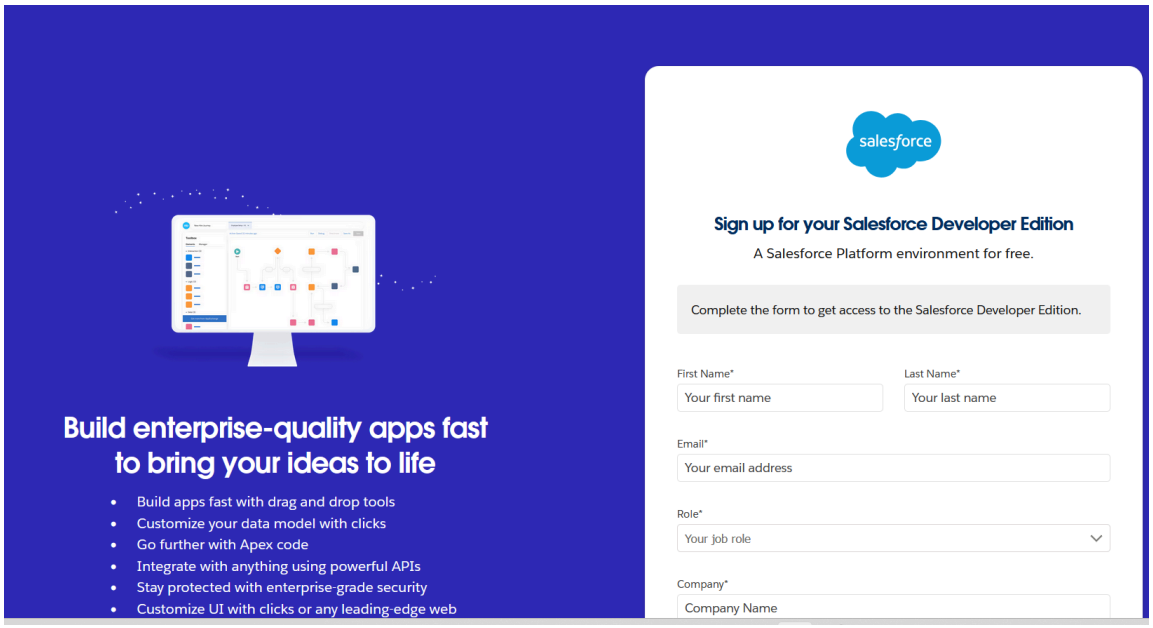
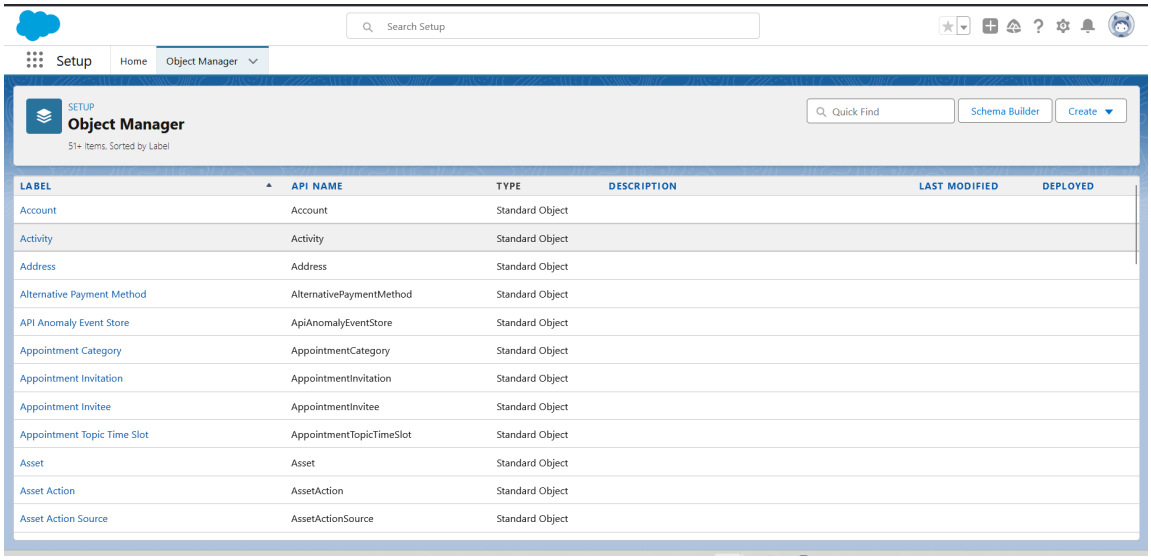
Create your development account on Salesforce

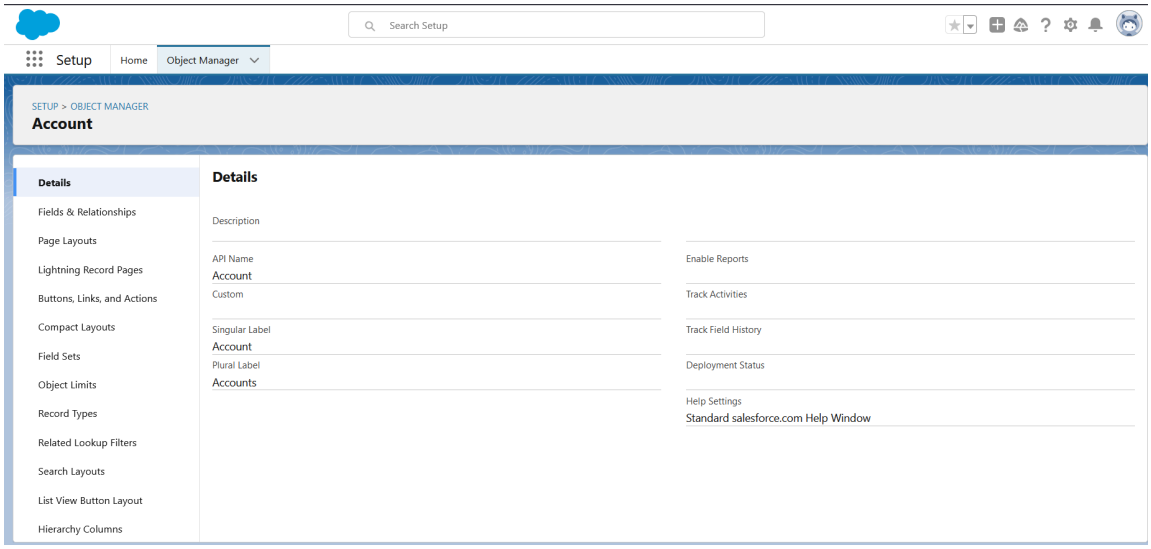
1. Go to https://developer.salesforce.com/signup:



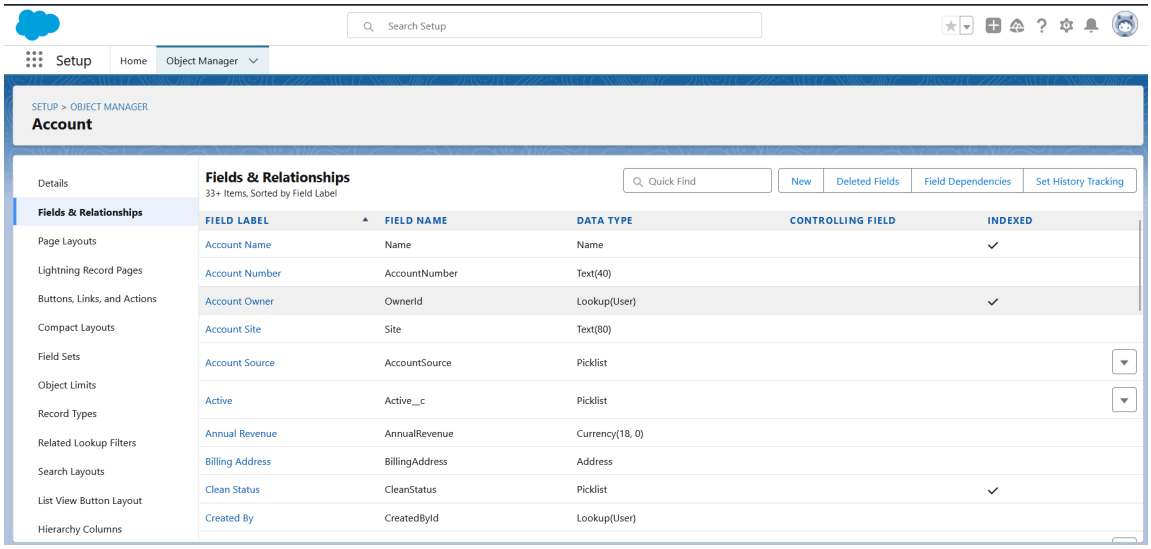
2. Fill the form and click the button Sign me Up to create your DEV account.
3. To explore Salesforce data catalog, after the successful login, go to https://[YOUR-INSTANCE]-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/home, my case is https://ymservices-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/home.



