

Deploying App to Cloud Foundry



25 min

Description

In this exercise, you will deploy your job interview travel expense application to Cloud Foundry.

System prerequisites

- Tutorial 1: Consuming API from API HUB
- Tutorial 2: Developing the API
- Account on the SAP Cloud Platform
- Cloud Foundry Command Line Interface version 6.34 or later

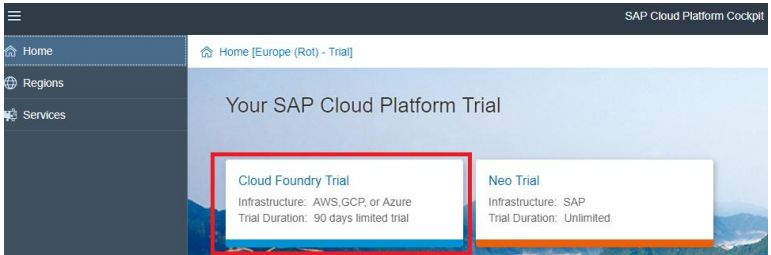
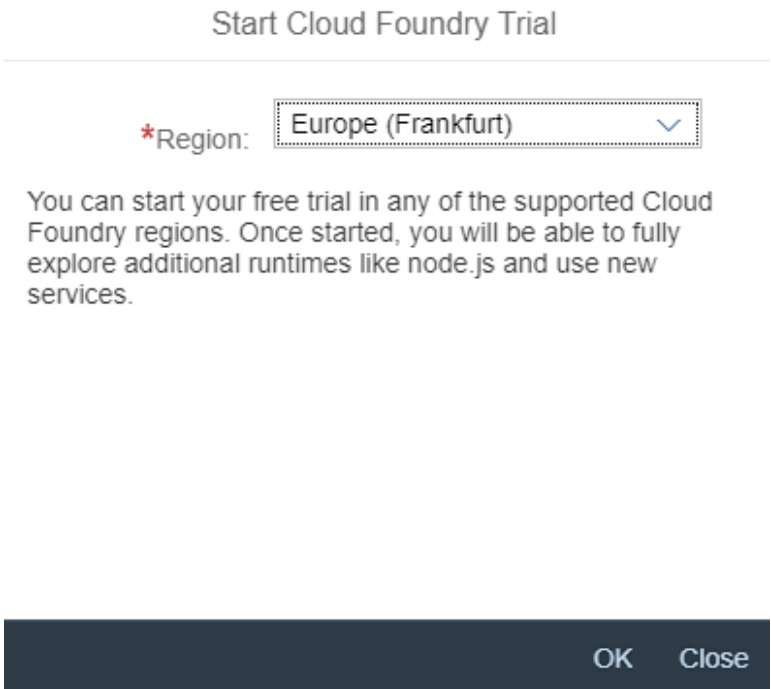
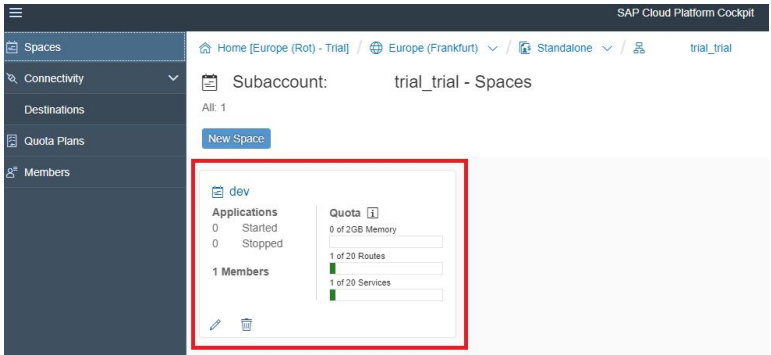
Target group

