



Integration Workshop Exercises

Configure Heroku Connect and Salesforce Connect

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Platform Solutions Engineer

Q4 2018

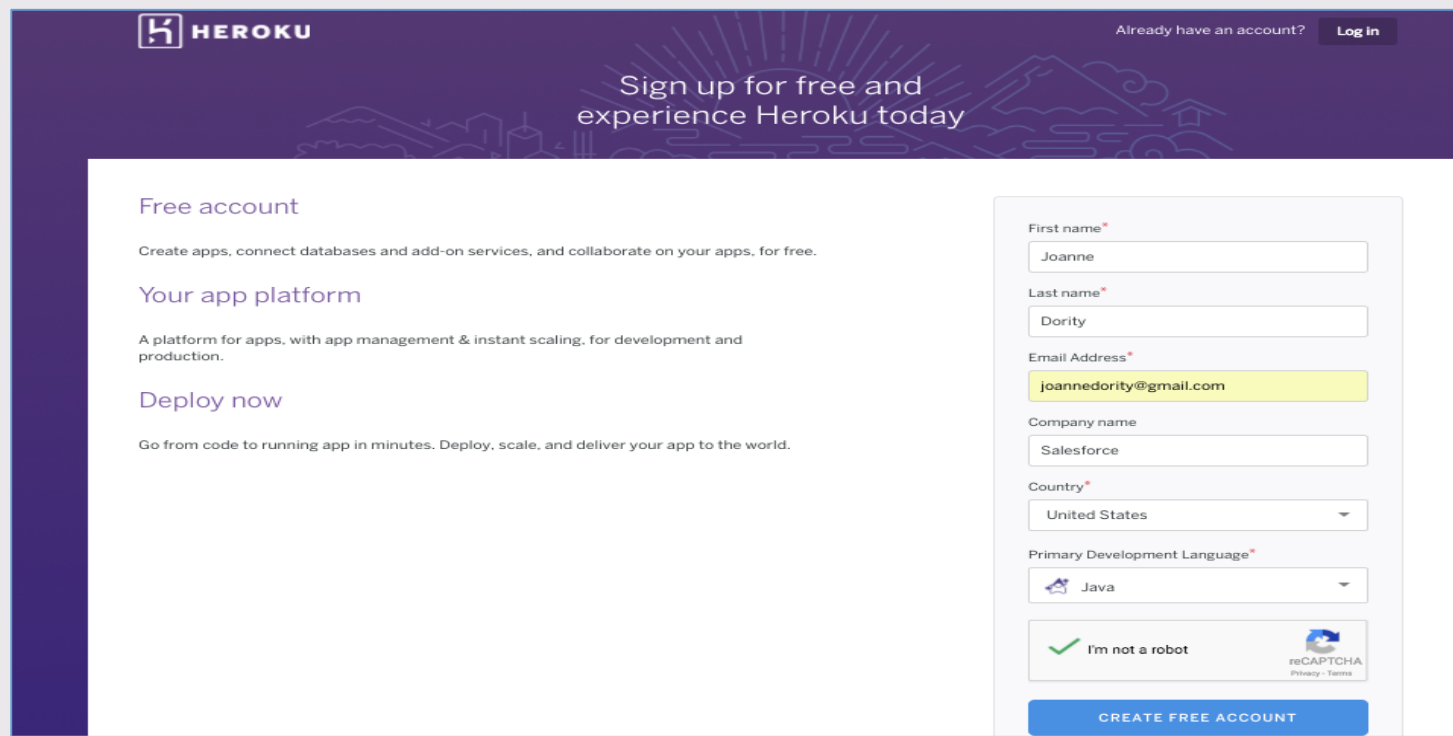
V2

1

Configure Heroku Connect:

Go to www.heroku.com and sign in.

If you do not have an account, please create one:



The image shows the Heroku sign-up page. At the top, there's a dark purple header with the Heroku logo and the text "Sign up for free and experience Heroku today". Below the header, the page is divided into two main sections. On the left, under the heading "Free account", it says "Create apps, connect databases and add-on services, and collaborate on your apps, for free." followed by "Your app platform" and "Deploy now". On the right, there's a form to create a new account. The form includes fields for "First name" (Joanne), "Last name" (Dority), "Email Address" (joannedority@gmail.com), "Company name" (Salesforce), "Country" (United States), and "Primary Development Language" (Java). There's also a checkbox for "I'm not a robot" and a "CREATE FREE ACCOUNT" button at the bottom.

HEROKU

Already have an account? [Log in](#)

Sign up for free and experience Heroku today

Free account

Create apps, connect databases and add-on services, and collaborate on your apps, for free.

Your app platform

A platform for apps, with app management & instant scaling, for development and production.

Deploy now

Go from code to running app in minutes. Deploy, scale, and deliver your app to the world.

First name*

Joanne

Last name*

Dority

Email Address*

joannedority@gmail.com

Company name

Salesforce

Country*

United States

Primary Development Language*

Java

I'm not a robot

reCAPTCHA

Privacy - Terms

CREATE FREE ACCOUNT

2

You should also have received an email invite to join the app-cloud team.



The image shows an email invite from Heroku. The subject is "Added to the 'app-cloud' Team on Heroku". The email is from Heroku <noreply@heroku.com> to me. It features the Heroku logo and says "Joanne Dority (jdority@salesforce.com) has invited you to join the 'app-cloud' organization on Heroku as a member. Click the button to activate your account:". There's a purple "Activate account" button. Below that, it says "Once you're set up, you will be able to:" followed by a list of bullet points: "Create applications for the entire organization to share" and "Join apps made by other people in the organization". At the bottom, it says "Heroku is the cloud platform for rapid deployment and scaling of web applications. Get up and running in minutes, then deploy instantly via Git."

