

Node-RED on IBM Cloud

Upkar Lidder

About me

<3 coding and coffee!

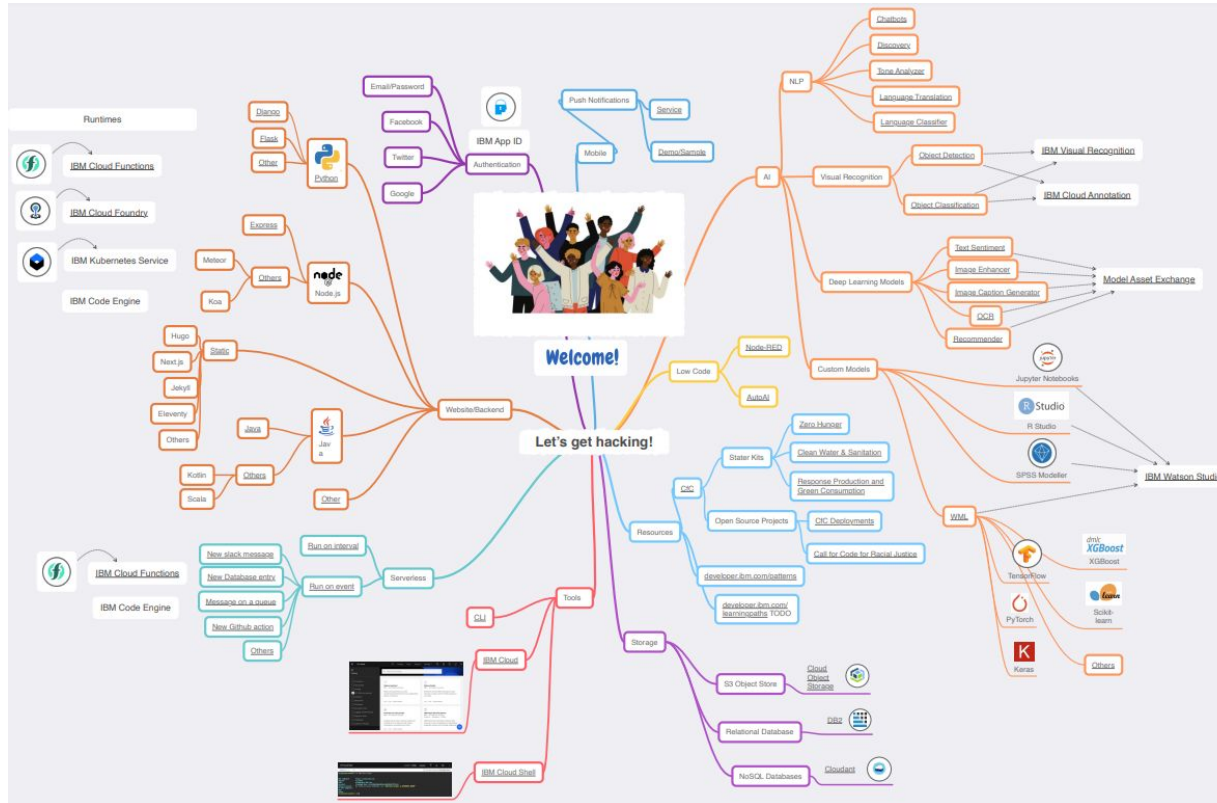
 @upkarlidderr



Upkar Lidder
Software Engineer



What are you building?



<https://github.com/upkarliddar/ibmhacks>

Node-RED is a
programming
tool for wiring
together
hardware
devices, APIs
and online

services in new
and interesting
ways.

STEPS

1. Create IBM Cloud Account
2. Create Node-RED Service
3. Hello World!
4. Import Starter Kit

1. IBM Cloud Account

<https://ibm.biz/Bdfqe5>

IBM Cloud

CatalogCost estimator

Create an account

1. Account information

Email

Password

Next ↓

2. Verify email

3. Personal information

Call for Code

Global Challenge

Join the fight against climate change. Your entire registration journey will be three simple steps.

Step 1: Create your account or log in.
Enter your email address and create a password to get free access to IBM Cloud.