- Application developers
- People interested in the SAP Cloud Platform

Target group requirements

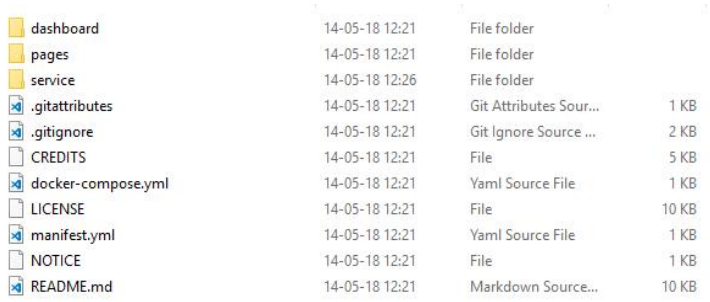
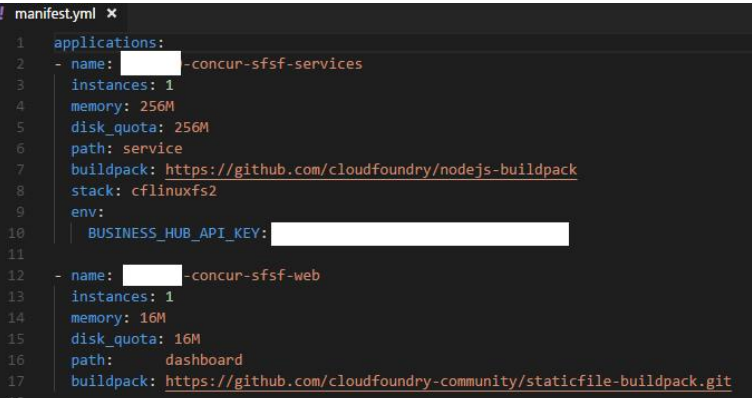
- Basic programming skills

Scenario 3a: Onboarding

Explanation	Screenshot
<p>1. Go to your SAP Cloud Platform Account and choose Cloud Foundry Trial.</p> <p><i>Note: If your Cloud Foundry Trial is already configured, you can skip scenario 3a. At most 2 applications can be running.</i></p>	
<p>2. Choose your Region.</p>	
<p>3. Click on the Space if you have one, if not, create a new Space.</p>	

Scenario 3b: Configuring the project Runtime

Deploying App to Cloud Foundry

Explanation	Screenshot
1. Navigate to the folder where your job interview travel expense project is located.	
2. Open the manifest.yml with an editor	

Deploying App to Cloud Foundry

3. Set the **BUSINESS_HUB_API_KEY** to the **API_KEY** from the tutorial 1.

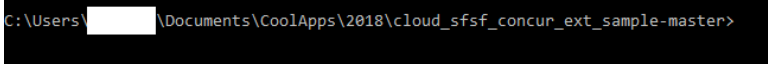
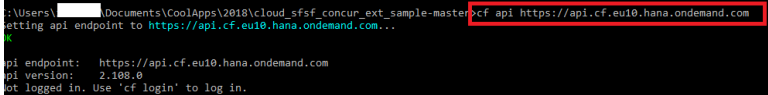
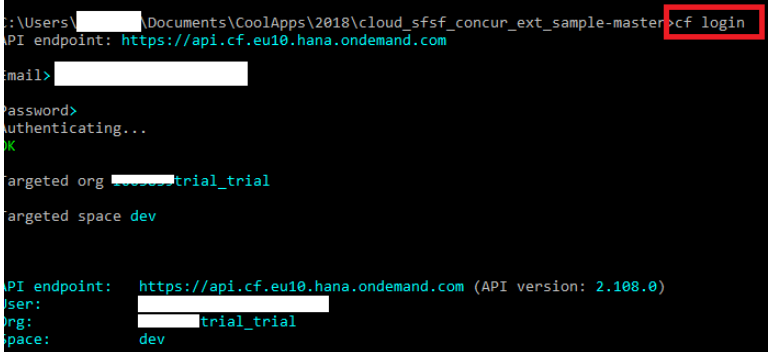
Note: This is the API Key from Step 11 in Scenario 1a in Tutorial 1

```
! manifest.yml x
1 applications:
2   - name: <P/I/D/S/C number>-concur-sfsf-services
3     instances: 1
4     memory: 256M
5     disk_quota: 256M
6     path: service
7     buildpack: https://github.com/cloudfoundry/nodejs-buildpack
8     stack: cflinuxfs2
9     env:
10      BUSINESS_HUB_API_KEY: <API Key>
11
12   - name: <P/I/D/S/C number>-concur-sfsf-web
13     instances: 1
14     memory: 16M
15     disk_quota: 16M
16     path: dashboard
17     buildpack: https://github.com/cloudfoundry-community/staticfile-buildpack.git
18
```

4. Set the name of the services like this:
<P/I/D/S/C number>-concur-sfsf-service to ensure the app instance is unique within the landscape.
Save the file.