4. Click the Account Label to go to the Account data object details (the API Name is Account):



5. Go to the Fields & Relationships tab to see the Account fields:

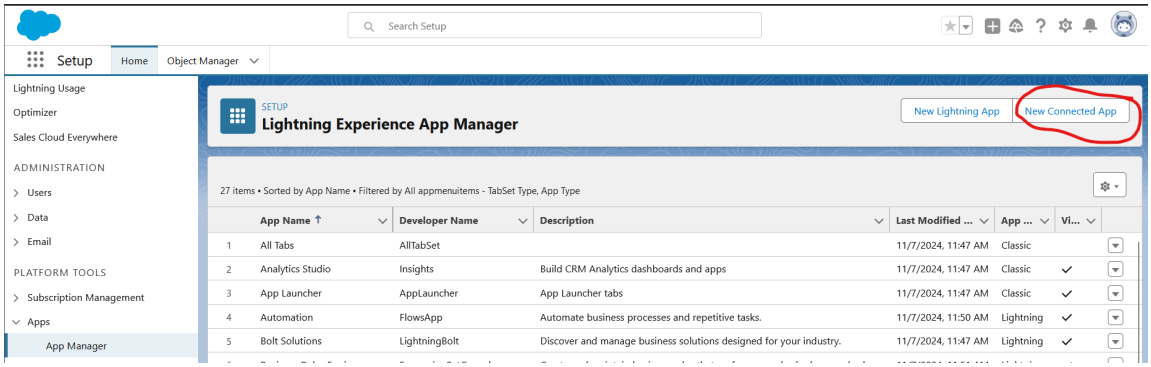


6. We will consume Account data in your sample.

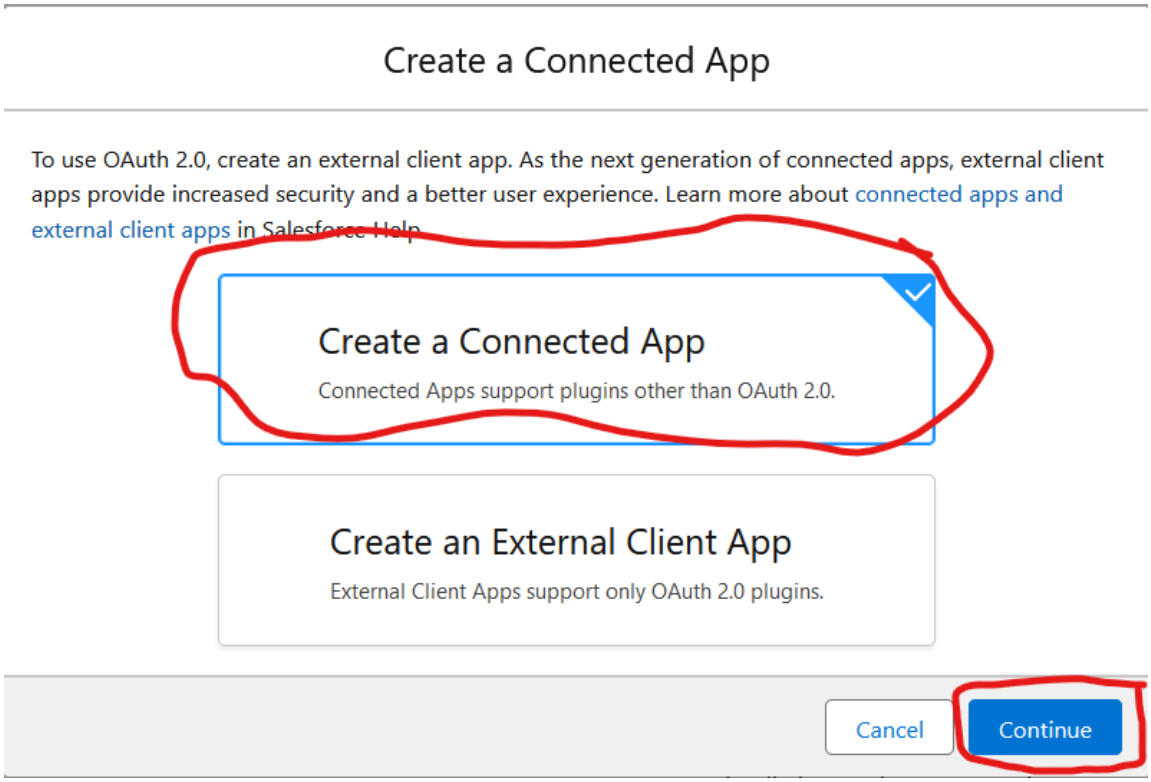
Configure the OAuth credentials

To consume the Salesforce API you must configure the OAuth credentials:

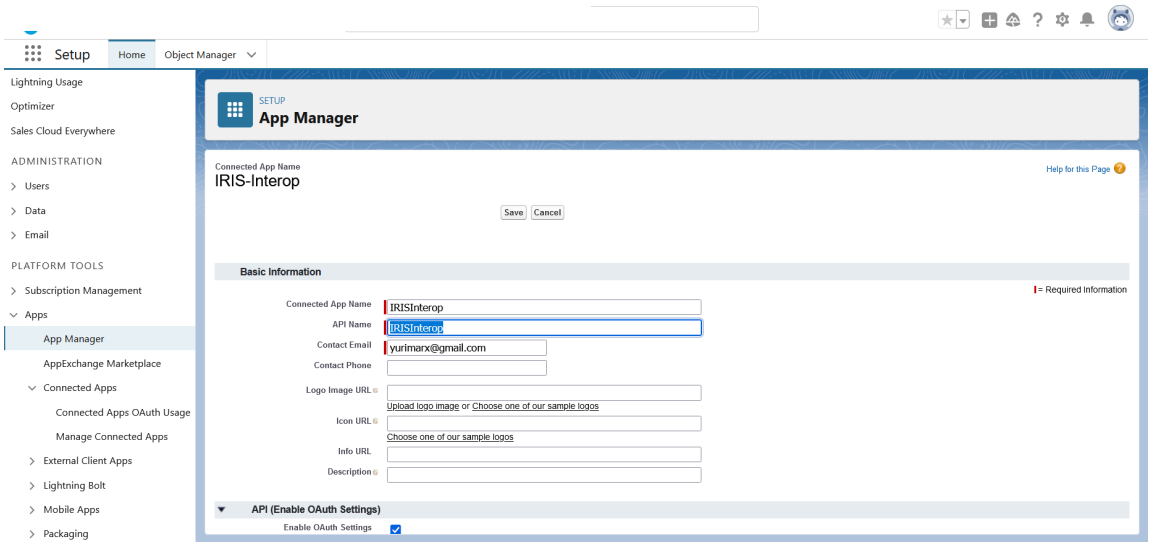
1. Go to [https://[YOUR SALESFORCE INSTANCE].lightning.force.com/lightning/setup/NavigationMenus/home](https://[YOUR SALESFORCE INSTANCE].lightning.force.com/lightning/setup/NavigationMenus/home).
2. Click the button New Connected App:

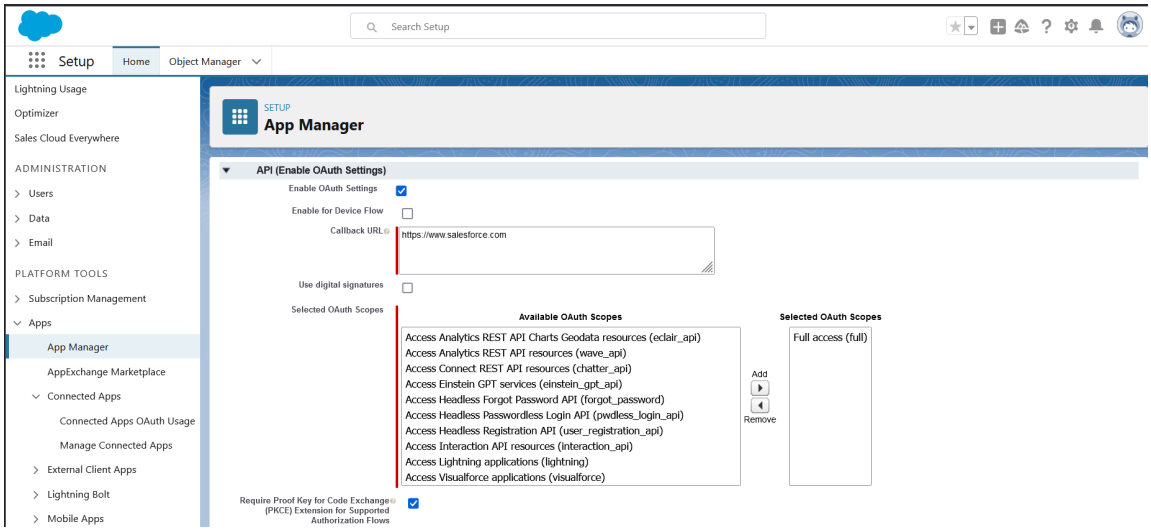


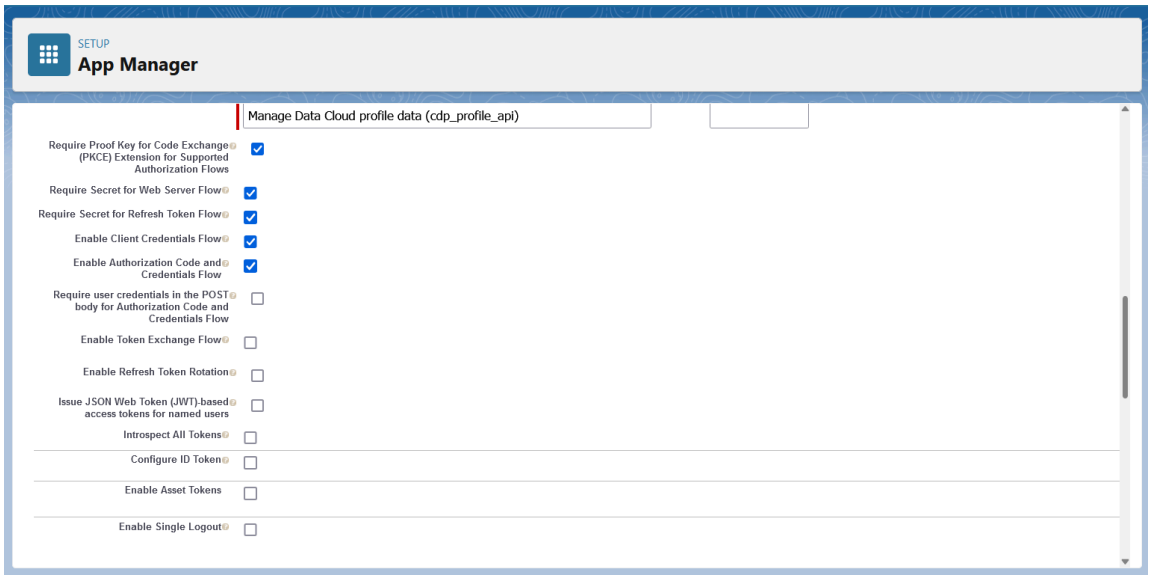
3. Select Create a Connected App and click the button Continue:

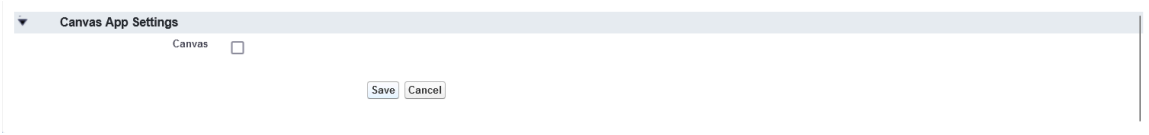


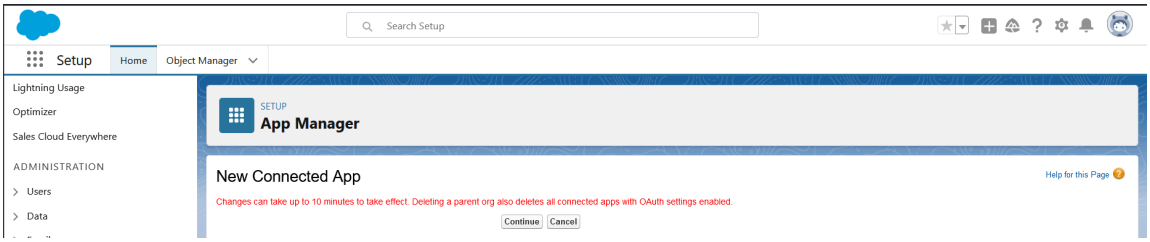
4. Fill the form according these options (use your email on Contact Email) and click the button save:


Setup
Home
Object Manager
Lightning Usage
Optimizer
Sales Cloud Everywhere
ADMINISTRATION
Users
Data
Email
PLATFORM TOOLS
Subscription Management
Apps
App Manager
AppExchange Marketplace
Connected Apps
Connected Apps OAuth Usage
Manage Connected Apps
External Client Apps
Lightning Bolt
Mobile Apps
Packaging
SETUP
App Manager
Connected App Name
IRIS-Interop
Help for this Page
Save
Cancel
Basic Information
= Required Information
Connected App Name
IRISInterop
API Name
IRISInterop
Contact Email
yurimarx@gmail.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
API (Enable OAuth Settings)
Enable OAuth Settings

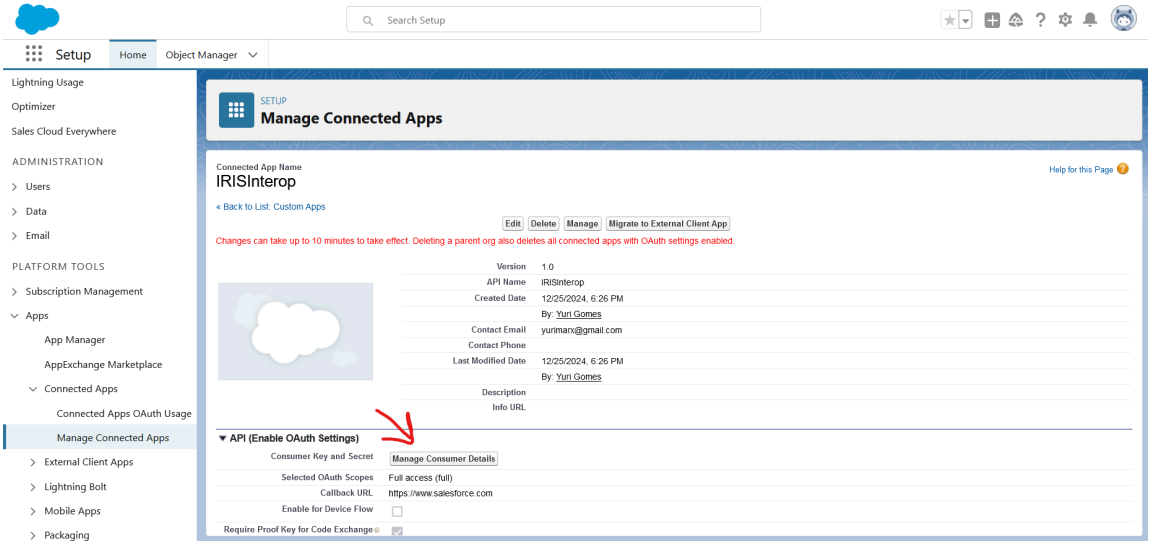

Search Setup
Setup
Home
Object Manager
Lightning Usage
Optimizer
Sales Cloud Everywhere
ADMINISTRATION
Users
Data
Email
PLATFORM TOOLS
Subscription Management
Apps
App Manager
AppExchange Marketplace
Connected Apps
Connected Apps OAuth Usage
Manage Connected Apps
External Client Apps
Lightning Bolt
Mobile Apps
SETUP
App Manager
API (Enable OAuth Settings)
Enable OAuth Settings
Enable for Device Flow
Callback URL
https://www.salesforce.com
Use digital signatures
Selected OAuth Scopes
Available 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 Einstein GPT services (einstein_gpt_api)
Access Headless Forgot Password API (forgot_password)
Access Headless Passwordless Login API (pwdless_login_api)
Access Headless Registration API (user_registration_api)
Access Interaction API resources (interaction_api)
Access Lightning applications (lightning)
Access Visualforce applications (visualforce)
Add
Remove
Selected OAuth Scopes
Full access (full)
Require Proof Key for Code Exchange (PKCE) Extension for Supported Authorization Flows


SETUP
App Manager
Manage Data Cloud profile data (cdp_profile_api)
Require Proof Key for Code Exchange (PKCE) Extension for Supported Authorization Flows
Require Secret for Web Server Flow
Require Secret for Refresh Token Flow
Enable Client Credentials Flow
Enable Authorization Code and Credentials Flow
Require user credentials in the POST body for Authorization Code and Credentials Flow
Enable Token Exchange Flow
Enable Refresh Token Rotation
Issue JSON Web Token (JWT)-based access tokens for named users
Introspect All Tokens
Configure ID Token
Enable Asset Tokens
Enable Single Logout

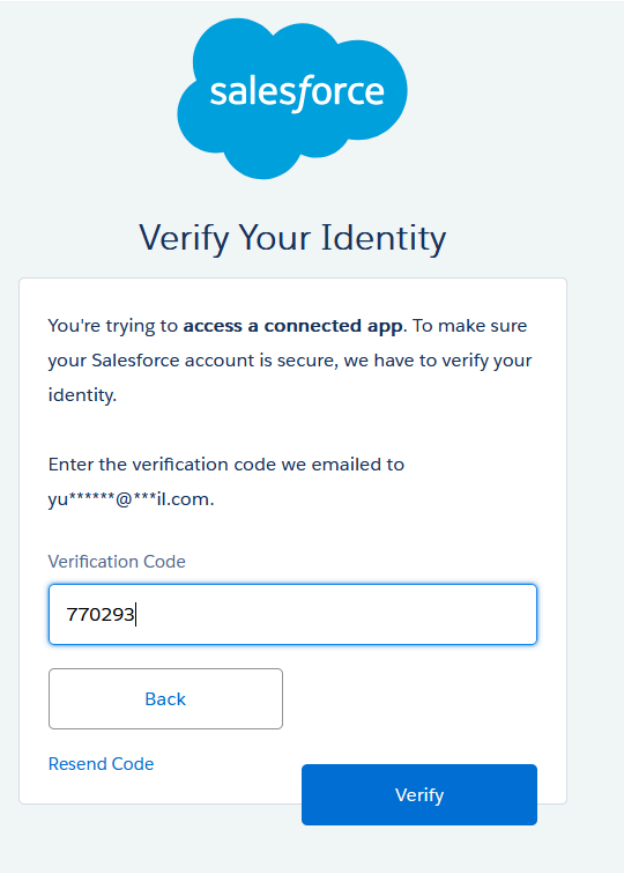




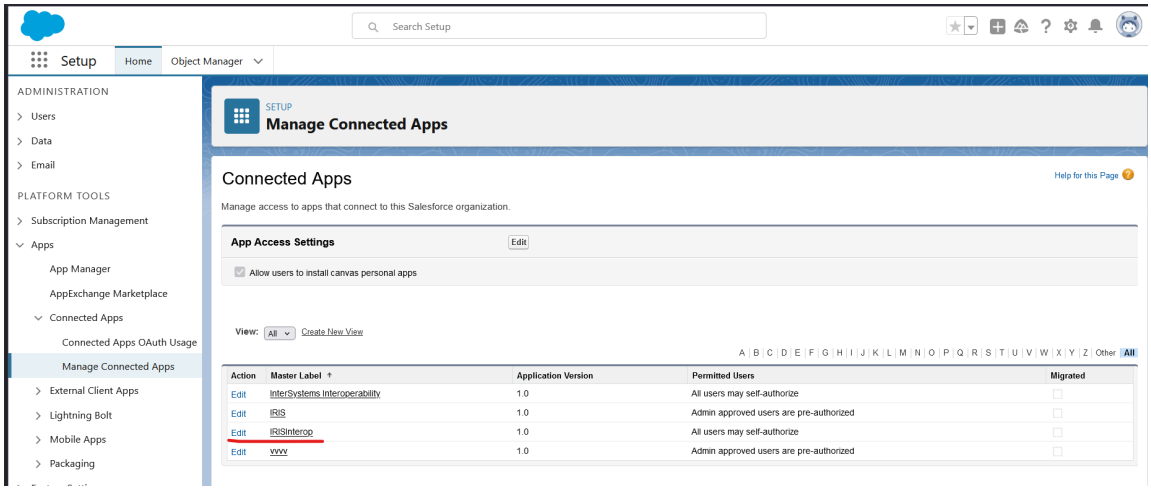
5. After 10 to 15 minutes click the button Continue and now click the button Manage Consumer Details:



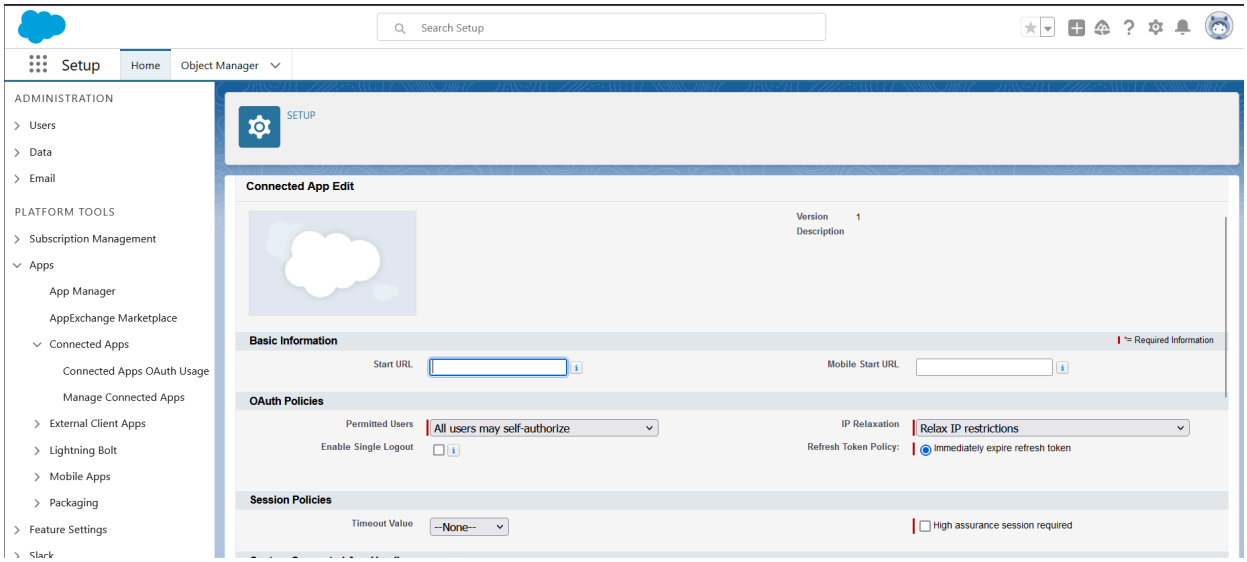
6. You must validate your identity (check your email to get the verification code):



7. Copy the consumer key and consumer secret to use later.
8. Now it is required to edit a few oauth policies.
9. Go to [https://[your salesforce instance].lightning.force.com/lightning/setup/ConnectedApplication/home](https://[your salesforce instance].lightning.force.com/lightning/setup/ConnectedApplication/home) and click Edit link for the IRISInterop connected application.



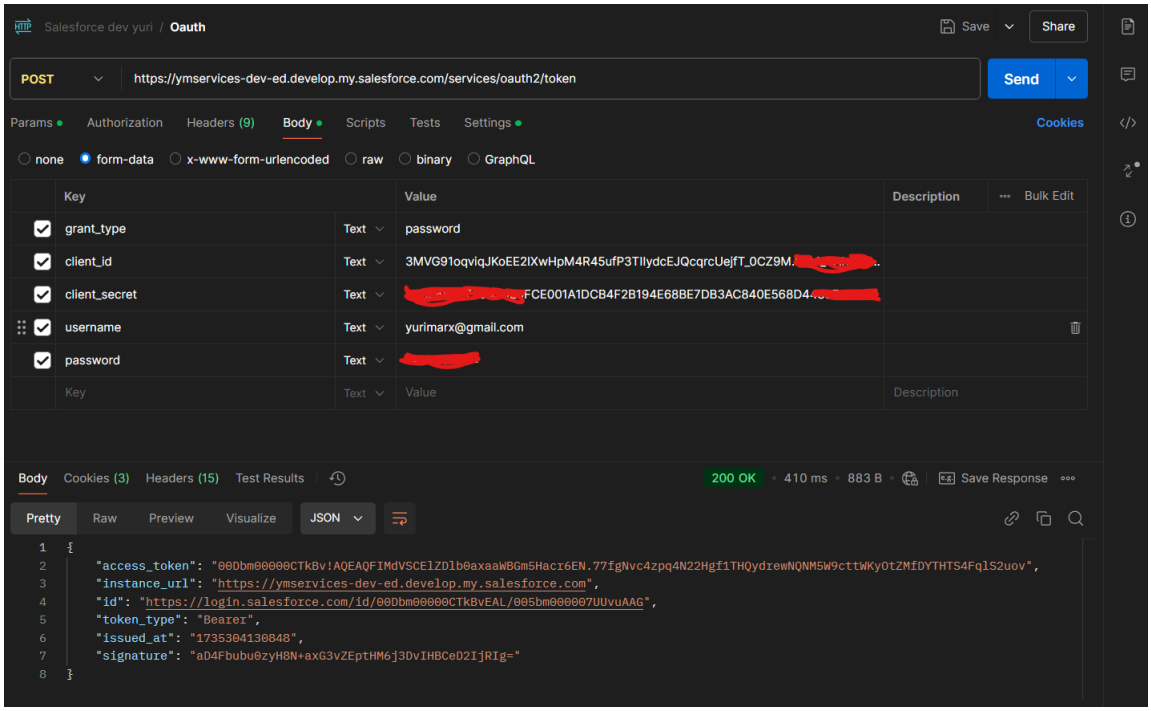
10. On OAuth Policies section select the options and click save button on bottom:
    a. Permitted Users: All users may self-authorize
    b. IP Relaxation: Relax IP restrictions



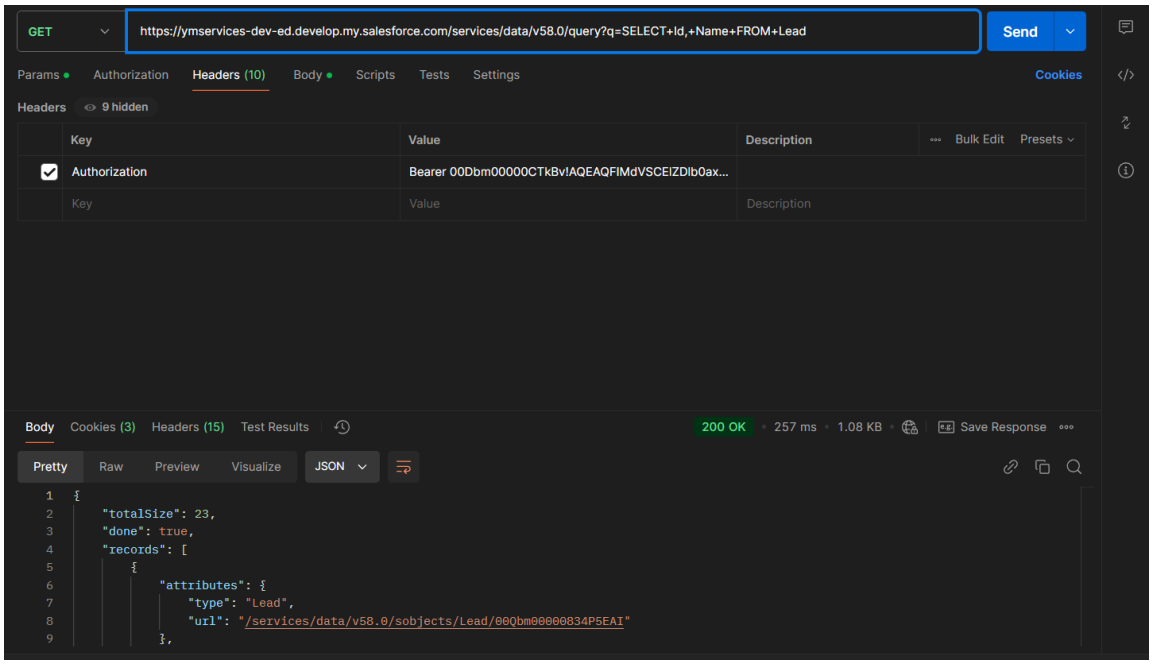
11. Now we are prepared to consume the Salesforce APIs.

Test the consumption of the Salesforce API on Postman

1. If you don't have Postman download it on https://www.postman.com/downloads/.
2. After starting your Postman, we will test the login API to get a new token.
3. Create a POST call like this:
    a. grant_type: password
    b. client_id: your consumer key
    c. client_secret: your consumer secret
    d. username: your username (you use to access your Salesforce instance web interface)
    e. password: your user password (you use to access your Salesforce instance web interface)



4. Copy the access_token to use on Authorization header for all next Salesforce API calls.
5. Now, we will consume the Salesforce Query API to get the current leads. Set your call like this:
    a. URL: https://[your salesforce instance].my.salesforce.com/services/data/v58.0/query?q=SELECT+Id,+Name+FROM+Lead
    b. On headers, add the Header Authorization with the value: Bearer [the access_token returned from login service]



6. See the records with the leads data.
7. Now we will create an interoperability adapter with a production to allow us to integrate Salesforce data with any other system, service, API or data repository.