Added to the "app-cloud" Team on Heroku

Inbox x

Heroku <noreply@heroku.com> to me

8:48 AM (6 minutes ago)

HEROKU

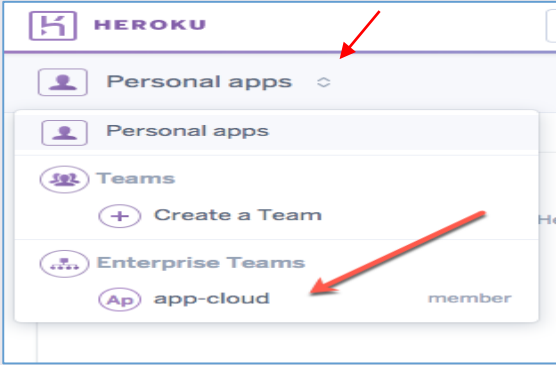
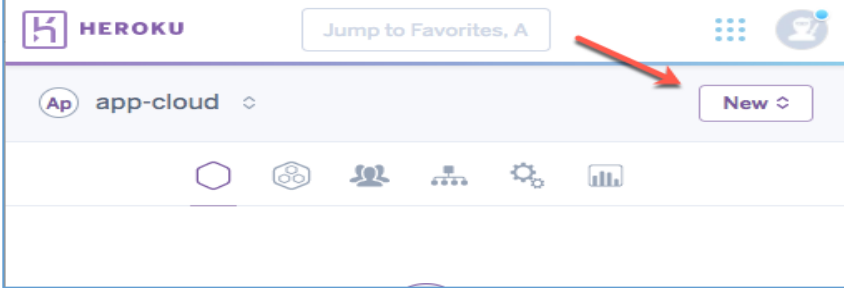
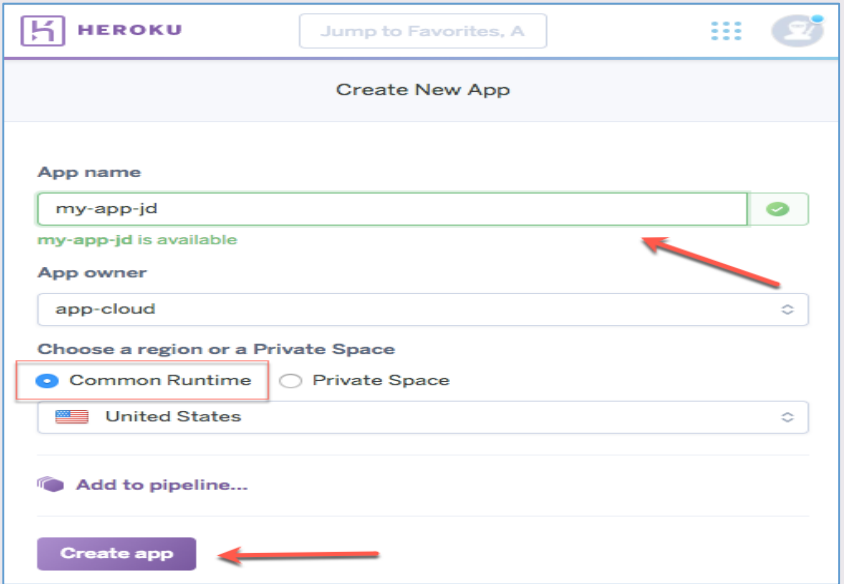
Joanne Dority (jdority@salesforce.com) has invited you to join the "app-cloud" organization on Heroku as a member. Click the button to activate your account:

Activate account

Once you're set up, you will be able to:

- Create applications for the entire organization to share
- Join apps made by other people in the organization

Heroku is the cloud platform for rapid deployment and scaling of web applications. Get up and running in minutes, then deploy instantly via Git.

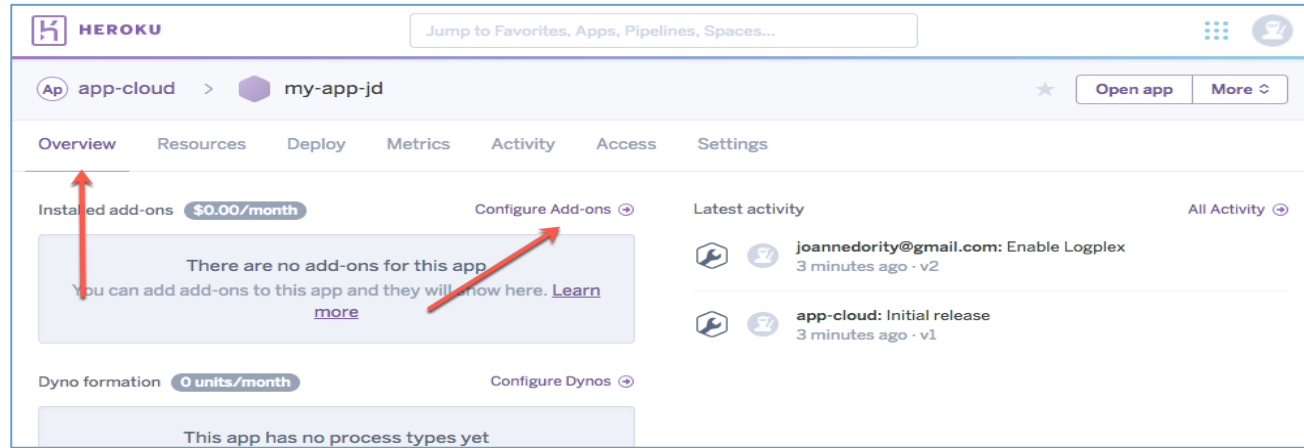
3	<p>Once you have accepted the invite, select the drop down arrow by Personal Apps, then <u>select app-cloud under Enterprise Teams</u>:</p>	
4	<p>We must set up a Heroku App so we can assign the resources we need.</p> <p>Click “New” button to create a new Heroku App:</p>	
5	<p>Provide a name for your app and select common runtime:</p> <p>Note: Heroku also offers Private Spaces which are basically a private AWS VPC.</p>	

