

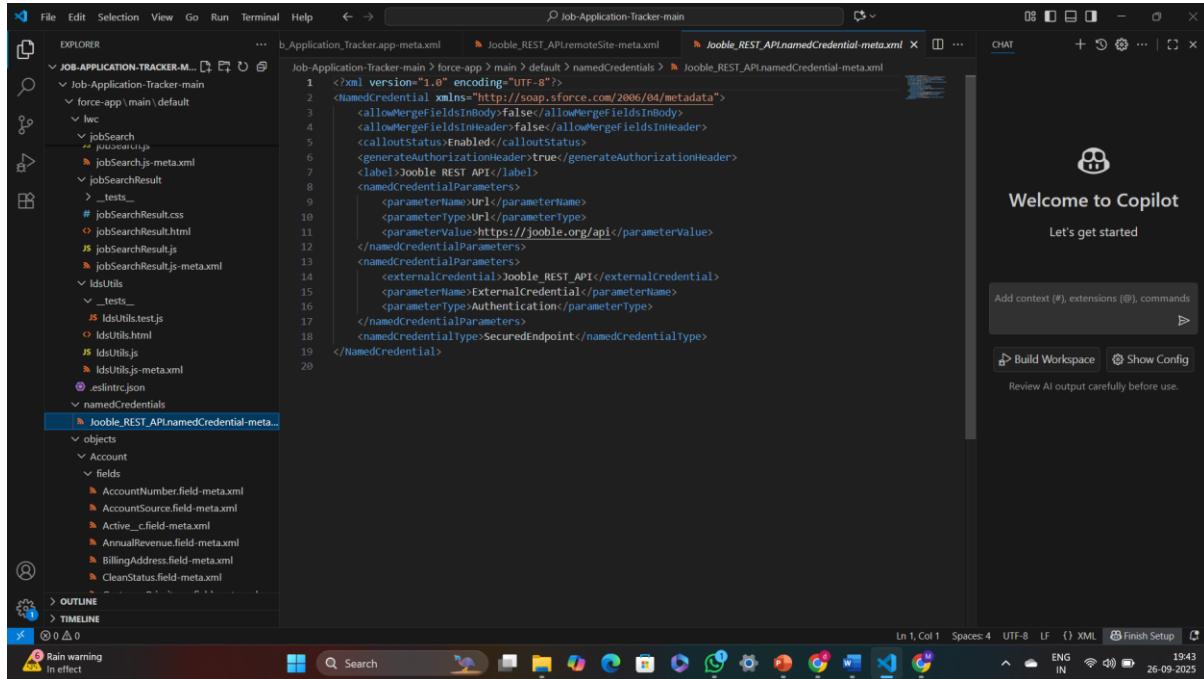
Phase 7: Integration & External Access

Concept	Theory	Project Files / Folders
Named Credentials	Store endpoint + auth	Jooble_REST_API.namedCredential-meta.xml
External Services	Declarative API integration	Jooble_REST_API.externalCredential-meta.xml
Web Services (REST/SOAP)	Consume/expose APIs	JoobleJSONCallout.cls, JoobleJSONCallout.apex
Callouts	HTTP requests to external APIs	JoobleJSONCallout.cls, JoobleJSONCalloutMockGenerator.cls, Remote Site
Platform Events	Event-driven messaging	✗ Not implemented
Change Data Capture	Publish record changes as events	✗ Not implemented
Salesforce Connect	Connect external DB without copy	✗ Not implemented
API Limits	Governor & API call limits	Queueable classes & callouts (e.g., JobApplicationCleaningQueueable.cls)
OAuth & Authentication	Secure login with external APIs	Named & External Credentials (Jooble_REST_API.*)
Remote Site Settings	Whitelist external APIs	Jooble_REST_API.remoteSite-meta.xml

In your project:

force-app/main/default/namedCredentials

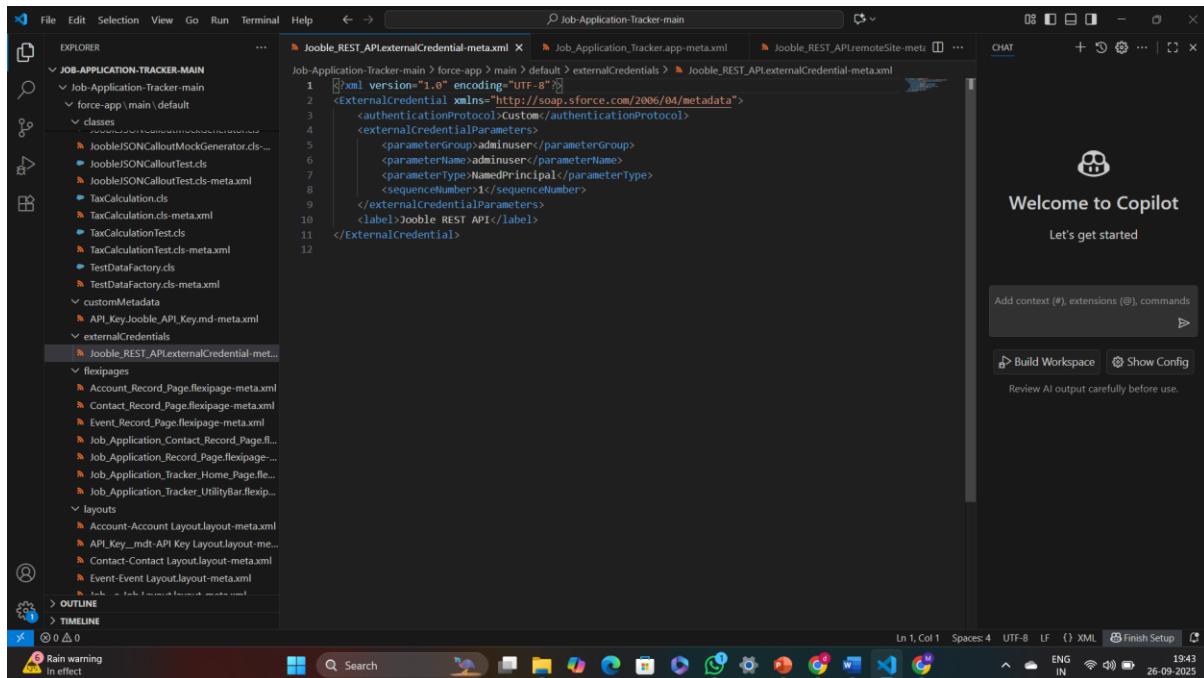
- **Jooble_REST_API.namedCredential-meta.xml** → defines named credential for the Jooble API.



The screenshot shows the Salesforce IDE interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Explorer Pane:** Shows the project structure under "JOB-APPLICATION-TRACKER-MAIN". The "namedCredentials" folder contains the selected file, "Jooble_REST_API.namedCredential-meta.xml".
- Code Editor:** Displays the XML content of the selected file:<?xml version="1.0" encoding="UTF-8"?>
<NamedCredential xmlns="http://soap.sforce.com/2006/04/metadata">
<allowMergeFieldsInBody>false</allowMergeFieldsInBody>
<allowMergeFieldsInHeader>false</allowMergeFieldsInHeader>
<calloutStatus>Enabled</calloutStatus>
<generateAuthorizationHeader>true</generateAuthorizationHeader>
<label>Jooble REST API</label>
<namedCredentialParameters>
<parameterName>url</parameterName>
<parameterType>Url</parameterType>
<parameterValue>https://jooble.org/api</parameterValue>
</namedCredentialParameters>
<namedCredentialParameters>
<externalCredential>Jooble REST API</externalCredential>
<parameterName>ExternalCredential</parameterName>
<parameterType>Authentication</parameterType>
</namedCredentialParameters>
<namedCredentialType>SecuredEndpoint</namedCredentialType>
</NamedCredential>
- Chat Panel:** Welcome to Copilot, Let's get started.
- Bottom Bar:** Rain warning, Build Workspace, Show Config, Review AI output carefully before use, Line numbers, Spaces, Encoding, Date.

Jooble_REST_API.externalCredential-meta.xml → manages external access credentials for Jooble API.



The screenshot shows the Salesforce IDE interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Explorer Pane:** Shows the project structure under "JOB-APPLICATION-TRACKER-MAIN". The "externalCredentials" folder contains the selected file, "Jooble_REST_API.externalCredential-meta.xml".
- Code Editor:** Displays the XML content of the selected file:<?xml version="1.0" encoding="UTF-8"?>
<ExternalCredential xmlns="http://soap.sforce.com/2006/04/metadata">
<authenticationProtocol>Custom</authenticationProtocol>
<externalCredentialParameters>
<parameterName>adminusers</parameterName>
<parameterType>NamedUser</parameterType>
<sequenceNumber>1</sequenceNumber>
</externalCredentialParameters>
<label>Jooble REST API</label>
</ExternalCredential>
- Chat Panel:** Welcome to Copilot, Let's get started.
- Bottom Bar:** Rain warning, Build Workspace, Show Config, Review AI output carefully before use, Line numbers, Spaces, Encoding, Date.