About Salesforce API

We will use these API to interoperate with Salesforce:

1. Authentication API to get Authorization token:

   curl --location
   'https://ymservices-dev-ed.develop.my.salesforce.com/services/oauth2/token' \
   --form 'grant_type="password"' \
   --form
   'client_id="3MVG91oqviqJK……fT_0CZ9M.80M_THhxS51LKc7IHk2c5qQt63wD_"'
   \
   --form 'client_secret="6B8860E……..B3AC840E568D44837094ADC"' \
   --form 'username="yurimarx@gmail.com"' \
   --form 'password="**********"'

2. Query API: API to find records using the Salesforce Object Query Language (SOQL). It is similar to SQL language:

   SELECT one or more fields
   FROM an object
   WHERE filter statements and, optionally, results are ordered

   Example:
   SELECT Id, Name
   FROM Account
   WHERE Name = 'Sandy'

   A curl sample:
   curl --location --request GET
   'https://ymservices-dev-ed.develop.my.salesforce.com/services/data/v62.0/query?q=SELECT+Id%2C+Name+FROM+Lead' \
   --header 'Authorization: Bearer
   00Dbm00000CTkBv!AQEAQFIMdVSCElZDlb0axaaWBGm5Hacr6EN.77fgNvc4zpq4N22Hgf1THQydrewNQNM5W9cttWKyOtZMfDYTHTS4FqlS2uov'

   For more details about the language capabilities, check this link:
   https://developer.salesforce.com/docs/atlas.en-us.soql_sosl.meta/soql_sosl/sforce_api_calls_soql_select.htm.

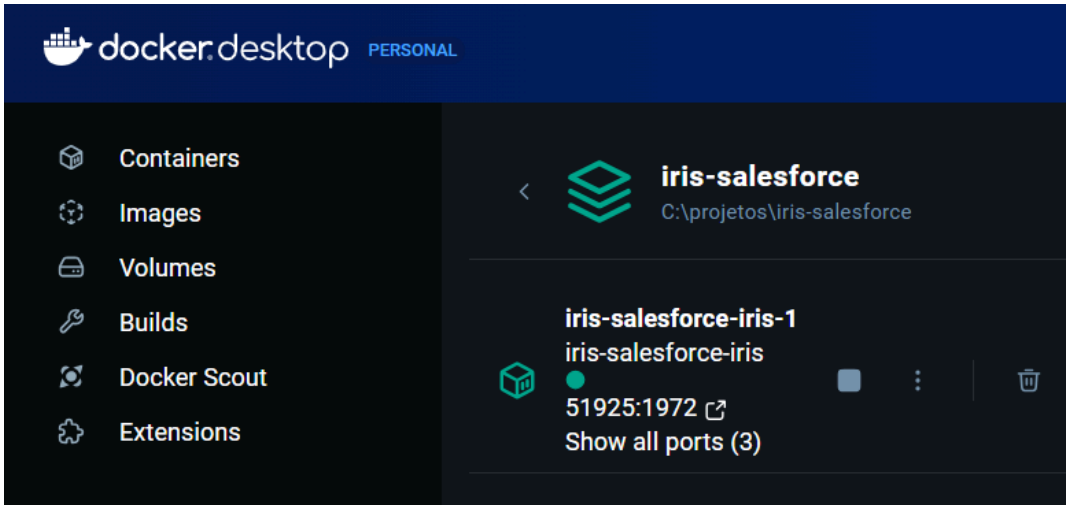
3. SObjects API: it is an API to execute CRUD operations and describe the Salesforce objects and their metadata. The URL path is /services/data/salesforce version/sobjects/salesforce object/salesforce record id (not to create). It is required to set the Authorization header with the login token. See the samples:
    a. Create record: curl https://MyDomainName.my.salesforce.com/services/data/v63.0/sobjects/Account/ -H "Authorization: Bearer token" -H "Content-Type: application/json" -d "@newaccount.json".
    b. Update record: curl https://MyDomainName.my.salesforce.com/services/data/v63.0/sobjects/Account/001D000000INjVe -H "Authorization: Bearer token" -H "Content-Type: application/json" -d @patchaccount.json -X PATCH
    c. Delete record: curl https://MyDomainName.my.salesforce.com/services/data/v63.0/sobjects/Account/001D000000INjVe -H "Authorization: Bearer token" -X DELETE
    d. Get by Id: curl https://MyDomainName.my.salesforce.com/services/data/v63.0/sobjects/Account/001D000000INjVe -H "Authorization: Bearer token" -X GET
    e. Get metadata information: curl https://MyDomainName.my.salesforce.com/services/data/v63.0/sobjects/Account/ -H "Authorization: Bearer token"

More information about sobjects API on https://developer.salesforce.com/docs/atlas.en-us.api_rest.meta/api_rest/intro_rest.htm.

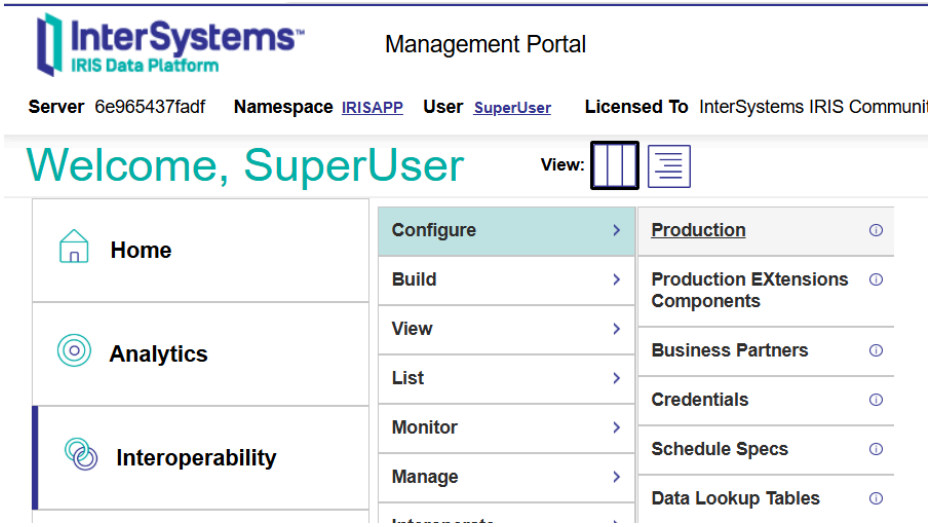
Creating a Production to use the new Operation

Now, to test our Salesforce business operation, we will create a new Production:

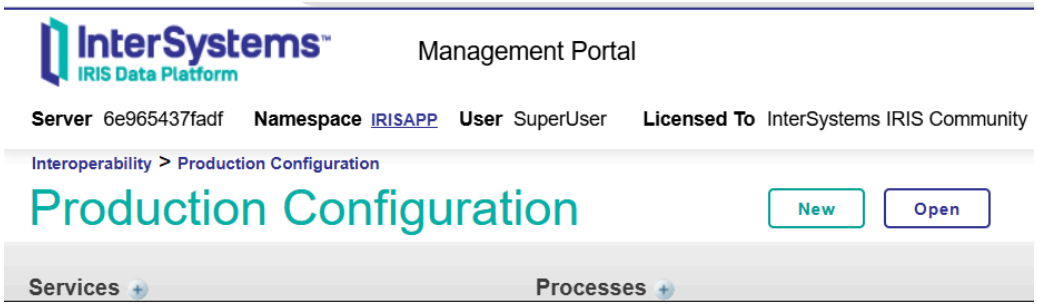
1. Check out the port used by IRIS (my case is 51925):



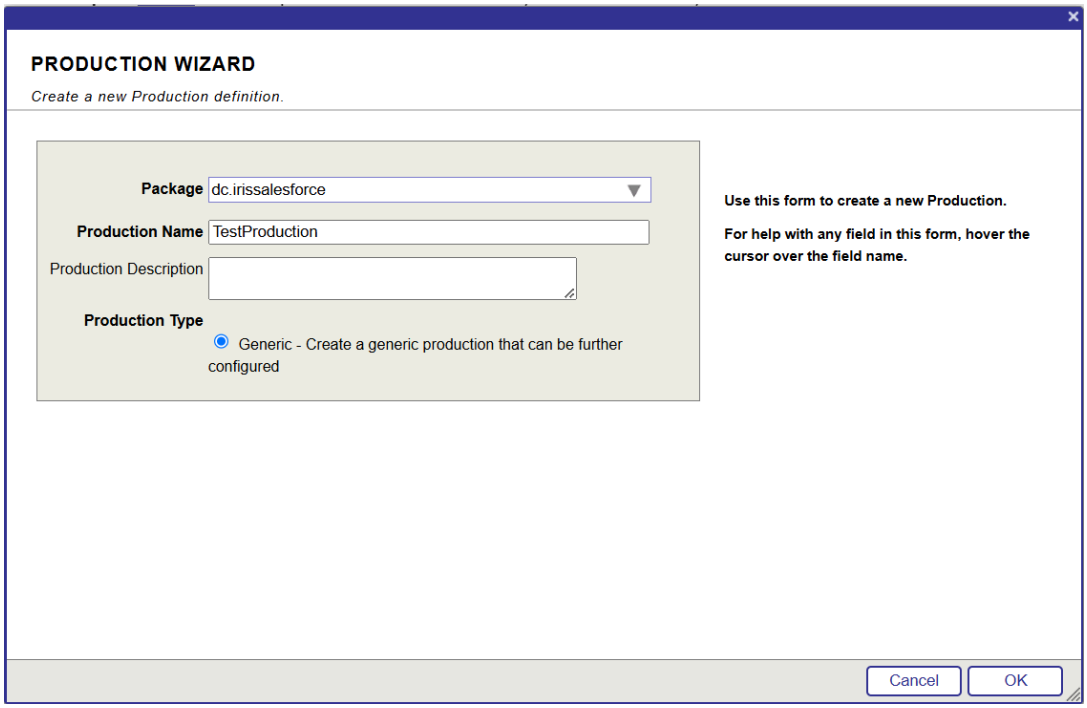
2. Go to the Management Portal
   http://localhost:51926/csp/sys/UtilHome.csp?$NAMESPACE=IRISAPP
3. Go to Interoperability > Configure > Production:



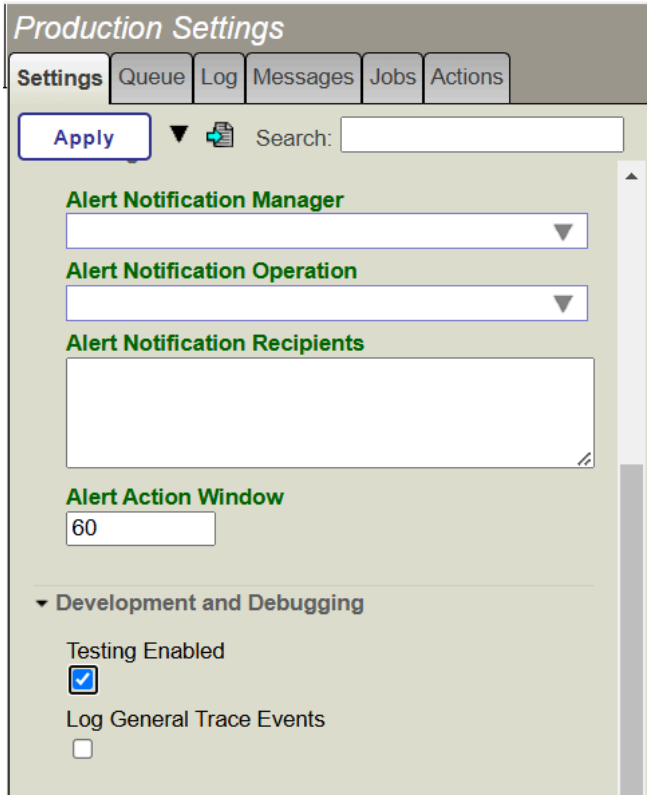
4. Click New button:



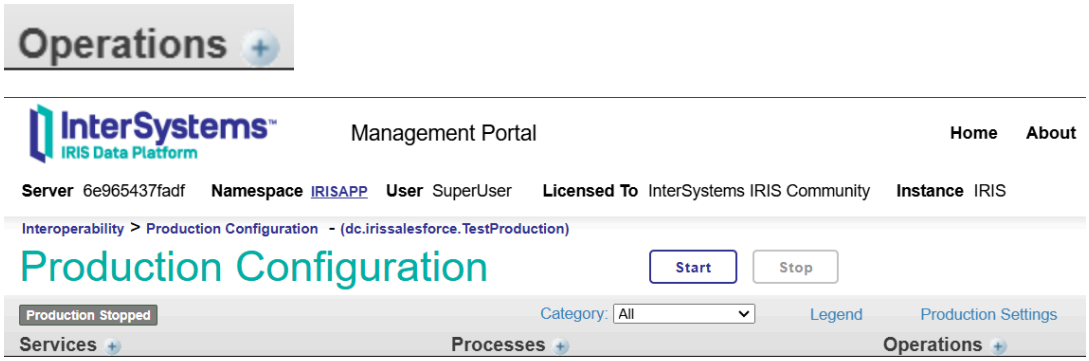
5. Set the values for the new Production and click OK:



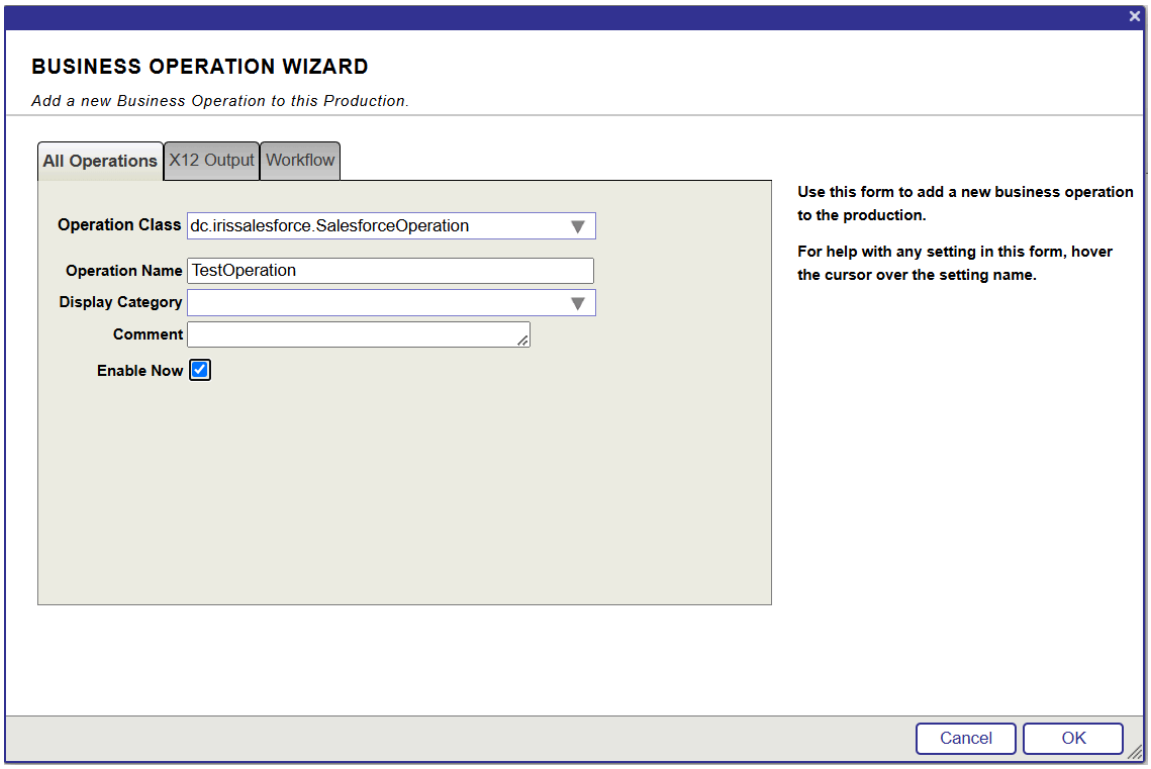
6. Go to Settings tab > Development and Debugging section and check the Testing Enabled option and click the Apply button to save:



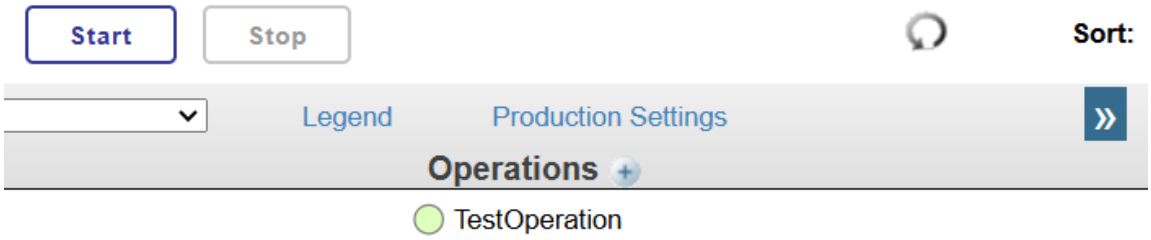
7. Click the Plus button near Operations:



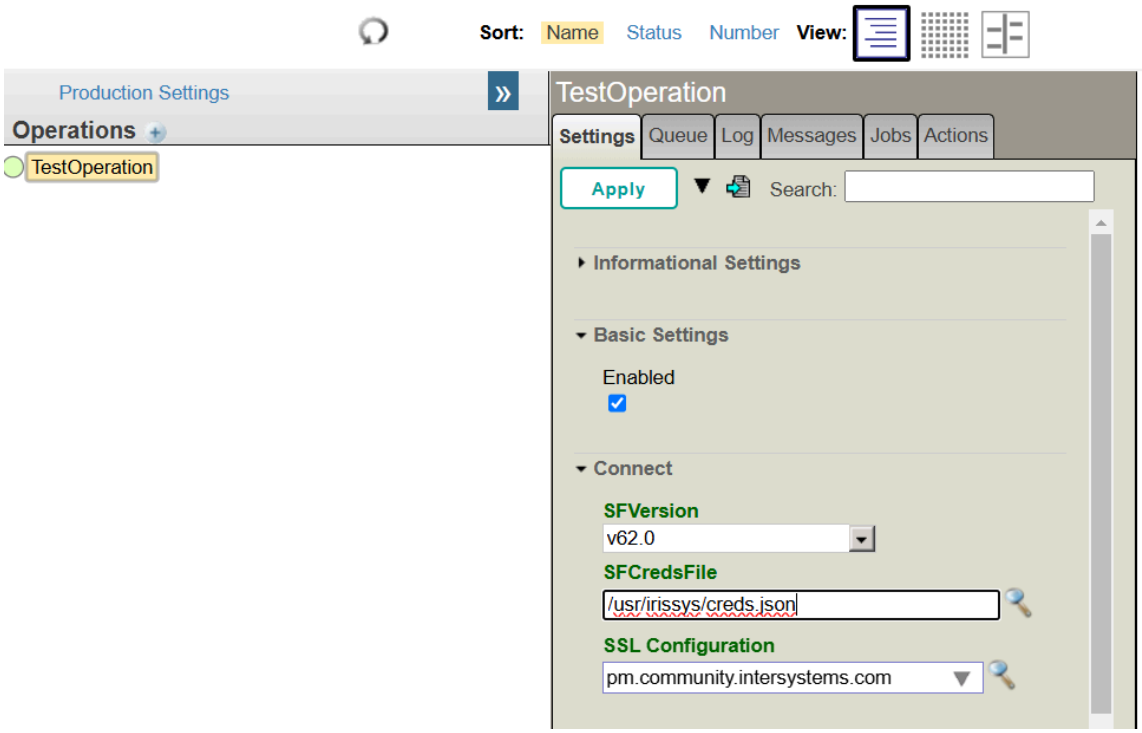
8. Set the values to the new operation (Operation Class is the our SalesforceOperation class):