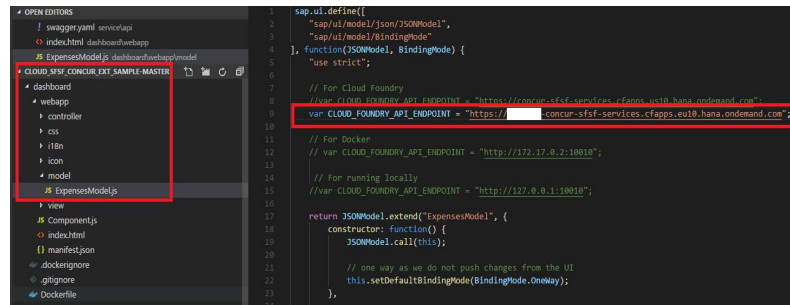
```
! manifest.yml x
1 applications:
2   - name: <P/I/D/S/C number>-concur-sfsf-services
3     instances: 1
4     memory: 256M
5     disk_quota: 256M
6     path: service
7     buildpack: https://github.com/cloudfoundry/nodejs-buildpack
8     stack: cflinuxfs2
9     env:
10      BUSINESS_HUB_API_KEY: <API Key>
11
12   - name: <P/I/D/S/C number>-concur-sfsf-web
13     instances: 1
14     memory: 16M
15     disk_quota: 16M
16     path: dashboard
17     buildpack: https://github.com/cloudfoundry-community/staticfile-buildpack.git
18
```

Scenario 3c: Deploying the Application to Cloud Foundry

Explanation	Screenshot
<p>1. If you don't have Cloud Foundry CLI installed, download and install from here: https://github.com/cloudfoundry/cli#downloads If you need more information about installation, find the documentation here: https://docs.cloudfoundry.org/cf-cli/install-go-cli.html</p>	
<p>2. Open a command line, navigate to your project folder</p>	
<p>3. Define your API Endpoint using the Cloud Foundry command cf API <your region URL> Replace the region URL with the appropriate endpoint from the list</p>	<p>Region URL: US East (VA) running on AWS : https://api.cf.us10.hana.ondemand.com US West (CA) running on Azure: https://api.cf.us20.hana.ondemand.com Europe (Frankfurt) running on AWS: https://api.cf.eu10.hana.ondemand.com Additional regions can be find here: https://help.sap.com/viewer/65de2977205c403bbc107264b8eccf4b/Clo/ud/en-US/350356d1dc314d3199dca15bd2ab9b0e.html</p> 
<p>4. Login to the Cloud Foundry with the command cf login <i>This command will ask you for the email and password associated with your SAP Cloud Platform account</i></p>	

Deploying App to Cloud Foundry

- Before deploying the UI app check your **CLOUD_FOUNDRY_API_ENDPOINT** in the **ExpensesModel.js** file. Append the url with your **<I/D/S/C/P number>** and check **your region**.

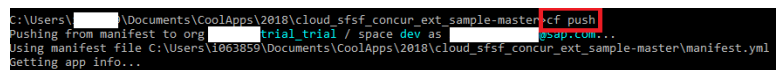


```
1 sap.ui.define([
2   "sap/ui/model/json/jsonModel",
3   "sap/ui/model/BindingMode"
4 ], function(JSONModel, BindingMode) {
5   "use strict";
6
7   // For Cloud Foundry
8   var CLOUD_FOUNDRY_API_ENDPOINT = "https://<your I/D/S/C/P number>-concur-sfsf-services.cfapps.eu10.hana.ondemand.com";
9
10  // For Docker
11  // var CLOUD_FOUNDRY_API_ENDPOINT = "http://172.17.0.2:10818";
12
13  // For running locally
14  // var CLOUD_FOUNDRY_API_ENDPOINT = "http://127.0.0.1:10818";
15
16  return JSONModel.extend("ExpensesModel", {
17    constructor: function() {
18      BindingMode.call(this);
19    }
20  });
21
22  // one way as we do not push changes from the UI
23  this.setDefaultBindingMode(BindingMode.OneWay);
24 },
```

You should have this:

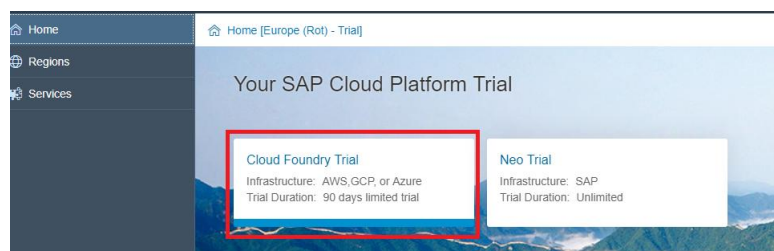
```
var CLOUD_FOUNDRY_API_ENDPOINT = "https://<your I/D/S/C/P number>-concur-sfsf-services.cfapps.<your region>.hana.ondemand.com";
```

- Now you can deploy the application to Cloud Foundry. Use **cf push** in the command line

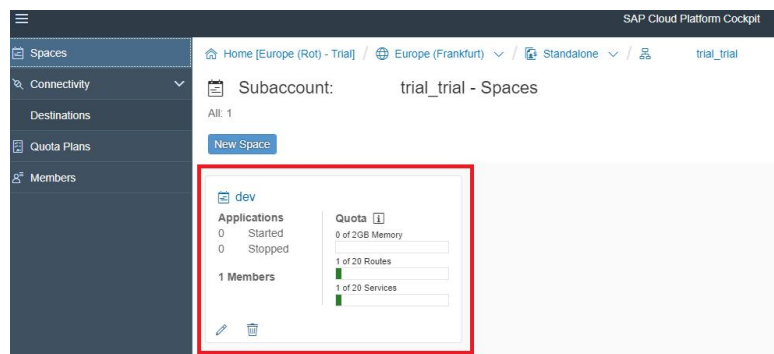


```
C:\Users\<user>\Documents\CoolApps\2018\cloud_sfsf_concur_ext_sample-master>cf push
Pushing from manifest to org <org> trial_trial / space dev as <user>@saps.com...
Using manifest file C:\Users\1063859\Documents\CoolApps\2018\cloud_sfsf_concur_ext_sample-master\manifest.yml
Setting app info...
```

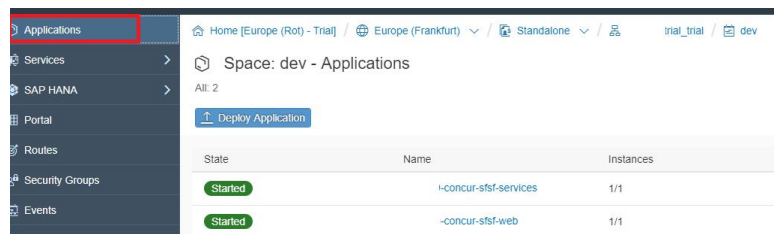
- From SAP Cloud Platform account, go to Cloud Foundry Trial



- Click on your space. In the example illustrated on the right, "dev" is the space.



- You can find the applications you deployed from the CLI here



Deploying App to Cloud Foundry

10. Click on your application **</D/S/C/P number>-concur-sfsf-services** to access to the details

All: 2

[Deploy Application](#)

State	Name	Instances
Started	-concur-sfsf-services	1/1
Started	-concur-sfsf-web	1/1

11. Click on the **Applications Routes URL** to test your application

Application: -concur-sfsf-services - Overview

Started

[Restart](#) [Stop](#) [+ Instance](#) [- Instance](#) [Delete](#)

Application Routes

-concur-sfsf-services.cfapps.eu10.hana.ondemand.com

Application Information

Instances: 1 of 1 running
Package Uploaded: 17 Apr 2018, 14:52:04 (STAGED)
Buildpack: <https://github.com/cloudfoundry/nodejs-buildpack>
Stack: Cloud Foundry Linux-based filesystem (cflinuxfs2)

Quota Information (per Instance)

Instance Memory Limit: 2048 MB
Memory Quota: 512 MB (available memory 1520 MB)
Disk Quota: 512 MB

[Change Quota](#)

12. You should see this. That's normal as you don't have any service at the root. Try to add **/docs** at the end of the URL.

[←](#) [→](#) [↺](#) [🏠](#) [Secure](#) | <https://> -concur-sfsf-services.cfapps.eu10.hana.ondemand.com

This is the root URL and does nothing. Please use /docs to see the API documentation and supported URLs

13. You can see now that your application is well deployed on Cloud Foundry.

[←](#) [→](#) [↺](#) [🏠](#) [Secure](#) | <https://> -concur-sfsf-services.cfapps.eu10.hana.ondemand.com/docs/

[swagger](#) <https://-concur-sfsf-services.cfapps.eu10.hana.ondemand.com/api/v1> [Explore](#)

Job Interview Expense Tracking

This is the API for the Concur & Successfactors Microservices implementation. The intention is to provide a set of highly focused API's to give data regarding aggregate expenses that can be consumed by applications.

