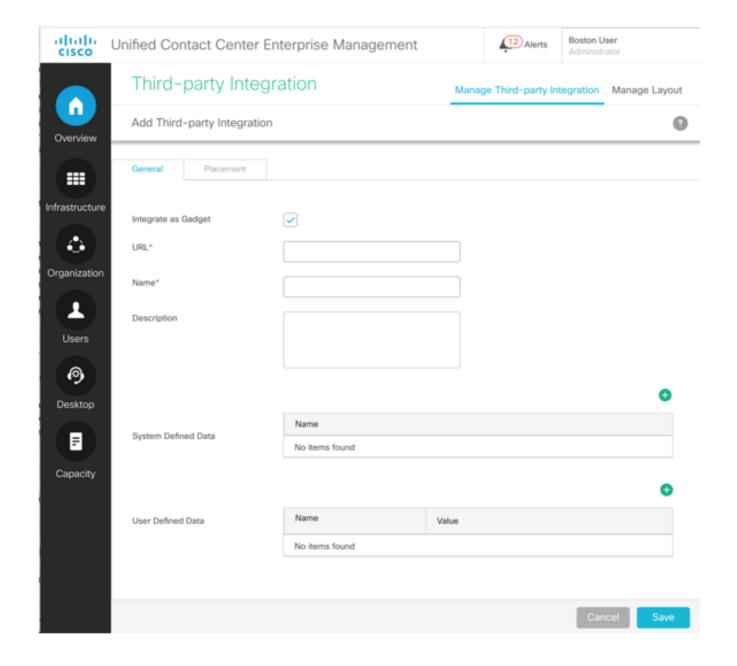
- 1. Manage Third-party Integration
- 2. Manage Layout.

**Manage Third-party Integration** tab list down all the third party UI integrated to CCE Web Administration tool. Administrator can integrate, update and delete any Third Party UI from this tab. Administrator can integrate up to 100 new Third Party UI pages.

Manage Layout tab displays all the cards and menus.



Step 2. On the Manage Third-party Integration tab, click New.



Step 3. In the General tab complete this information.

**Integrate as Gadget:** If the partner developed administrative UI is in open social gadget XML format, select this check-box.

Un-check the check box, if the third party UI is embeddable external iframe.

**URL:** Enter the secure URL of the third-party user interface.

**Description(optional):** Enter up to 255 characters to describe the third-party user interface. There is no restriction on the special characters.

**Name:** Name of the Third Party UI while accessed from CCE administration tool. This will be used as page title.

**System Defined Data (optional):** These are predefined variable data based on logged-in user and deployment.

Deployment Type: The current deployment type.

Current User: The credentials of the logged on user.

Current Role: The role of the logged on user.

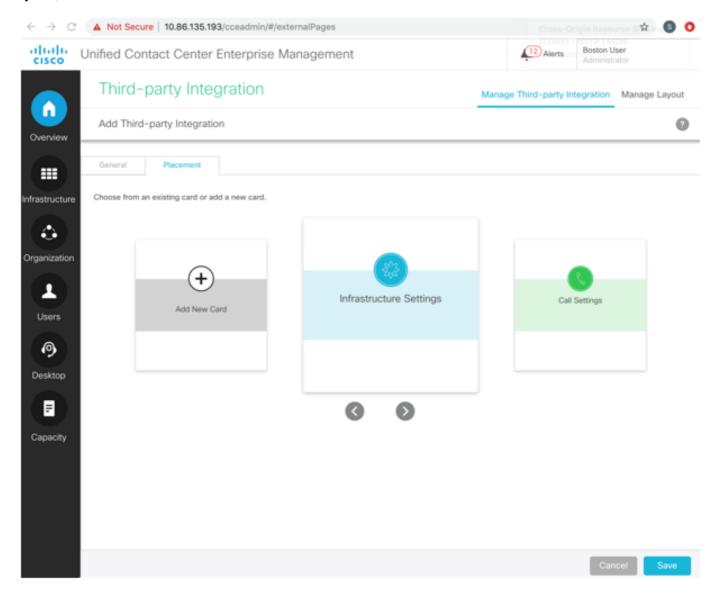
API-based URL: The base URL on to which the APIs are loaded.