6

We are now ready to configure the add-on resources we will need:

Step 1: **Click Overview:**

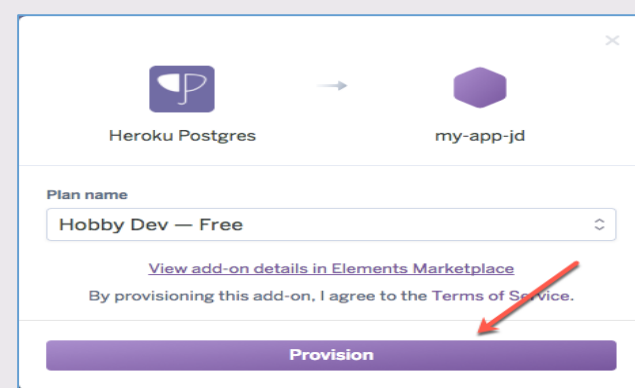
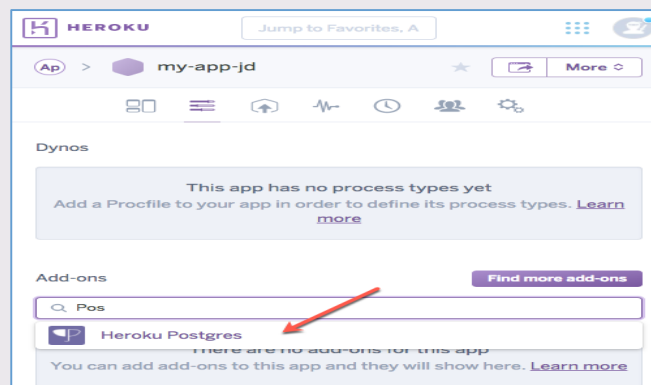
Step 2: **Click on Configure Add-ons:**



7

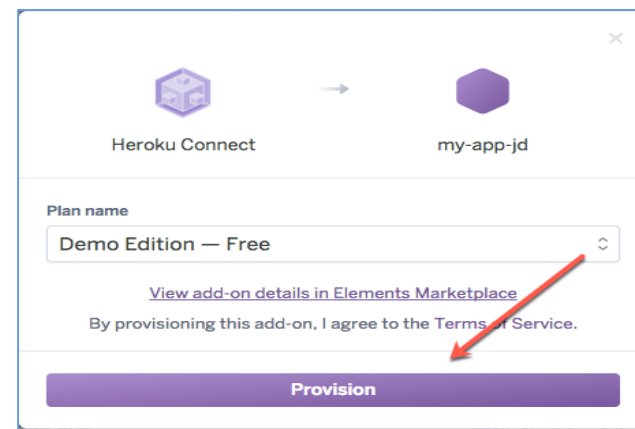
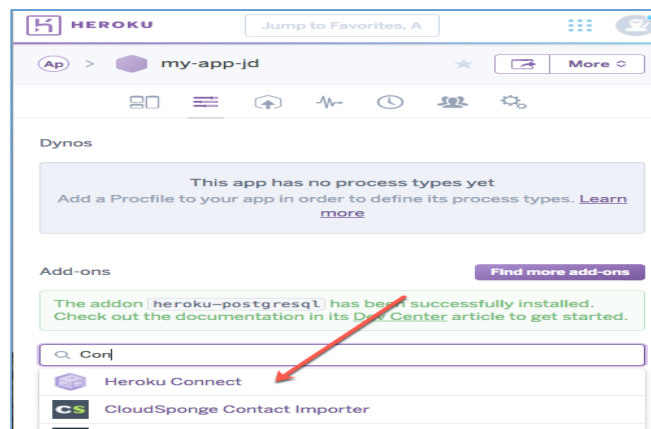
We will need a Heroku Postgres Database, and a Heroku Connect add-on for this exercise.

First, search for **Heroku Postgres** and click **Provision**:



8

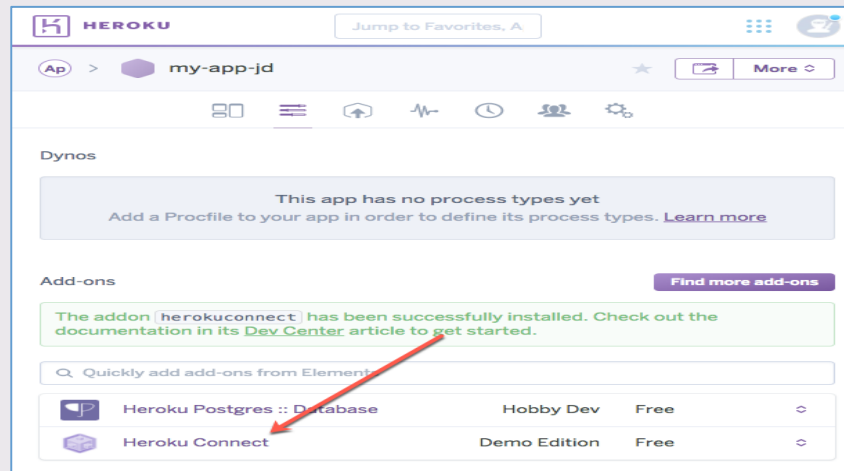
Next, search for **Heroku Connect** and click **Provision**:



9

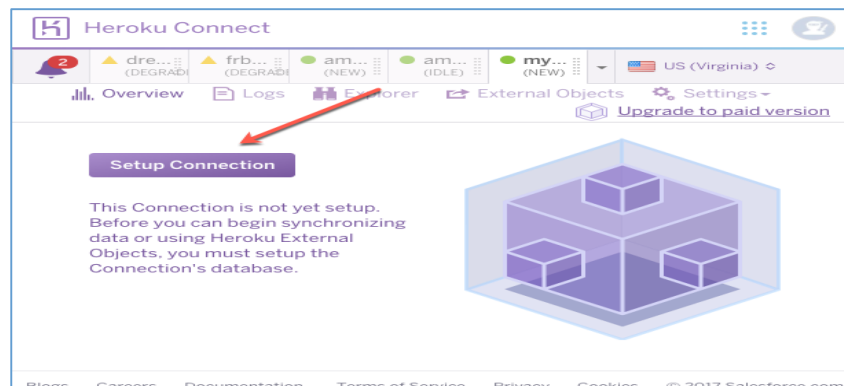
Your App should now have both Postgres and Heroku Connect provisioned.

Click on Heroku Connect to configure:



10

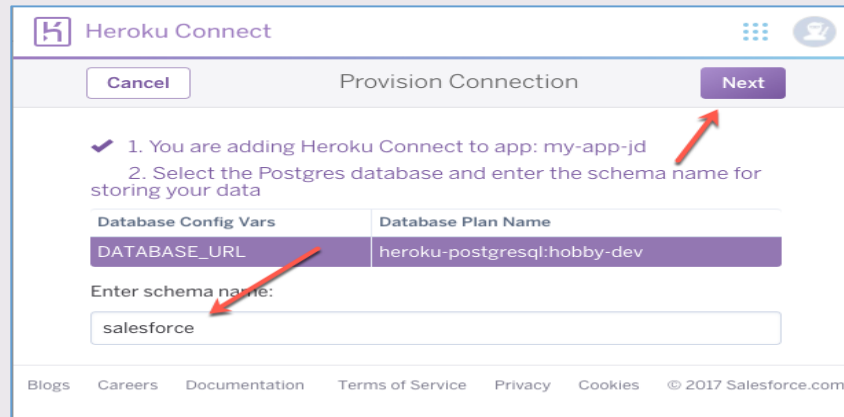
Click on **Set Up Connection**:



11

The default schema name is Salesforce, but you can enter your own name if preferred.

Click Next to continue:



12 Authorize Heroku Connect to access your org:

Heroku Connect

Skip Authorize Connection Authorize

Authorize and link the Connection "my-app-jd" to your Salesforce data.

Environment: Production

API Version: Winter '18, v41.0

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salesforce

Username 3 Saved Usernames

jdority@developer.org

Password

Log In

☐ Remember me

Forgot Your Password? Use Custom Domain

13 Create mappings for objects you wish to sync to Postgres:

Heroku Connect

Overview Logs Explorer External Objects Settings Upgrade to paid version

No Salesforce objects have been mapped.

To map your first Salesforce object:

1. Click the 'Create Mapping' button below.
2. Select a Salesforce object
3. Choose the fields to synchronize
4. Sit back and let Heroku Connect do the work

Database DATABASE_URL sale Salesforce Org ID 00D36000001FLJIEAO Authentication jdority@developer.org

Mappings

+ Create Mapping

Status	Object	SF Rows	DB Rows	Pending writes to SF	Errored Rows
Totals:	-	-	-	-	-

Heroku Connect

Cancel Create Mapping

Select the Salesforce Object you wish to map

search

Object	Label
AcceptedEventRelation	Accepted Event Relation
Account	Account
AccountCleanInfo	Account Clean Info
AccountContactRole	Account Contact Role
AccountFeed	Account Feed
AccountHistory	Account History
AccountPartner	Account Partner
AccountShare	Account Share
ActionLinkGroupTemplate	Action Link Group Template
ActionLinkTemplate	Action Link Template
ActivityExtension	Activity Extension
ActivityHistory	Activity History

14 Choose Salesforce fields that Heroku Connect will sync to Postgres:

Note: Heroku does not offer a "select all fields" option. It is best to sync only fields that are needed.

Heroku Connect

Cancel Edit Mapping: Account Back Save

Salesforce → Database

Set the frequency and method used to synchronize data moving from Salesforce to your database.

More Info

Poll Frequency: 10 minutes

☐ Accelerate Polling

Use the Salesforce Streaming API to trigger polls when data changes. With event-based polling enabled, Heroku Connect will continue to poll at the set polling frequency. More Info

Database → Salesforce

Enable updates to data stored in Salesforce when your database is updated.

More Info

☐ Write database updates to Salesforce using --None-- as the unique identifier

The unique identifier functions as a secondary, external key, enabling Connect to uniquely identify records prior to their having a Salesforce ID assigned. More Info

Mapped Fields

Select which fields to synchronize.

More Info

Standard Fields

Sync	Field	Label	Type	Length	Indexed
<input checked="" type="checkbox"/>	AccountNumber	Account Number	string	40	<input type="checkbox"/>
<input type="checkbox"/>	AccountSource	Account Source	picklist	40	<input type="checkbox"/>
<input type="checkbox"/>	Active_c	Active	picklist	255	<input type="checkbox"/>
<input checked="" type="checkbox"/>	AnnualRevenue	Annual Revenue	currency	0	<input type="checkbox"/>

15 Initially, you will see Heroku Connect creating/altering the schema, then syncing of Salesforce data to Postgres will begin.