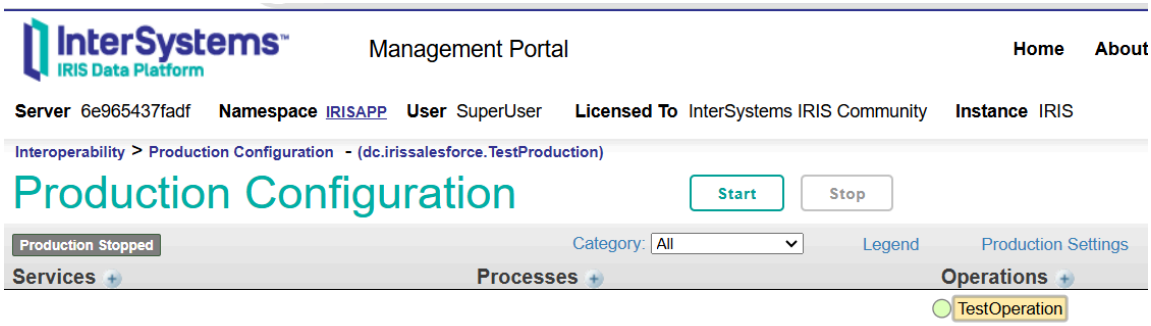
9. Now we have TestOperation for our tests:



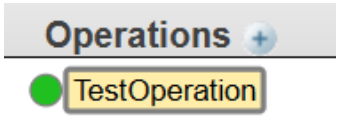
10. Select TestOperation, go to Settings tab > Connect section and set these values:
    a. SFVersion: v62.0
    b. SFCredsFile: path for credentials file, my case is /usr/irissys/creds.json
    c. SSL Configuration: with the SSL configuration, my case is pm.community.intersystems.com
11. Click Apply button to save the TestOperation configuration:



12. Click the production Start button to execute the operation:



13. Now the Operation color is dark green:

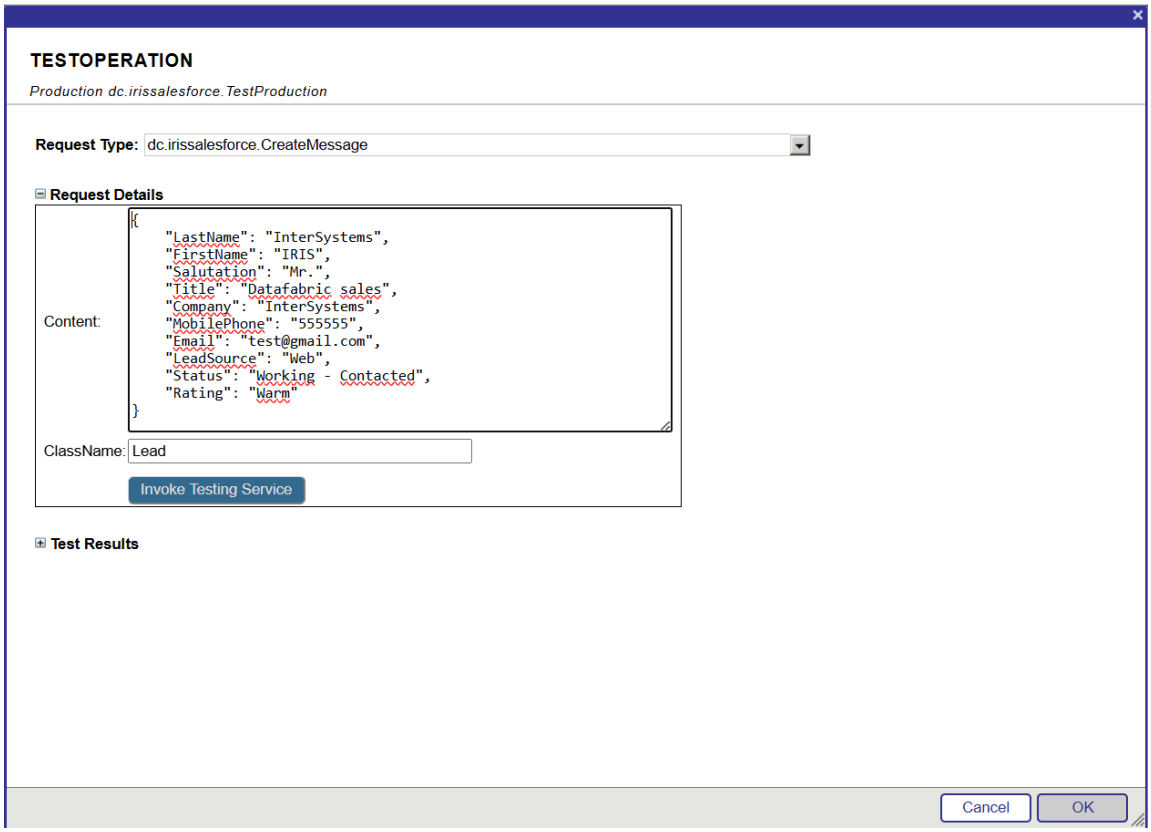


14. Select the TestOperation operation and go to the Actions tab. Click the button Test:

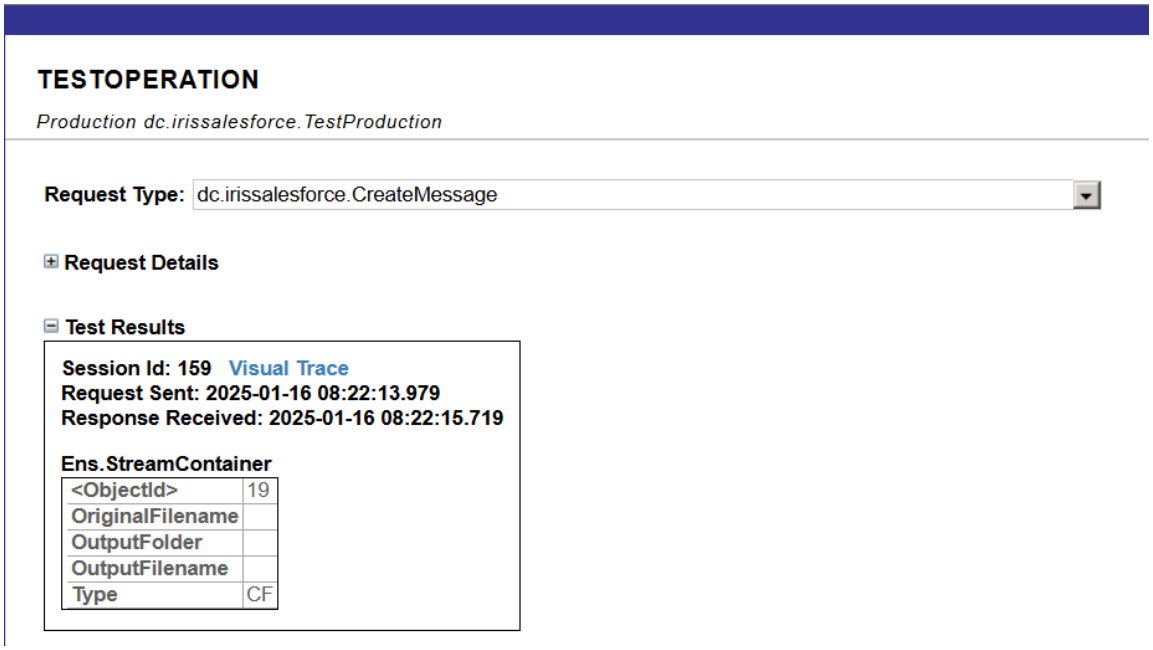
15. Set the values to test Create:
    Request Type: dc.irissalesforce.CreateMessage
    Content:

```
{
        "LastName": "InterSystems",
        "FirstName": "IRIS",
        "Salutation": "Mr.",
        "Title": "Datafabric sales",
        "Company": "InterSystems",
        "MobilePhone": "555555",
        "Email": "test@gmail.com",
        "LeadSource": "Web",
        "Status": "Working - Contacted",
        "Rating": "Warm"
}
```