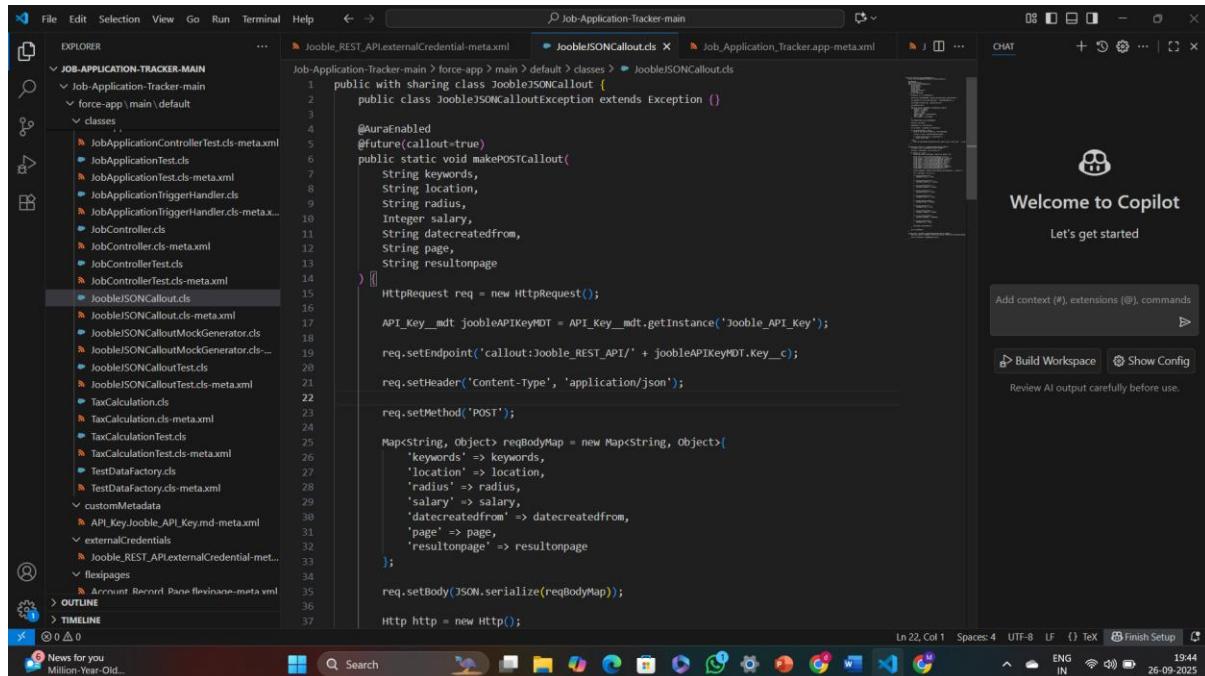
In your project (consuming Jooble REST API):

force-app/main/default/classes

- JoobleJSONCallout.cls → makes REST API callouts to fetch job data.
- JoobleJSONCalloutMockGenerator.cls → mock class for testing REST callouts.
- JoobleJSONCalloutTest.cls → test class validating REST integration.

scripts/apex

- JoobleJSONCallout.apex, JoobleJSONCallout_makePOSTCallout.apex → sample scripts for REST calls.