Use the **Explorer** tab to view the data sync:

Heroku Connect Overview

Database: DATABASE_URL • salesforce (Demo Edition) | Salesforce Org ID: 00D36000001FLJIEAO | Authentication: jdority@developer.org

Activity: No activity data available for that time period

Mappings:

Status	Object	SF Rows	DB Rows	Pending writes to SF	Errored Rows
✓ OK	Account	15	15	-	-
Totals:		15	15	-	-

Heroku Connect Explorer

Mapping: Account | State: ALL | Search: search for...

Name	Id	SFID	Last Change	Modified At
Grand Hotels & Resorts Ltd	43	00161000007GAV6AAO	SYNCED	2017-12-15 19:48:36 UTC
foo	48	0016100001FBbBwAAL	SYNCED	2017-12-15 09:43:46 UTC
foo	50	0016100001FBbFCAA1	SYNCED	2017-12-15 09:43:04 UTC

16 OPTIONAL:

Use Heroku Toolbelt CLI or any SQL client tool to create a new table in Postgres, insert data, and access this “external-to-Salesforce” table via Salesforce Connect. You can also use the same Postgres tables that were synced from Salesforce if short on time.

Heroku Toolbelt→

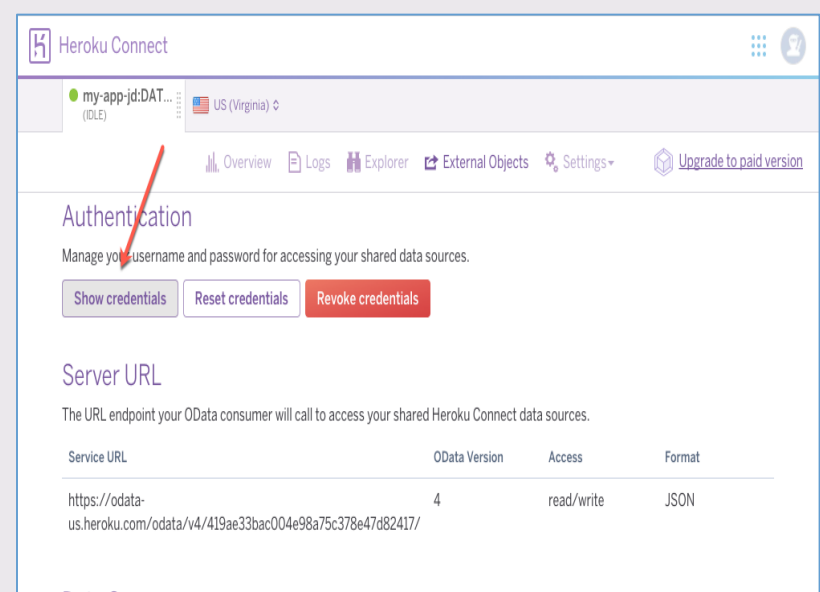
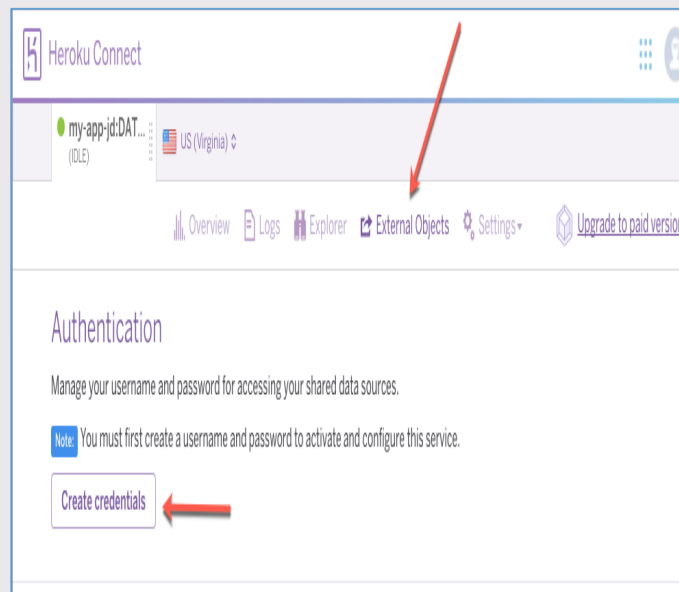
```
heroku pg:psql DATABASE_URL --app your_app_name
```

SQL Commands→

```
create table salesforce.test (key serial primary key, col_a char (20));
insert into salesforce.test (col_a) values ('hello');
insert into salesforce.test (col_a) values ('adios');
```