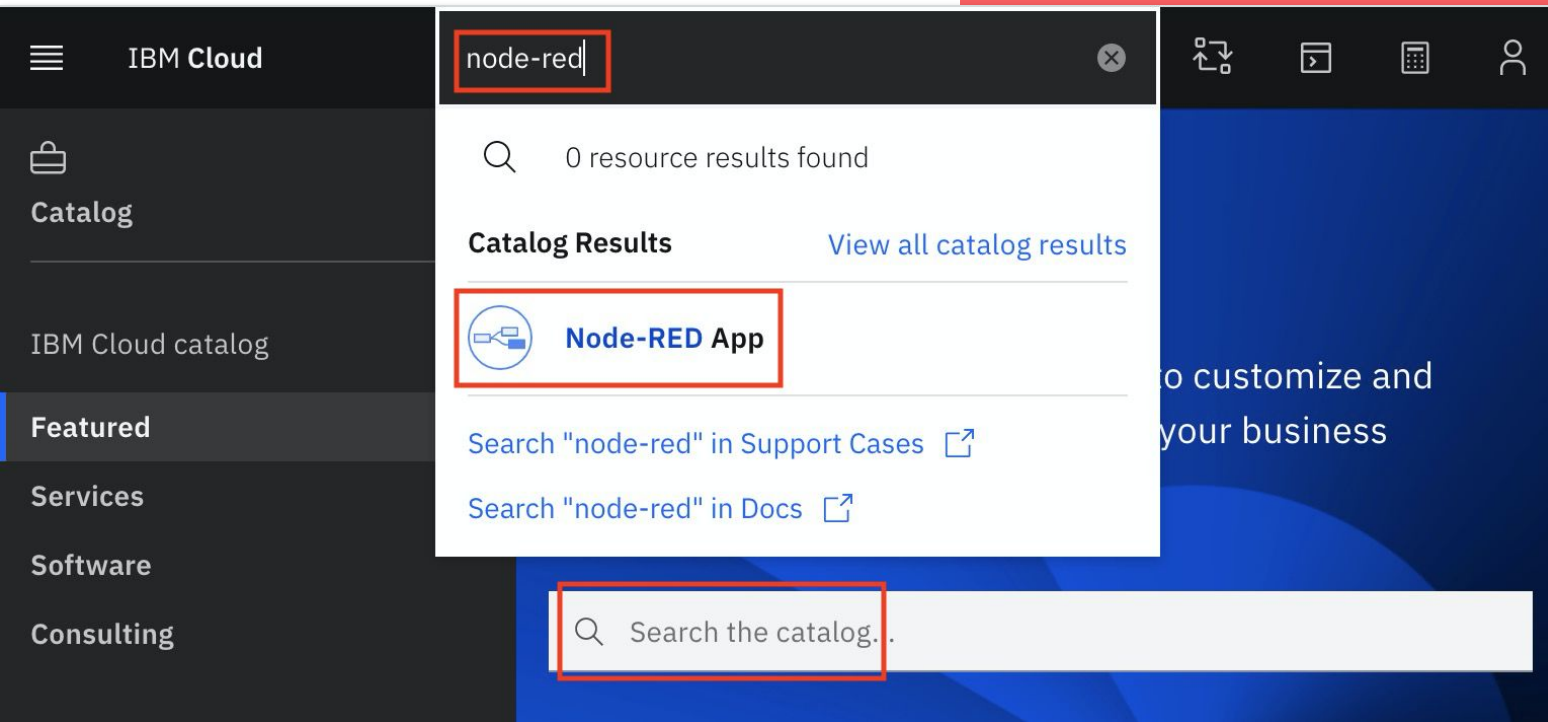
Step 2: Confirm your privacy settings (new accounts only).
You're in control of what you share with IBM and receive from us.

Step 3: Finalize your registration.
Complete the remaining fields and customize your preferences, then you're done!
By registering, you agree to the IBM Developer [Terms of Use](#).

2. Node-RED Service

<https://github.com/pmmistry/Node-RED-Series>

```
sudo npm install -g --unsafe-perm  
node-red
```