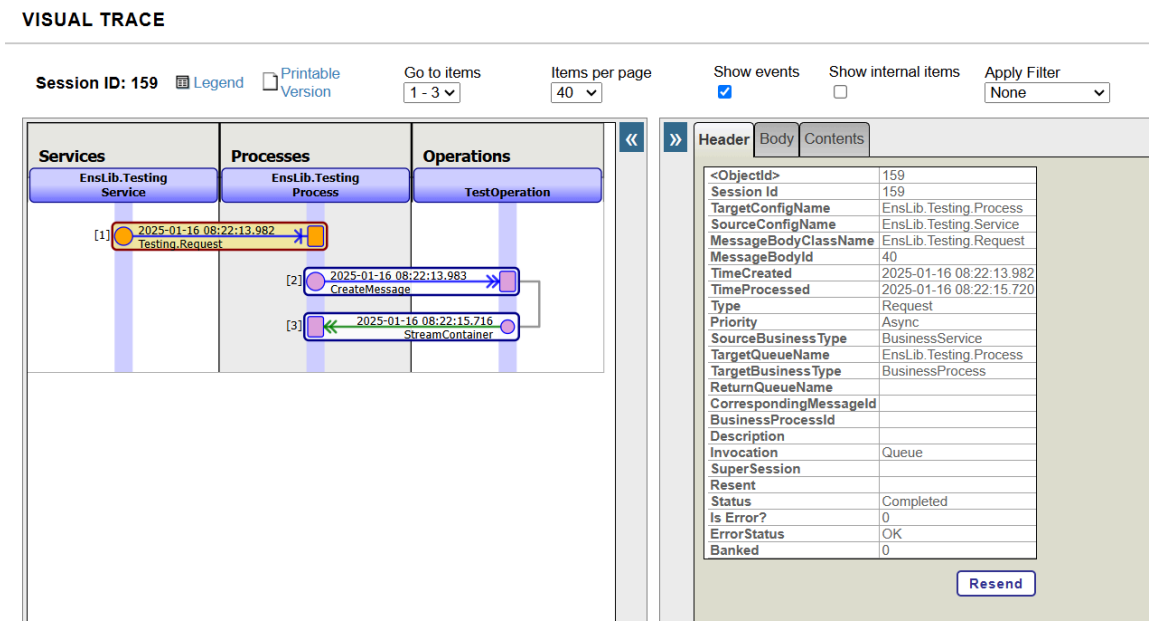
    ClassName: Lead



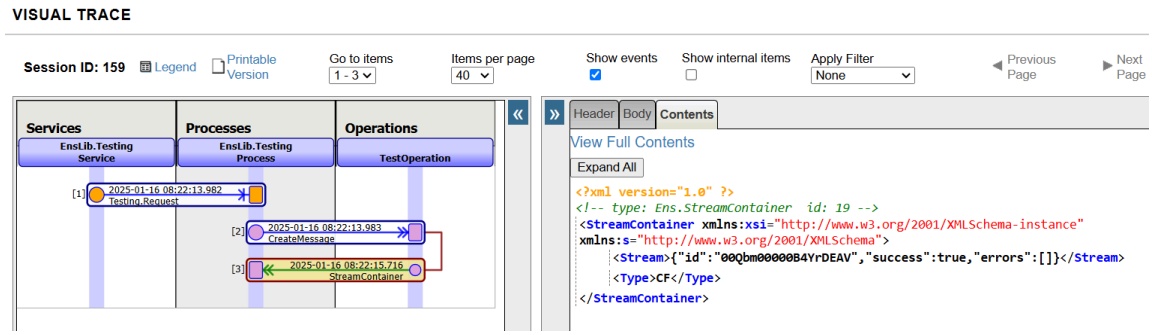
16. Click the button Invoke Testing Service and see the results:



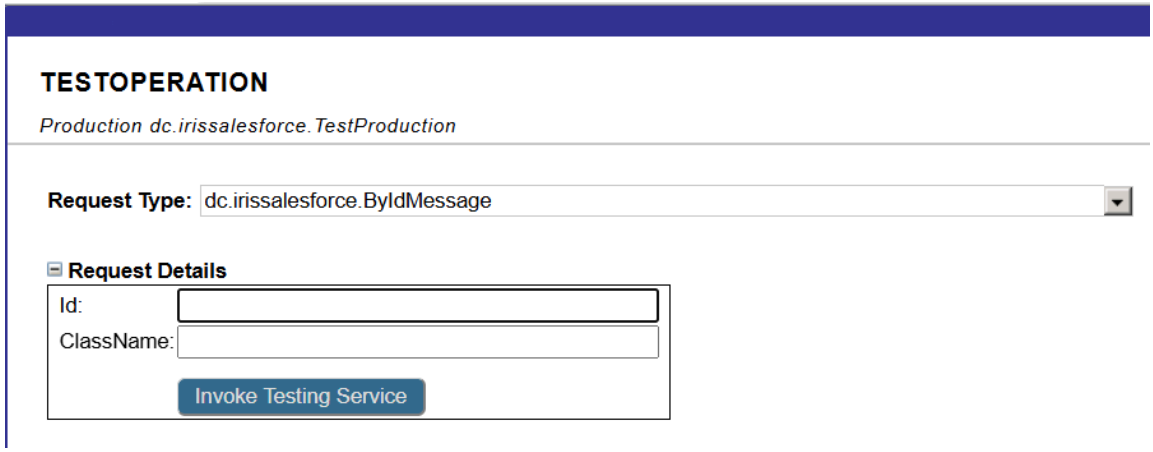
17. Click the link Visual Trace to see the details of the tests:



18. Click the [3] step and go to the Contents tab to see the result details:

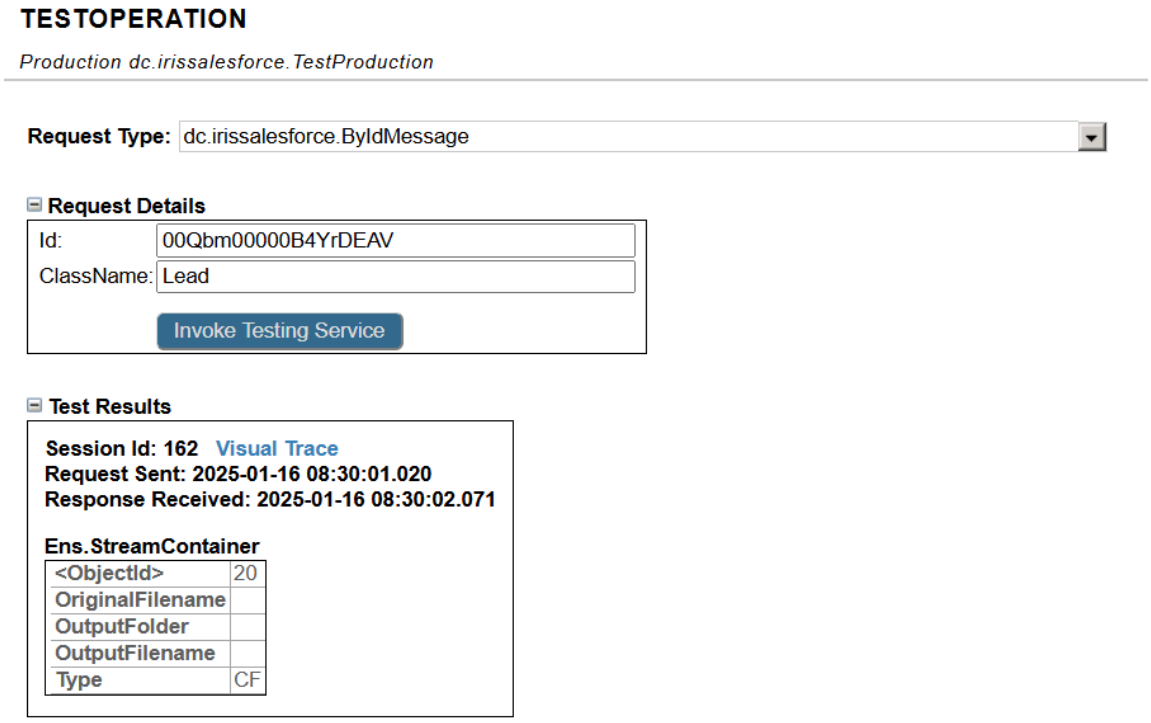


19. The record was created with success, copy the id, my case is 00Qbm00000B4YrDEAV.
20. Close the Visual Trace and select the Request Type dc.irissalesforce.ByIdMessage and expand the section Request Details:

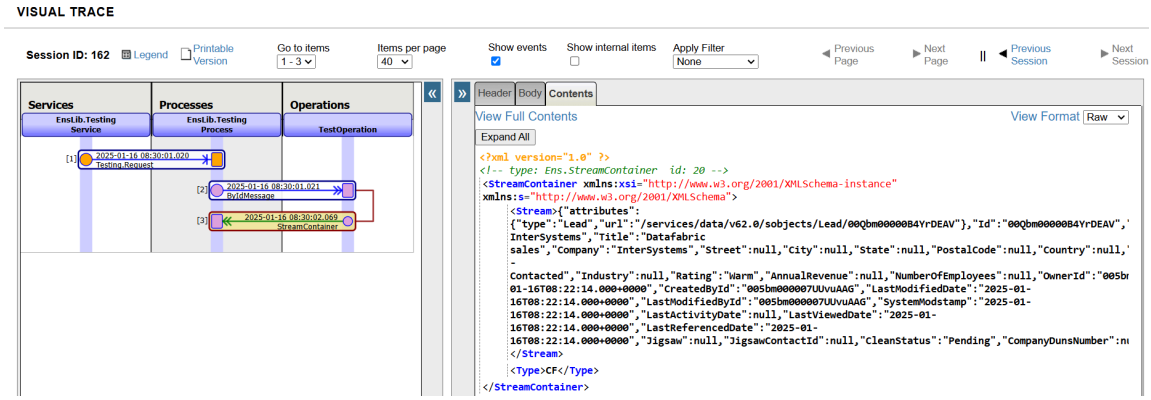


21. Set the values Id with the Id that you copied and ClassName with Lead:

22. Click the button Invoke Testing Service and see the results:



23. Click the Visual Trace and select [3] step and see the results on Contents tab:



24. You see the JSON content that you input on previous steps.
25. Test the other message types and enjoy!