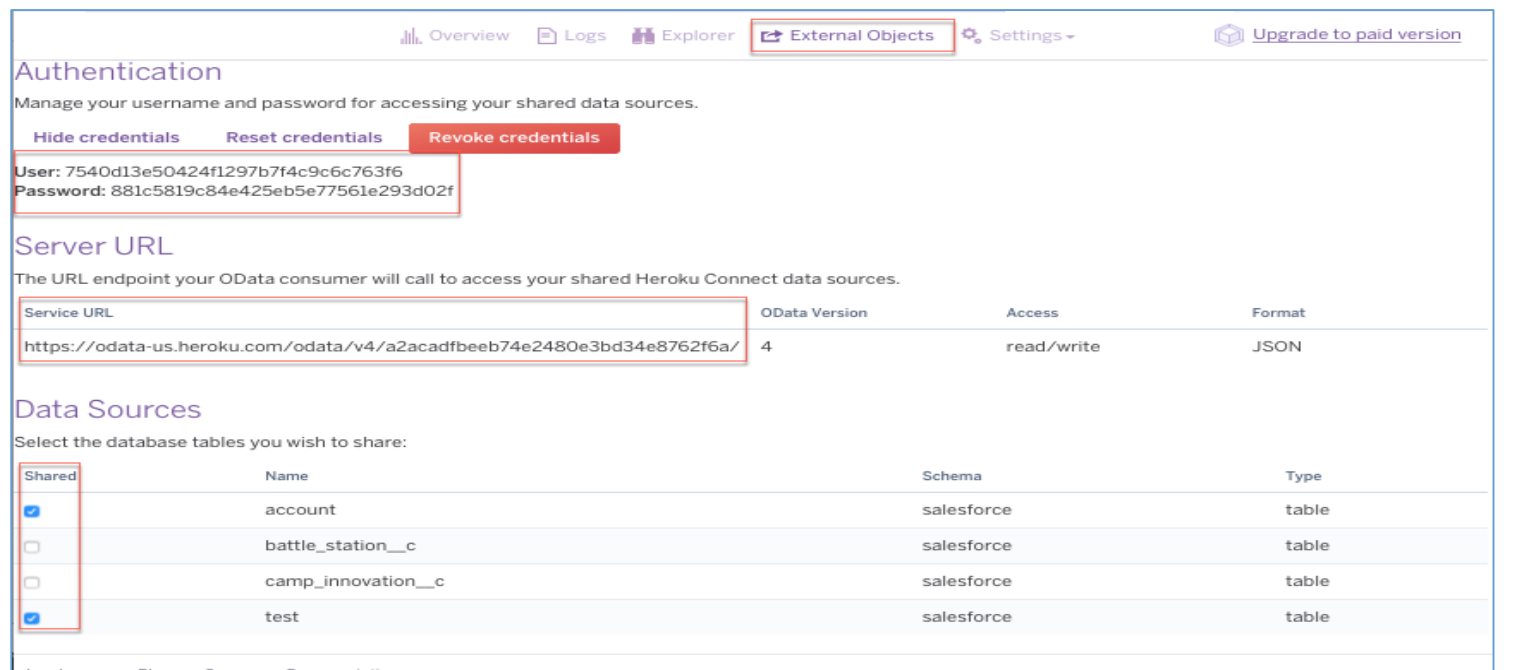
17 Gather Postgres Credentials for use with Salesforce Connect.

- Select **External Objects**
- Create **Credentials**
- Show **Credentials**



18 Click “Shared” on the tables you want to expose via oData:

Tip: Keep this screen available for Salesforce Connect. Credentials are needed later for the Salesforce Connection portion of this exercise.



1 Configure Salesforce Connect

Login to your developer org.

From set up, search for **External Data Sources**.

Create a New External Data Source:

The screenshot shows the Salesforce Setup interface. The left sidebar contains the navigation menu with the following items: Setup, Home, Object Manager, Lightning Experience, Data, Data Export, External Data Sources (highlighted), External Objects, Email, Apex Exception Email, Send through External Email S..., Apps, and AppExchange Marketplace. The main content area displays the 'External Data Sources' page. At the top, there is a search bar and a 'Search Setup' button. Below the search bar, the 'External Data Sources' section is visible, with a sub-header 'External Data Sources' and a description 'Access data in other Salesforce orgs as well as third-party databases and content systems.' A 'View: All' dropdown and a 'Create New View' link are present. A table of existing external data sources is shown, with columns for Action, Name, External Data Source, Type, and URL. A red box highlights the 'New External Data Source' button located above the table.

Action	Name ↑	External Data Source	Type	URL
Edit Del	Archive_in_Postgres	Archive in Postgres	Salesforce Connect: OData 4.0	https://odata-us.herokuapp.com/odata/v4/108cc573bceb45f08c7fe598e80d85af/
Edit Del	Dell_Boomi	Dell Boomi	Salesforce Connect: OData 2.0	http://54.89.48.233:9100/ws/odata2/patient
Edit Del	IdP1	IdP1	Salesforce Connect: Cross-Org	https://login.salesforce.com
Edit Del	Northwind	Northwind	Salesforce Connect: OData 2.0	http://services.odata.org/V3/Northwind/Northwind.svc/
Edit Del	SAP	SAP	Salesforce Connect: OData 2.0	https://sapes4.sapdevcenter.com/sap/opu/odata/IWBEP/GWSAMPLE_BASIC

- 2
- Select **Salesforce Connect oData 4.0** for Type
 - Check **Writeable External Objects**
 - Provide **Heroku Server URL**
 - Select Identity Type **Named Principal**
 - Select **Password Authentication**
 - Provide **Heroku Username / Password** from **page 8, step 18**
 - Save the Connection

Setup

Home Object Manager

External

Data

External Data Sources

External Objects

Email

Send through External Email S...

Didn't find what you were looking for? [Search all of Setup](#) instead.

SETUP

External Data Sources

Connect to another Salesforce org or a third-party database or content system.

Save Save and New Cancel

External Data Source

Name

Type

Parameters

URL

Connection Timeout (Seconds)

Writable External Objects ☒

High Data Volume ☐

Request Row Counts ☒

Enable Search ☒

Format

Server Driven Pagination ☐

Compress Requests ☐

Use Free-Text Search Expressions ☐

Special Compatibility

Authentication

Certificate

Identity Type

Authentication Protocol

Username

Password

Save Save and New Cancel

3 Select
Validate and Sync:

**Notice before you Click Validate and Sync there are no External Objects?*

Validate and Sync brings the External Object's metadata into Salesforce:

App Launcher Setup Home Object Manager

Search Setup

SETUP External Data Sources

External Data Source myHerokuConnection

Name myHerokuConnection

Type Salesforce Connect: OData 4.0

Parameters

- URL
- Connection Timeout (Seconds)
- Writable External Objects ☒
- High Data Volume ☐
- Server Driven Pagination ☐
- Request Row Counts ☒
- Compress Requests ☐
- Enable Search ☒
- Use Free-Text Search Expressions ☐
- Format
- Special Compatibility
- CSRF Protection ☐

Authentication

- Certificate
- Identity Type
- Authentication Protocol
- Username

External Objects

None

Edit Validate and Sync Delete

4 Choose the
External
Objects (or
Postgres
tables) you
want to
access via
Salesforce
Connect
oData.

Click Sync:

Setup External Data Sources

Validate External Data Source: myHerokuConnection

Confirm that you can connect to the external system, and synchronize its schema with your Salesforce org.