3.1 Create Free Translation Service!

<https://cloud.ibm.com/catalog/services/language-translator>

The screenshot shows the IBM Cloud console interface for the Language Translator service. The top navigation bar includes the IBM Cloud logo, a search bar, and links to Catalog, Docs, Support, and Manage. The breadcrumb trail indicates the path: Catalog / Services / Language Translator. The main content area is divided into two tabs: 'Create' (active) and 'About'. Under the 'Create' tab, there are two sections: 'Select a location' and 'Select a pricing plan'. The 'Select a location' section has a dropdown menu currently set to 'Dallas (us-south)'. The 'Select a pricing plan' section includes a note that displayed prices do not include tax and that monthly prices are for the United States. Below this is a table with two plans: 'Lite' and 'Standard'. The 'Lite' plan is highlighted with a red border and is marked as 'Free'. It offers up to 1,000,000 characters per month, support for 68 languages, and document translation for 12 file types. A note specifies that Lite plan services are deleted after 30 days of inactivity. The 'Standard' plan is priced at \$0.02 USD per thousand characters. On the right side of the console, a 'Summary' panel provides details about the selected service, including its location (Dallas), plan (Lite), service name, and resource group. At the bottom of this panel, a blue 'Create' button is highlighted with a red border.

IBM Cloud Search resources and offerings... Catalog Docs Support Manage Cloudapp Devs

Catalog / Services / Language Translator

IBM Watson • Date of last update: 04/28/2021 • Docs • API docs

Create About

Select a location

Select a location

Dallas (us-south)

Select a pricing plan

Displayed prices do not include tax. Monthly prices shown are for country or location: [United States](#)

Plan	Features	Pricing
Lite	Translate up to 1,000,000 Characters per Month Identify up to 68 languages with Language Identification Document Translation supporting 12 file types The Lite plan gets you started with 1,000,000 characters per month at no cost and includes the default translation models. When you upgrade to a paid plan, you can create custom models. Lite plan services are deleted after 30 days of inactivity.	Free
Standard	Everything in Lite plus... Removal of monthly 1M character translation limit First 250,000 characters are free	\$0.02 USD/THOUSAND CHAR

Summary

Language Translator Free

Location: Dallas
Plan: Lite
Service name: Language Translator-s9
Resource group: Default

Create

3.2 Save the Secret!

<https://cloud.ibm.com/catalog/services/language-translator>

IBM Cloud

Search resources and offerings...

Catalog Docs Support Manage Cloudapp Devs

Resource list /

Language Translator-s9

Active Add tags

Details Actions...

Manage

Getting started

Service credentials

Plan

Connections

Service credentials

You can generate a new set of credentials for cases where you want to manually connect an app or external consumer to an IBM Cloud service. [Learn more](#)

Search credentials...

New credential +

Key name	Date created
Auto-generated service credentials	2021-05-09 10:31 AM

```
{  "apikey": "...",  "iam_apikey_description": "Auto-generated for key 1937d46a-655f-4edb-a27f-7c37eca444e4",  "iam_apikey_name": "Auto-generated service credentials",  "iam_role_crn": "crn:v1:bluemix:public:iam:::serviceRole:Manager",  "iam_serviceid_crn": "crn:v1:bluemix:public:iam-identity::a/c1efa0d5bbda462dac88a908e27570cd::serviceid:ServiceId-981blcc5-89a6-4a2c-ac91-0ac9204a199e",  "url": "https://api.us-south.language-translator.watson.cloud.ibm.com/instances/..."}
```

3.3 Install Waston Nodes - I

The screenshot displays the Node-RED web interface. At the top, the 'Node-RED' logo is visible. Below it, a search bar labeled 'filter nodes' is present. The main workspace is a grid where flows are created. On the left, there are two categories of nodes: 'common' and 'function'. The 'common' category includes nodes like 'inject', 'debug', 'complete', 'catch', 'status', 'link in', 'link out', and 'comment'. The 'function' category includes 'function' and 'switch'. On the right, there is a 'dashboard' sidebar with tabs for 'Layout', 'Site', and 'T'. Below these tabs, there is a 'Tabs & Links' section showing a list of flows: 'Atlanta Water Ba', 'Show Maps', 'Atlanta and W', 'Contaminants', 'my map', and 'my map'. A red circle with the number '1' is placed over the 'my map' link. Another red circle with the number '2' is placed over the 'Manage palette' option in the dashboard menu.