Locale: The current locale setting

**User Defined Data(optional):** These data are fixed for all users. These are key-value pair.

**Note**: All these data is sent across to the third party iframe (upon render through query param). The security concern is addressed through the mandatory usage of https for all third party UI.

Step 4. To set the placement of the third-party user interface in the Unified CCE Administration layout, click the Placement tab.

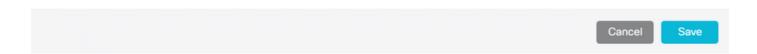


To add to a new menu in a new card:

- a) Use the < and > icons to scroll and select the Add New Card card.
- b) Click to select a color and icon for the card.
- c) Click next to Add Title to enter the card title.
- d) Click Save. The new card is displayed in the list of cards.
- e) In the new card, click to enter the menu name. Click to save.

# Add a New Card

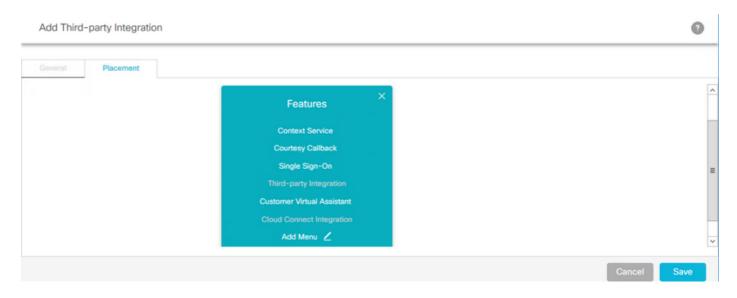




Note: You can only add up to eight cards.

To add to a new menu in a system-defined card:

- a) Scroll using the < and > icons to select a system-defined card.
- b) Click to enter the menu name. Click to save. In this example, the Features card is used to add a new menu.



Note: You can only add up to seven menus in each card and in each menu up to five tabs.

To add to a system-defined menu in a system-defined card:

a) Select the menu. The selected menu is highlighted in a red box. In this example the infrastructure settings card and the log Collection menu is selected for the placement of the new UI.

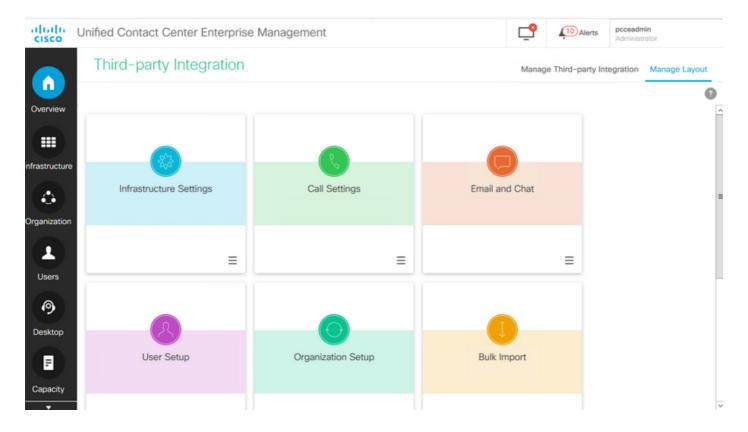


Note: You can only add up to seven menus in each card and in each menu up to five tabs

Step 5 Click Save.

## **Manage Layout**

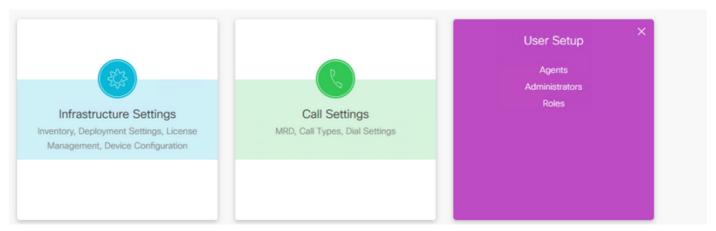
Manage Layout Tab displays all the cards and menus. Administrator can add menus to system defined cards, change positions of User defined cards, and can edit and delete only user defined cards and menus.