[Back to External Data Source: myHerokuConnection](#)

Name	myHerokuConnection
External Data Source	myHerokuConnection
Status	Success

Select

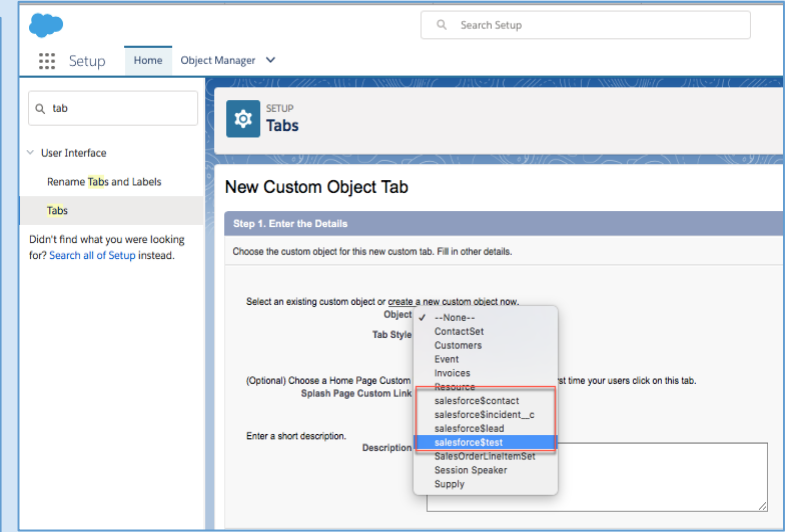
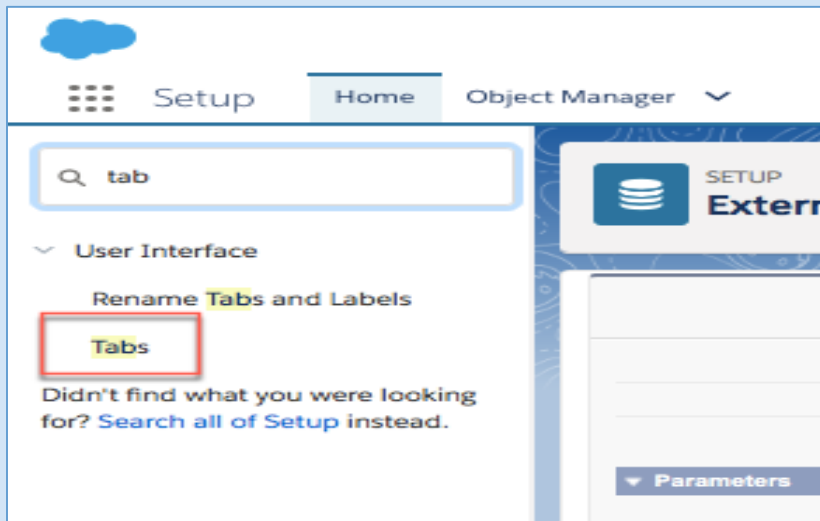
Table Name	Table Label	Synced
salesforce\$account	salesforce\$account	<input type="checkbox"/>
salesforce\$test	salesforce\$test	<input type="checkbox"/>