Node-RED

filter nodes

anta Watershed Flow 2 Audio classification Flow 3

common

- inject
- debug
- complete
- catch
- status
- link in
- link out
- comment

function

- function
- switch

dashboard

Layout Site T

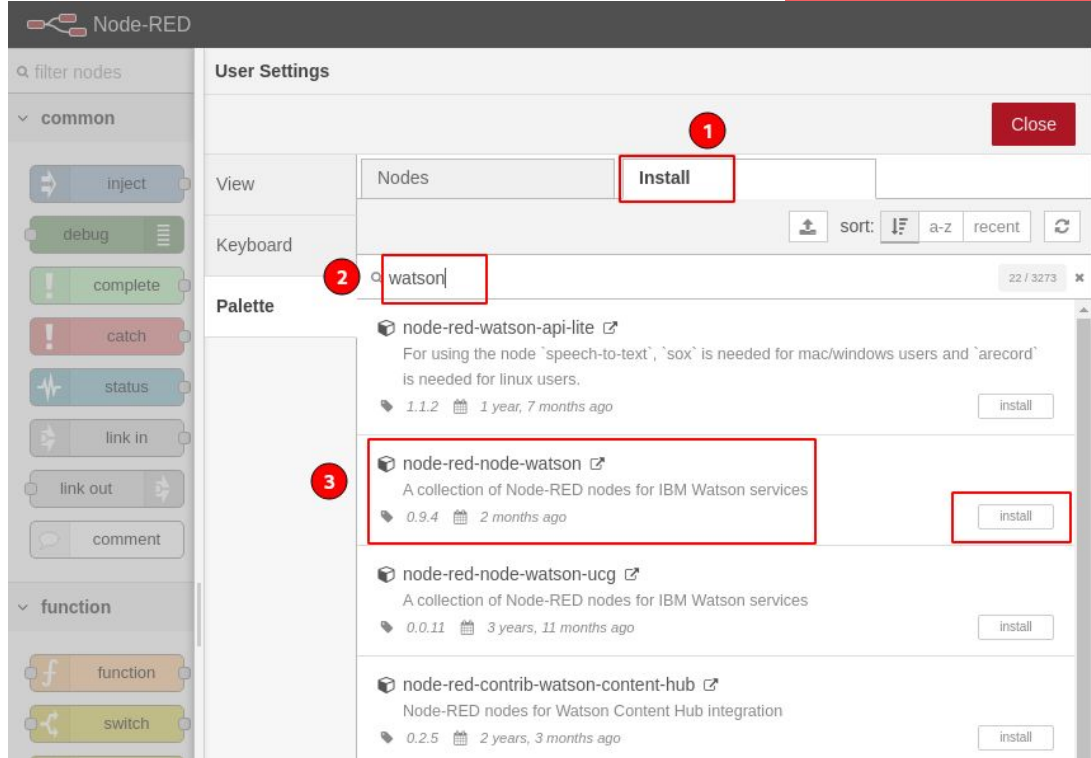
Tabs & Links

- Atlanta Water Ba
 - Show Maps
 - Atlanta and W
 - Contaminants
- my map
 - my map