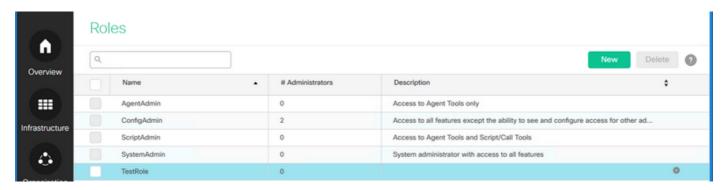
## **Role Based Access**

System administrators can assign access to the third-party user interface to custom roles.

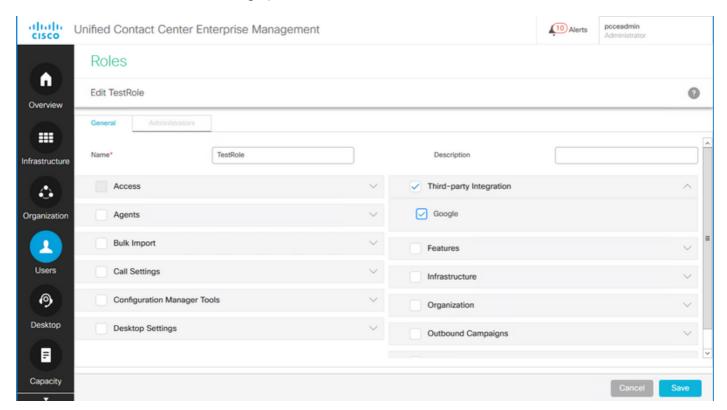
Step 1. Navigate to User Setup > Roles.



Step 2. Select the custom role.



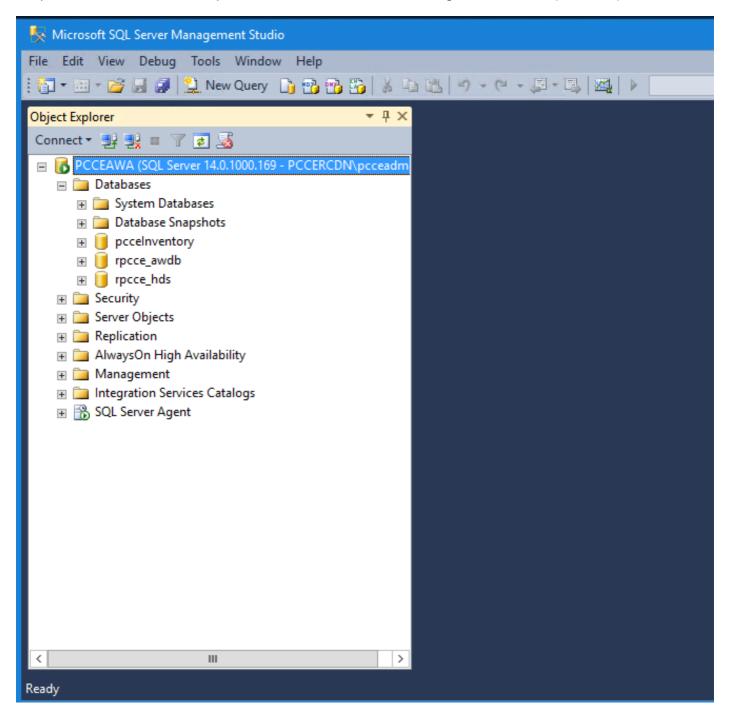
Step 3. Under Third-party Integration, select the check box that is named after the third-party user interface (for example, if the name of the third-party user interface is Google, CCE Administration creates a check box named Google) and click Save.



# Verify

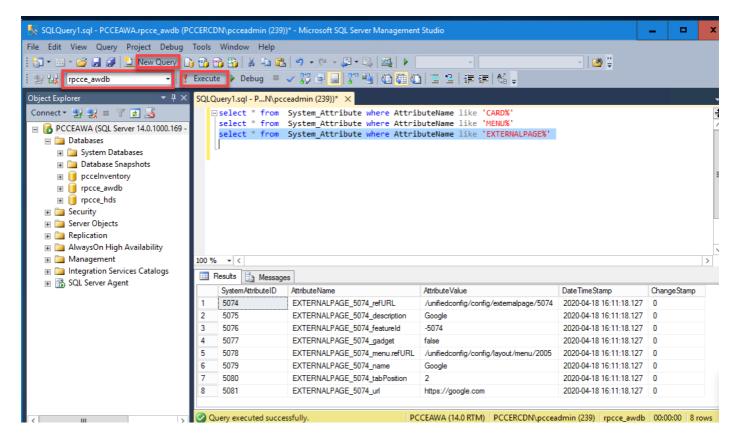
Third Party Integration feature uses System\_Attribute Table in the configuration database (Logger and AW) to store Card, Menu, Gadget and Layout configuration. Here is an example of the third-party integration information added to the database.