See more at <https://www.sap.com>
[Contact the developer](#)

countries	Show/Hide List Operations Expand Operations
departments : Operations for expenses by department	Show/Hide List Operations Expand Operations
divisions : Operations for expenses by division	Show/Hide List Operations Expand Operations
locations : Operations for expenses by locations	Show/Hide List Operations Expand Operations
operations : System operations	Show/Hide List Operations Expand Operations
reports	Show/Hide List Operations Expand Operations
totals : Totals for reports and users	Show/Hide List Operations Expand Operations
users : Operations for expenses by user	Show/Hide List Operations Expand Operations

[BASE URL: / , API VERSION: 0.0.1] [VALID](#) [+](#)

Deploying App to Cloud Foundry

14. Expand operations: System Operations

Job Interview Expense Tracking

This is the API for the Concur & SuccessFactors Microservices implementation. The intention is to provide a set of highly focused API's to give data regarding aggregate expenses that can be consumed by applications.

See more at <https://www.sap.com>
Contact the developer

countries	Show/Hide	List Operations	Expand Operations
departments : Operations for expenses by department	Show/Hide	List Operations	Expand Operations
divisions : Operations for expenses by division	Show/Hide	List Operations	Expand Operations
locations : Operations for expenses by locations	Show/Hide	List Operations	Expand Operations
operations : System operations	Show/Hide	List Operations	Expand Operations
reports	Show/Hide	List Operations	Expand Operations
totals : Totals for reports and users	Show/Hide	List Operations	Expand Operations
users : Operations for expenses by user	Show/Hide	List Operations	Expand Operations

[BASE URL: / , API VERSION: 0.0.1]

VALID { }

15. Go to the **POST** request /refresh and **click** on Try It Out! That will get and merge data from Concur and SuccessFactors.

POST

/refresh

Refresh the Data

Implementation Notes

Refreshes the database by getting the data from Concur and from SuccessFactors and merging it to build an aggregate view of the expenses in the organization.

Response Messages

HTTP Status Code	Reason	Response Model	Headers
200	Null response		
default	Error	Model	Example Value

```
{
  "message": "string"
}
```

Try it out!

16. You should have this answer

Implementation Notes

Refreshes the database by getting the data from Concur and from SuccessFactors and merging it to build an aggregate view of the expenses in the organization.

Response Messages

HTTP Status Code	Reason	Response Model	Headers
200	Null response		
default	Error	Model	Example Value

```
{
  "message": "string"
}
```

Try it out!

Hide Response

Curl

```
curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' 'https://<concur-sfsf-services.c>
```

Request URL

```
https://<concur-sfsf-services.cfapps.eu10.hana.ondemand.com>/refresh
```

Response Body

```
no content
```

Response Code

```
200
```

Response Headers

```
{
  "access-control-allow-origin": "*",
  "x-vcap-request-id": "605Ec80f-4a01-4675-7e16-600f5d08386e",
  "date": "Fri, 25 May 2018 09:13:09 GMT",
  "content-length": "0",
  "content-type": "application/json"
}
```


Deploying App to Cloud Foundry

17. You can now test other operations. **Click** on Try It Out!

locations : Operations for expenses by locations

Show/Hide | List Operations | **Expand Operations**

GET /locations

List the expenses by locations

Implementation Notes
returns the expenses by locations

Response Class (Status 200)
Success

Model | Example Value

```
[
  {
    "total": 101.23,
    "location": "location"
  }
]
```

Response Content Type: application/json

Response Messages

HTTP Status Code	Reason	Response Model	Headers
default	Error	Model Example Value	

Model | Example Value

```
{
  "message": "string"
}
```

Try it out! | Hide Response

Curl

```
curl -X GET --header 'Accept: application/json' 'https://<your I/D/S/C/P number>-concur-sfsf-services.cfapps.eu10.hana.ondemand.com/locations'
```

Request URL

```
https://<your I/D/S/C/P number>-concur-sfsf-services.cfapps.eu10.hana.ondemand.com/locations
```