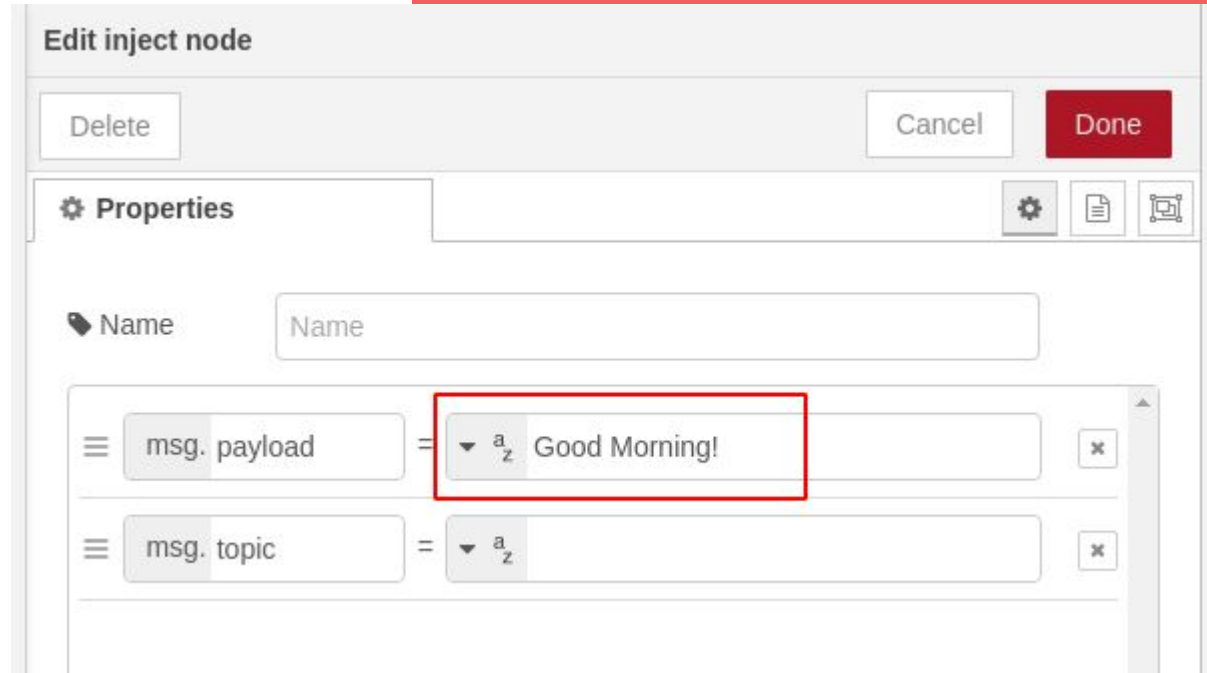
View

- Import
- Export
- Search flows
- Configuration nodes
- Flows
- Subflows
- Groups
- Manage palette
- Settings
- Keyboard shortcuts
- Node-RED website
- v1.3.4

3.4 Install Waston Nodes - II



3.5 Create Translation Flow - Inject



3.5 Create Translation Flow - Translator



Edit language translator node

Buttons: Delete, Cancel, Done

Properties

🔑 Name:

👤 Username:

🔑 Password:

🔑 API Key:

🔑 Service Endpoint:

⚙️ Mode:

📄 Domains:

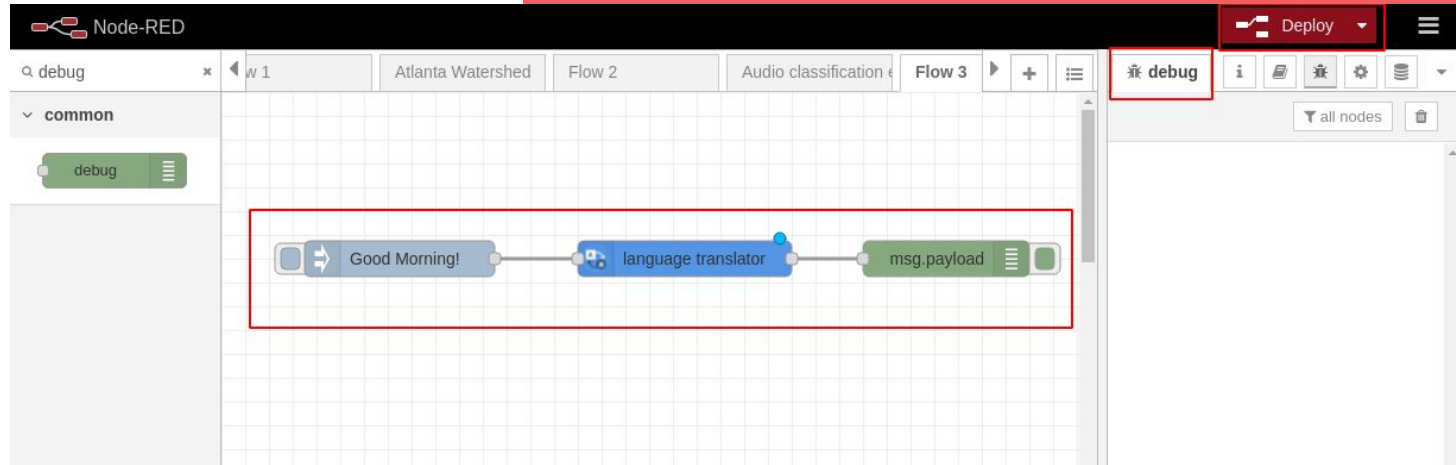
🗨️ Source:

🗨️ Target:

⚙️ Parameters ☒ Scope: Not using translation utility

Note: When **not** using the language translation utility to set credentials then 'Not using translation utility' must be checked, else credentials will not be found.