Step 1. On the AW server, open Microsoft SQL Server Management Studio (MSSMS).



Step 2. On the MSSMS, click on New Query tab, select the awdb database and on the query window type the query for the specific component added (CARD, MENU, EXTERNALPAGE).

Step 3. Click on **Execute** to run the query.



#### Cards:

select \* from System\_Attribute where AttributeName like 'CARD%'

SystemAttributeID	AttributeName	AttributeValue	DateTimeStamp	ChangeStamp
5040	CARD_5040	{"header":"Card1","icon":"circle- custom-widget", "color":"pink", "isSystemDefined":false}	2019-11-13 08:23:42.797	0

#### Menues:

select \* from System\_Attribute where AttributeName like 'MENU%'

SystemAttributeID	AttributeName	AttributeValue	DateTimeStamp	ChangeStamp
5041	MENU_5041	{"name":"menu1","cardId":5039, "isSystemDefined":false}	2019-11-13 08:25:20.534	0

#### **External Pages:**

select \* from System Attribute where AttributeName like 'EXTERNALPAGE%'

SystemAttributeID	AttributeName	AttributeValue	DateTimeStamp	ChangeStamp
5042	EXTERNALPAG E_5052_refUR L	/unifiedconfig/config/external page/5052	2019-11-13 09:03:20.307	0
5043	EXTERNALPAG E_5052_featur eld	-5052	2019-11-13 09:03:20.307	0
5044	EXTERNALPAG E_5052_gadge t	false	2019-11-13 09:03:20.307	0
5046	EXTERNALPAG E_5052_menu. refURL	/unifiedconfig/config/layout/menu/5 041	2019-11-13 09:03:20.307	0

## **Troubleshoot**

## **Scenarios**

Here are different scenarios to troubleshoot:

- 1. Third Party UI does not load and provides an error in console: "A cookie associated with a cross-site resource at <URL> was set without the `SameSite` attribute."
- If **X-Frame-Options** is set in cookies for Third Party UI, page will not load. Ensure **X-Frame-**Options are not set for Third Party UI pages.
- 2. Third Party UI does not load with error: "The request reached the server but it took too long to respond. Try reloading the page."

This could be an issue with respect to certificates not imported. Ensure you import the appropriate certificate from the host UI machine.

- 3. New Card and Menu is not displayed in UI:
- Step 1. Ensure administrator has logged-out and logged-in again after integration Third Party UI.
- Step 2. Check the output of UI Access details API:
- https://<host>/unifiedconfig/config/uiaccesslist/uiaccessdetails.
- Step 3. Check if Third Party UI is registered properly as a new feature: https://<host>/unifiedconfig/config/role/available\_features.
- Step 4. Check if user role has access to the new Third Party UI: https://<host>/unifiedconfig/config/role/<roleId>.
- Step 5. Check browser console logs if there is any error.

# Log Analysis

The Tomcat logs c:\icm\tomcat\logs\CCBU.<timestamp> are needed to troubleshoot the

scenarios related the APIs request in a third-party integration. Here are example of tomcat logs when you add a card, menu and an external page:

#### Card API

- 0000000204: 192.168.25.30: Nov 25 2019 10:48:25.769 -0500: %CCBU\_ajp-nio-127.0.0.1-8009-exec-5-6-REQUEST\_START: %[ip.orig=10.61.220.114][method\_name=POST][parameter\_name={ }][port.orig=60067][protocol=HTTP/1.1][resource\_name=/layout/card][usr=boston@boston.com]: Request start
- 0000000905; 192.168.25.30: Nov 25 2019 10:48:26.068 -0500: %CCBU\_187-CARD-CREATE-6-REST\_API\_INFO: CceTransaction.createTransaction: principal=GenericPrincipal[boston@boston.com(Administrator,)] userName=boston userDomain=BOSTON
- 0000000906: 192.168.25.30; Nov 25.2019 10:48:26.113 -0500; %CCBU\_187-CARD-CREATE-6-REST\_API\_INFO;
  Committing records (verified=true): [cdbRecord cptr = 457192704 [tableName: System\_Attribute op: OP\_INSERT fields: {AttributeValue={"header":"Card2","icon":"circle-custom-widget","color":"pink","isSystemDefined" false}. SystemAttributeID=5084, AttributeName=CARD\_5084}], cdbRecord cptr = 457192592 [tableName: System\_Attribute op: OP\_UPDATE fields: {ChangeStamp=2, AttributeValue=5038:1,5084:2, SystemAttributeID=5039, AttributeName=CARD\_POSITIONS}]]
- 0000000909: 192,168,25,30; Nov 25 2019 10;48;26,342 -0500; %CCBU\_187-CARD-CREATE-6-REST\_API\_INFO: create -- created url: /unifiedconfig/config/layout/card/5084 uriInfo: https://10.86.135.193/unifiedconfig/config/responseUrl: https://10.86.135.193/unifiedconfig/config/layout/card/5084
- 0000000206: 192.168.25.30: Nov 25 2019 10:48:26.551 -0500; %CCBU\_ajp-nio-127.0.0.1-8009-exec-5-6-REQUEST\_END: %[PARAM\_TIME\_ELAPSED=774]: Request complete

## Menu API

- 0000000402: 192.168.25.30: Nov 25 2019 11:10:17.030 -0500: %CCBU\_ajp-nio-127.0.0.1-8009-exec-6-6-REQUEST\_START: %[ip.orig=10.61.220.114][method\_name=POST][parameter\_name={ }][port.orig=60067][protocol=HTTP/1.1][reso\_urce\_name=/layout/menu][usr=boston@boston.com]: Request start
- 0000003532: 192.168.25.30: Nov 25 2019 11:10:17.288 -0500: %CCBU\_450-MENU-CREATE-6-REST\_API\_INFO: CceTransaction.createTransaction: principal=GenericPrincipal[boston@boston.com(Administrator,)] userName=boston userDomain=BOSTON
- 4. 0000003539: 192.168.25.30; Nov 25 2019 11:10:17.856 -0500; %CCBU\_450-MENU-CREATE-6-REST\_API\_INFO: create -- created url: /unifiedconfig/config/layout/menu/5085 uriInfo; https://10.86.135.193/unifiedconfig/config/layout/menu/5085
  https://10.86.135.193/unifiedconfig/config/layout/menu/5085
- 0000000404: 192.168.25.30: Nov 25 2019 11:10:18.575 -0500; %CCBU\_ajp-nio-127.0.0.1-8009-exec-6-6-REQUEST END: %[PARAM\_TIME\_ELAPSED=1542]: Request complete