Sync

5 Create a Tab for the External Object:

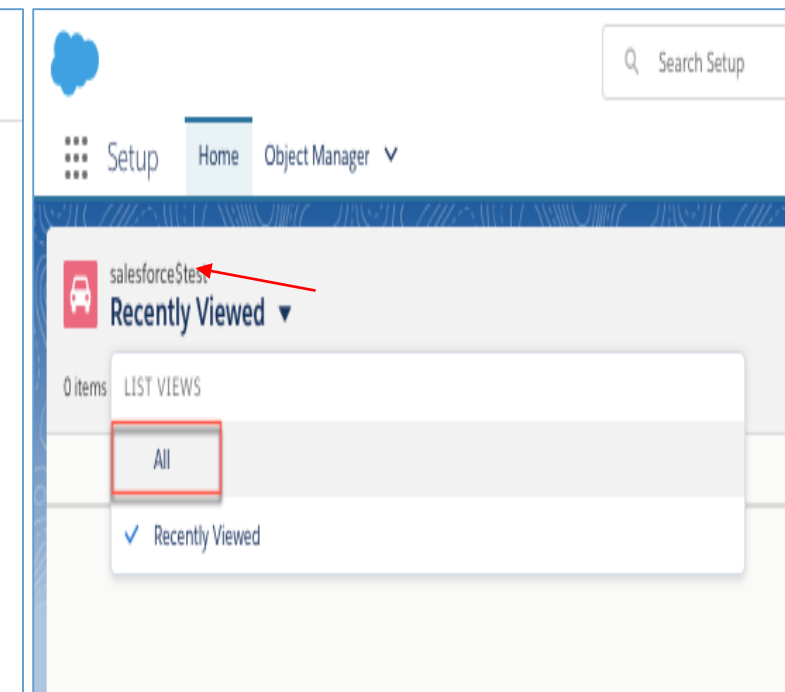
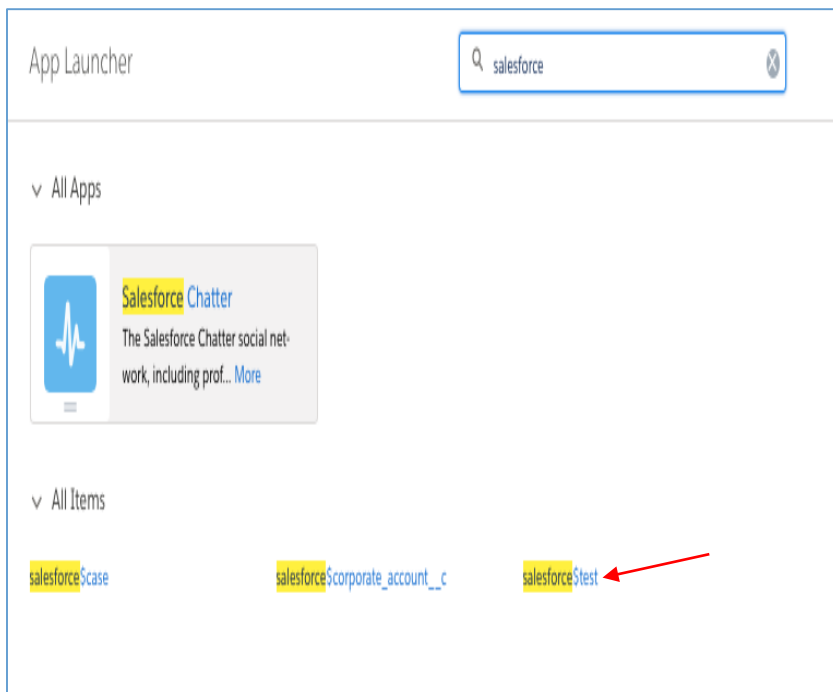
Note: By default, external objects have the format: schema\$table.

i.e.
salesforce\$test



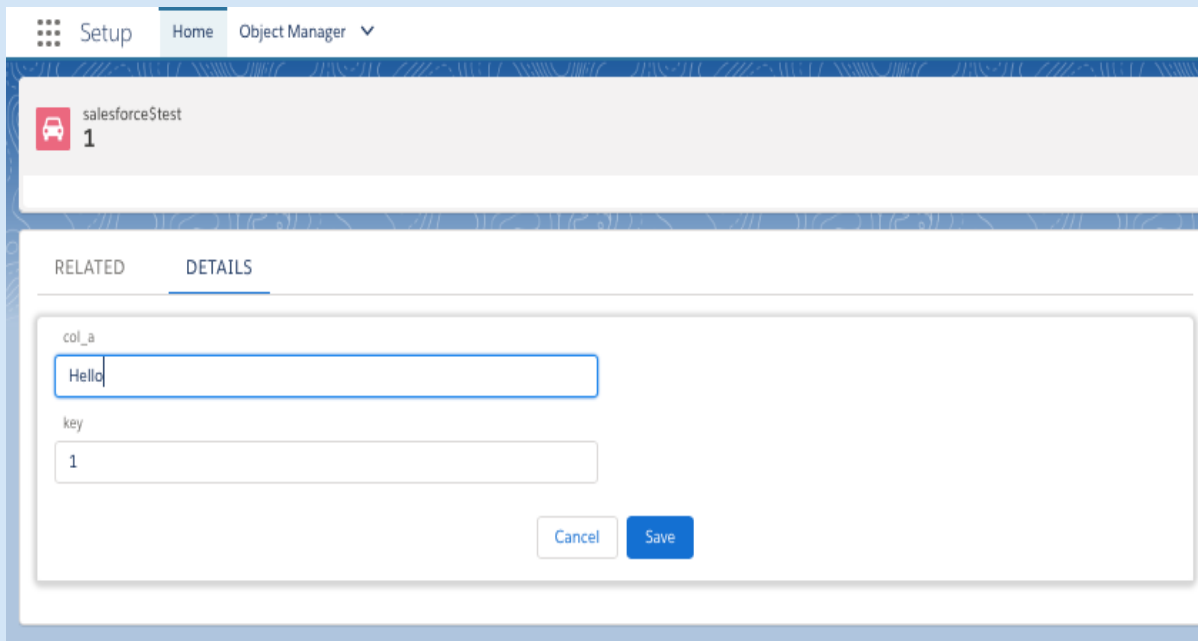
6 Select the Tab you just created via App Launcher

Change the list view to "All":



7 You are now ready for record maintenance on the external Postgres table.

Note:
Salesforce Security Model also applies to external objects.



The screenshot shows the Salesforce Object Manager interface. At the top, there are tabs for 'Setup', 'Home', and 'Object Manager'. Below the tabs, there is a header for 'salesforceTest' with a red car icon and the number '1'. The main content area has two tabs: 'RELATED' and 'DETAILS'. The 'DETAILS' tab is active, showing a form with two input fields: 'col_a' with the value 'Hello' and 'key' with the value '1'. At the bottom right of the form are 'Cancel' and 'Save' buttons.

Congratulations! You have completed the exercises without any code! (Well, except for a little bit of SQL to create the optional table.) There are many additional configuration options for both Heroku Connect and Salesforce Connect such as:

- Bi-directional syncs between Salesforce and Postgres
- Customizing metadata labels and external object names
- Creating relationships among Salesforce Objects and External Objects (Indirect Lookup)
- Creating relationships among External Objects only (External Lookup)

Please see Salesforce Help and Training for more details. Also, be sure to checkout Trailhead! There are several trails for both Heroku Connect and Salesforce Connect.