3.5 Create Translation Flow - Debug



3.5 Create Translation Flow

The screenshot displays the Node-RED web interface. The main workspace contains a flow with three nodes: an inject node (labeled '1'), a 'Good Morning!' message node, a 'language translator' node, and a 'msg.payload' output node. A red box highlights the inject node. A notification banner at the top center reads 'Successfully injected: Good Morning!' with a red circle '2' next to it. The left sidebar shows the 'common' tab with a 'debug' node. The right sidebar shows the 'debug' console with two log entries. The first entry, at 5:15:11 PM, shows 'msg.payload : string[13]' and '¡Buenos días!'. The second entry, at 5:15:31 PM, shows the same payload and translation. A red box highlights the second log entry, and a red circle '3' is placed below it.

Node-RED

Successfully injected: Good Morning! 2

debug

common

debug

1

Good Morning!

language translator

msg.payload

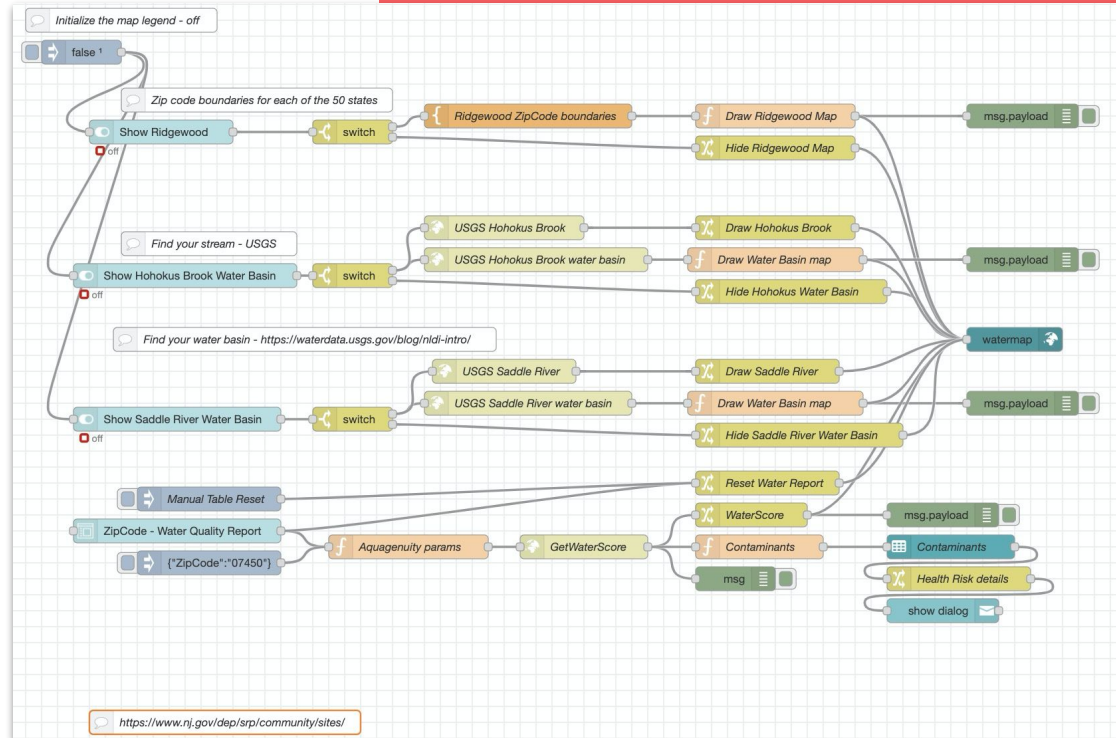
5/9/2021, 5:15:11 PM node: 39f09feb.6c0c1
msg.payload : string[13]
"¡Buenos días!"

5/9/2021, 5:15:31 PM node: 39f09feb.6c0c1
msg.payload : string[13]
"¡Buenos días!"

3

4. Import Clean Water Flow

<http://bit.ly/cfc-clean-water>



Use Cases

1. IoT
2. Create Node-RED Service
3. Hello World!
4. Import Flow JSON File

Uh oh!

❏ If you already have a Cloudant account, you need to use that as only one cloudant lite account is allowed in the free account

Cloudant★

★ = You have existing instances of this service available to use in this kit. If you wish to use the existing service, select it from the pricing plan menu.

Region

Dallas



Resource group

Default



Warning



Only one instance of a Lite plan per service is allowed. To create a new service instance, either delete your existing Lite plan service instance, or select a paid plan before continuing. You can also use your existing Lite plan service instance with the application.

Pricing plan

✓ Lite

Standard

Dedicated Hardware

Standard on Transaction Engine

Or select an existing instance

Cloudant-tu