#### **External Page API**

- 0000000636: 192.168.25.30: Nov 25 2019 11:37:53.233 -0500: %CCBU\_ajp-nio-127.0.0.1-8009-exec-9-6-REQUEST\_START: %[ip.orig=10.61.220.114][method\_name=POST][parameter\_name={} }[port.orig=60067][protocol=HTTP/1.1][resource\_name=/externalpage][usr=b-oston@boston.com]: Request start
- 0000006942: 192.168.25,30: Nov 25 2019 11:37:53.365 -0500: %CCBU\_753-EXTERNAL PAGE-CREATE-6-REST\_API\_INFO: CceTransaction.createTransaction: principal=GenericPrincipal[boston@boston.com(Administrator,)] userName=boston userDomain=BOSTON
- 0000006943: 192.168.25.30: Nov 25 2019 11:37:53.382 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: Adding New attribute: EXTERNALPAGE\_5086\_refURL:/unifiedconfig/config/externalpage/5086
- 0000006944: 192.168.25.30: Nov 25 2019 11:37:53.384 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: Adding New attribute: EXTERNALPAGE\_5086\_featureld: -5086
- 0000006945: 192.168.25,30: Nov 25 2019 11:37:53.384 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: Adding New attribute: EXTERNALPAGE\_5086\_gadget:false
- 0000006946: 192.168.25,30: Nov 25 2019 11:37:53,385 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: Adding New attribute: EXTERNALPAGE\_5086\_menu.refURL:/unifiedconfig/config/layout/menu/5085
- 7. 0000006947: 192.168.25.30: Nov 25 2019 11:37:53.385 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: Adding New attribute: EXTERNALPAGE\_5086\_name:MomentJS
- 8. 0000006948: 192.168.25.30: Nov 25 2019 11:37:53.385 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: Adding New attribute: EXTERNALPAGE\_5086\_tabPosition:1
- 0000006949: 192.168.25.30: Nov 25 2019 11:37:53.386 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: Adding New attribute: EXTERNALPAGE\_5086\_url:https://momentijs.com/
- 0000006950: 192.168.25.30: Nov 25 2019 11:37:53.388 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: Committing records (verified=true): [cdbRecord cptr = 457193216 [tableName. System. Attribute.op: OP\_INSERT fields: {AttributeValue=/unifiedconfig/config/externalpage/5086, AttributeName=EXTERNALPAGE\_5086\_refURL}], cdbRecord cptr = 457193152 [tableName. System. Attribute.op: OP\_INSERT fields: {AttributeValue=-5086, AttributeName=EXTERNALPAGE\_5086\_featureId}], cdbRecord cptr = 457193840 [tableName. System. Attribute.op: OP\_INSERT fields: {AttributeValue=false, AttributeName=EXTERNALPAGE\_5086\_gadget}], cdbRecord.cptr = 457193728 [tableName. System. Attribute.op: OP\_INSERT fields: {AttributeValue=/unifiedconfig/config/layout/menu/5085, AttributeName=EXTERNALPAGE\_5086\_menu.refURL}], cdbRecord.cptr = 457190272 [tableName. System. Attribute.op: OP\_INSERT fields: {AttributeValue=MomentJS, AttributeName=EXTERNALPAGE\_5086\_name}], cdbRecord.cptr = 457190464 [tableName. System. Attribute.op: OP\_INSERT fields: {AttributeValue=https://momentjs.com/, AttributeName=EXTERNALPAGE\_5086\_url}]]
- 11. 0000006953: 192.168.25.30: Nov 25 2019 11:37:53.944 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: External Page data added. Assign default roles
- 12. 0000006957: 192.168.25.30: Nov 25 2019 11:37:54.116 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: Committing records (verified=true): [cdbRecord cptr = 457190784 [tableName: Feature: Control. Set. op: OP\_UPDATE fields: {ChangeStamp=40, Description=System administrator with access to all features; EnterpriseName=SystemAdmin, FeatureSetID=5119, FeatureSetData=-5086,Y#-5077,Y#1,Y#3,Y#5,Y#10,Y#11,Y#12,Y#15,Y#16,Y#17,Y#18,Y#19,Y#20,Y#29,Y#33,Y#37,Y#39,Y#40,Y#41,Y#42,Y#44, Y#45,Y#47,Y#50,Y#51,Y#55,Y#56,Y#57,Y#59,Y#60,Y#62,Y#64,Y#66,Y#67,Y#68,Y#70,Y#73,Y#75,Y#77,Y#80,Y#81,Y #82,Y#83,Y#84,Y#85,Y#86,Y#87,Y#89,Y#90,Y#91,Y#96,Y#97,Y#98,Y#99,Y#103,Y#105,Y#110,Y#111,Y#112,Y#115,Y#
- 13. 0000006950: 192.168.25.30: Nov 25 2019 11:37:53.388 -0500: %CCBU\_753-EXTERNALPAGE\_CREATE-6-REST\_API\_INFO: Committing records (verified=true): [cdbRecord cptr = 457193216 [tableName: System\_Attribute op: OP\_INSERT fields: {AttributeValue=/unifiedconfig/config/externalpage/5086, AttributeName=EXTERNALPAGE\_5086\_refURL}], cdbRecord cptr = 457193152 [tableName: System\_Attribute op: OP\_INSERT fields: {AttributeValue=-5086, AttributeName=EXTERNALPAGE\_5086\_featureId}], cdbRecord cptr = 457193840 [tableName: System\_Attribute op: OP\_INSERT fields: {AttributeValue=false, AttributeName=EXTERNALPAGE\_5086\_gadget}], cdbRecord cptr = 457193728 [tableName: System\_Attribute] op: OP\_INSERT fields: {AttributeValue=/unifiedconfig/config/layout/menu/5085, AttributeName=EXTERNALPAGE\_5086\_menu.refURL}], cdbRecord cptr = 457190272 [tableName: System\_Attribute] op: OP\_INSERT fields: {AttributeValue=MomentJS, AttributeName=EXTERNALPAGE\_5086\_name}], cdbRecord cptr = 457190032 [tableName: System\_Attribute] op: OP\_INSERT fields: {AttributeValue=MomentJS, AttributeValue=1, AttributeName=EXTERNALPAGE\_5086\_tabPosition}], cdbRecord cptr = 457190464 [tableName: System\_Attribute] op: OP\_INSERT fields: {AttributeValue=https://momentjs.com/, AttributeName=EXTERNALPAGE\_5086\_urr}]]
- 14. 0000006953: 192.168.25.30: Nov 25 2019 11:37:53.944 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: External Page data added. Assign default roles
- 15. 0000006957: 192.168.25.30: Nov 25 2019 11:37:54.116 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: Committing records (verified=true): [cdbRecord cptr = 457190784 [tableName: Feature Control Set op: OP\_UPDATE fields: {ChangeStamp=40, Description=System administrator with access to all features, EnterpriseName=SystemAdmin, FeatureSetID=5119, FeatureSetData=-5086,Y#-5077,Y#1,Y#3,Y#5,Y#10,Y#11,Y#12,Y#15,Y#16,Y#17,Y#18,Y#19,Y#20,Y#29,Y#33,Y#37,Y#39,Y#40,Y#41,Y#42,Y#44,Y#45,Y# 0000006960: 192.168.25.30: Nov 25 2019 11:37:54.336 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: update -- updated url: /role/5119
- 0000006988: 192 168.25.30: Nov 25 2019 11:37:55.270 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: SystemAdmin Updated