Response Body

```
[
  {
    "name": "San Francisco",
    "code": "0300-0003",
    "total": 1101.89,
    "count": 5
  },
  {
    "name": "Sydney",
    "code": "8510-0001",
    "total": 810.72,
    "count": 5
  },
  {
    "name": "Corporate - US-San Francisco",
    "code": "0300-0003",
    "total": 60.8,
    "count": 1
  },
  {
    "name": "New York-New Brunswick",
    "code": "3000-0002",
    "total": 669.03,
    "count": 4
  }
]
```

18. You can also test adding **/locations** in the end of your application url.
<https://<your I/D/S/C/P number>-concur-sfsf-services.cfapps.<Your region>.hana.ondemand.com/locations>

Secure | <https://<your I/D/S/C/P number>-concur-sfsf-services.cfapps.eu10.hana.ondemand.com/locations>

```
[
  {
    "name": "San Francisco",
    "code": "0300-0003",
    "total": 1101.89,
    "count": 5
  },
  {
    "name": "Sydney",
    "code": "8510-0001",
    "total": 810.72,
    "count": 5
  },
  {
    "name": "Corporate - US-San Francisco",
    "code": "0300-0003",
    "total": 60.8,
    "count": 1
  },
  {
    "name": "New York-New Brunswick",
    "code": "3000-0002",
    "total": 669.03,
    "count": 4
  }
]
```

19. You can now test your Web application. Go back to your applications (See step 8).
- Click on your application **</D/S/C/P number>-concur-sfsf-web** to access to the details

Applications

Home [Europe (Rot) - Trial] | Europe (Frankfurt) | Standalone | trial_trial | dev

Space: dev - Applications

All: 2

[Deploy Application](#)

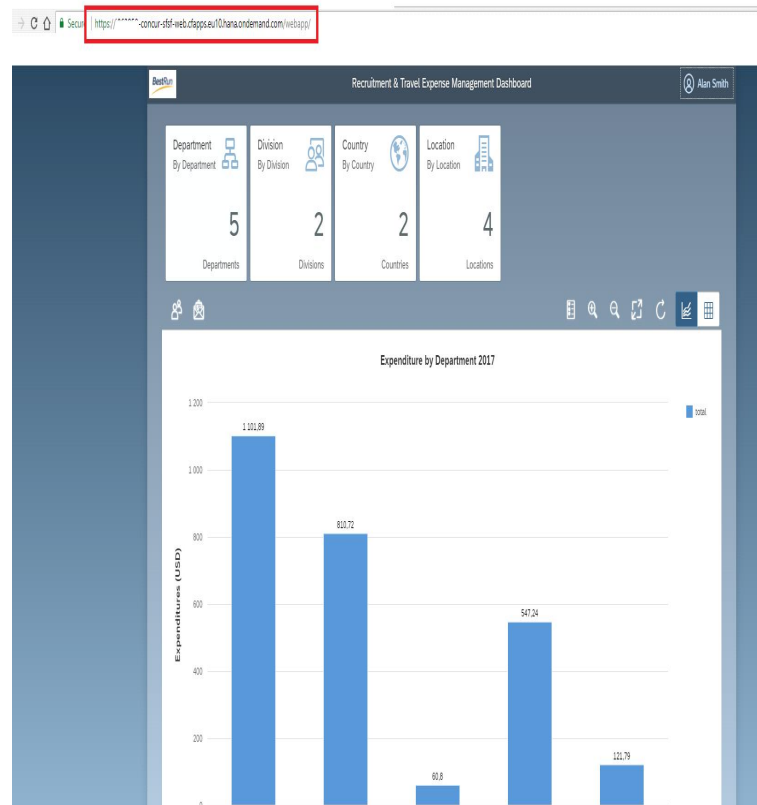
State	Name	Instances
Started	-concur-sfsf-services	1/1
Started	-concur-sfsf-web	1/1

Deploying App to Cloud Foundry

20. Append your URL with **/webapp**

<https://<your I/D/S/C/P>-concur-sfsf-web.cfapps.<Your region>.hana.ondemand.com/webapp>

21. Use this link in a Web Browser, you will see the application.



© 2018 SAP SE or an SAP affiliate company. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP SE or an SAP affiliate company. SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE (or an SAP affiliate company) in Germany and other countries.

Please see <http://www.sap.com/corporate-en/legal/copyright/index.epx#trademark> for additional trademark information and notices.



The Best-Run Businesses Run SAP®