- 17. 0000006991: 192.168.25.30: Nov 25 2019 11:37:55.400 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: Committing records (verified=true): [cdbRecord cptr = 457193472 [tableName: Feature, Control, SetJop: OP\_UPDATE fields: {ChangeStamp=35, Description=Access to all features except the ability to see and configure access for other administrators, EnterpriseName=ConfigAdmin, FeatureSetID=5120, FeatureSetData=-5086,Y#-5077,Y#1,Y#3,Y#5,Y#10,Y#11,Y#12,Y#15,Y#16,Y#17,Y#18,Y#19,Y#20,Y#29,Y#33,Y#37,Y#39,Y#40,Y#41,Y#42,Y#44,Y#45,Y#47,Y#50,Y#55,Y#56,Y#59,Y#60,Y#62,Y#64,Y#66,Y#67,Y#68,Y#70,Y#73,Y#75,Y#77,Y#80,Y#81,Y#82,Y#83,Y#84,Y#85,Y#86,Y#87,Y#89,Y#91,Y#96,Y#97,Y#98,Y#99,Y#103,Y#105,Y#110,Y#111,Y#112,Y#115,Y#116,Y#117,Y#118,Y#119,Y#185,Y#186,Y#187,Y#1001,Y#1002,Y#1003,Y#1004,Y#1005,Y#1006,Y#1007,Y#1009,Y#1010,Y#1011,Y#1012,Y#1013,Y#1015,Y#1016,Y#1017,Y#1018,Y#1019,Y#1020,Y#1021,Y#1022,Y#1023,Y#1027,Y#1028,Y#1030,Y#100001,Y#100002,Y#400000,Y#400001,Y#]]
- 18. 0000006994: 192.168.25.30: Nov 25 2019 11:37:55.828 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: update -- updated url: /role/5120
- 19. 0000007009: 192.168.25.30: Nov 25 2019 11:37:56.300 -0500: %CCBU\_753-EXTERNALPAGE-CREATE-6-REST\_API\_INFO: ConfigAdmin Updated
- 20. 0000000638: 192.168.25.30: Nov 25 2019 11:37:56.512 -0500: %CCBU\_ajp-nio-127.0.0.1-8009-exec-9-6-REQUEST\_END: %[PARAM\_TIME\_ELAPSED=3275]: Request complete

## **Related Information**

**PCCE** Administration guide

**Technical Support & Documentation - Cisco Systems**