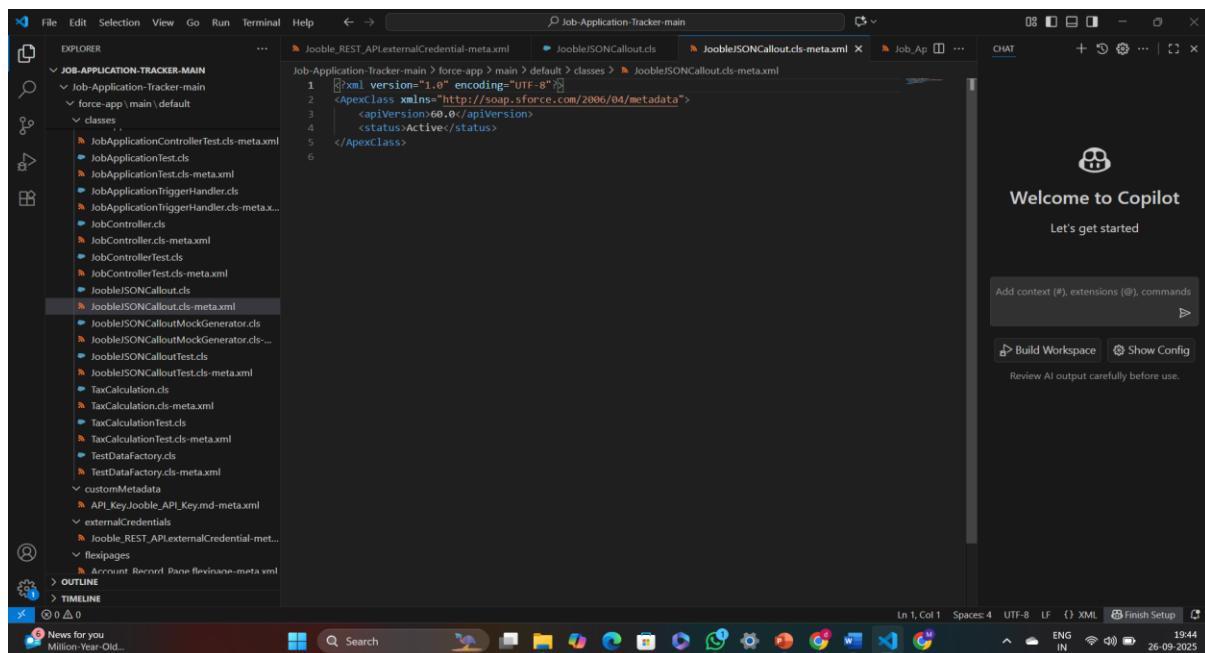


```
public with sharing class JoobleJSONCallout {
    public class JoobleJSONCalloutException extends Exception {}

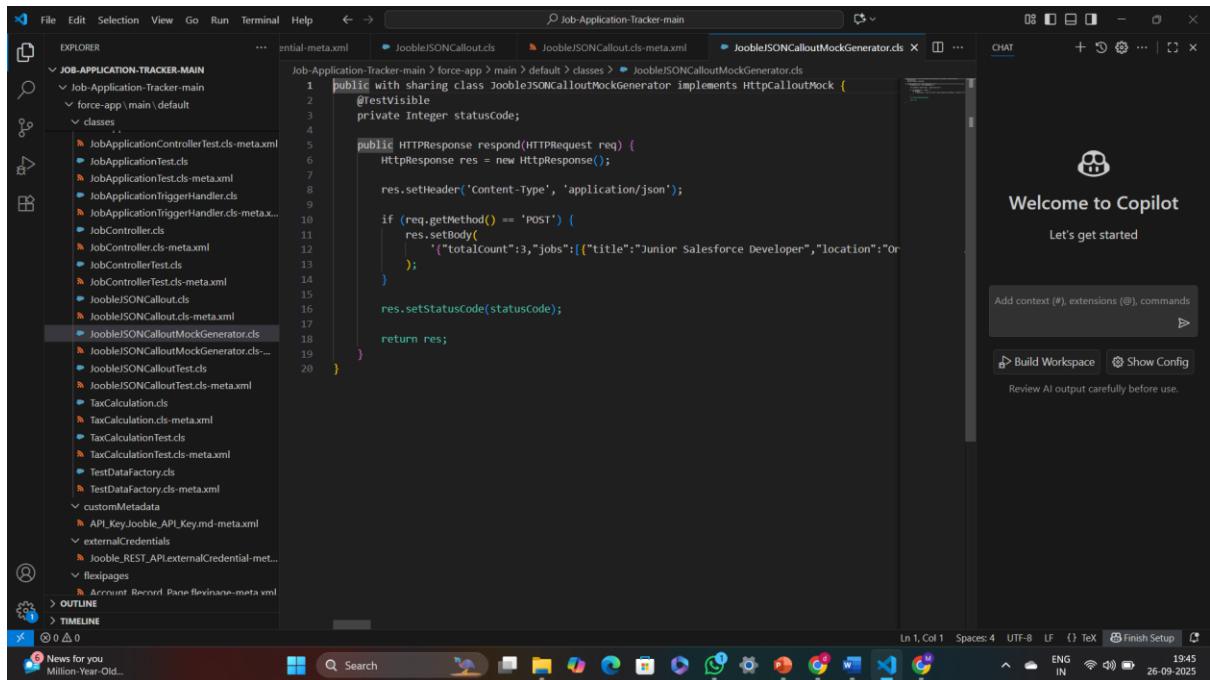
    @AuraEnabled
    @future(callout=true)
    public static void makePOSTCallout(
        String keywords,
        String location,
        String radius,
        Integer salary,
        String datecreatedfrom,
        String page,
        String resultonpage
    ) {
        HttpRequest req = new HttpRequest();
        API_Key__mdt joobleAPIKeyMDT = API_Key__mdt.getInstance('Jooble_API_Key');
        req.setEndpoint('callout:Jooble_REST_API/' + joobleAPIKeyMDT.Key__c);
        req.setHeader('Content-Type', 'application/json');
        req.setMethod('POST');

        Map<String, Object> reqBodyMap = new Map<String, Object>{
            'keywords' => keywords,
            'location' => location,
            'radius' => radius,
            'salary' => salary,
            'datecreatedfrom' => datecreatedfrom,
            'page' => page,
            'resultonpage' => resultonpage
        };

        req.setBody(JSON.serialize(reqBodyMap));
        Http http = new Http();
        ...
```



```
<apexClass xmlns="http://soap.sforce.com/2006/04/metadata">
    <apiVersion>60.0</apiVersion>
    <status>Active</status>
</apexClass>
```



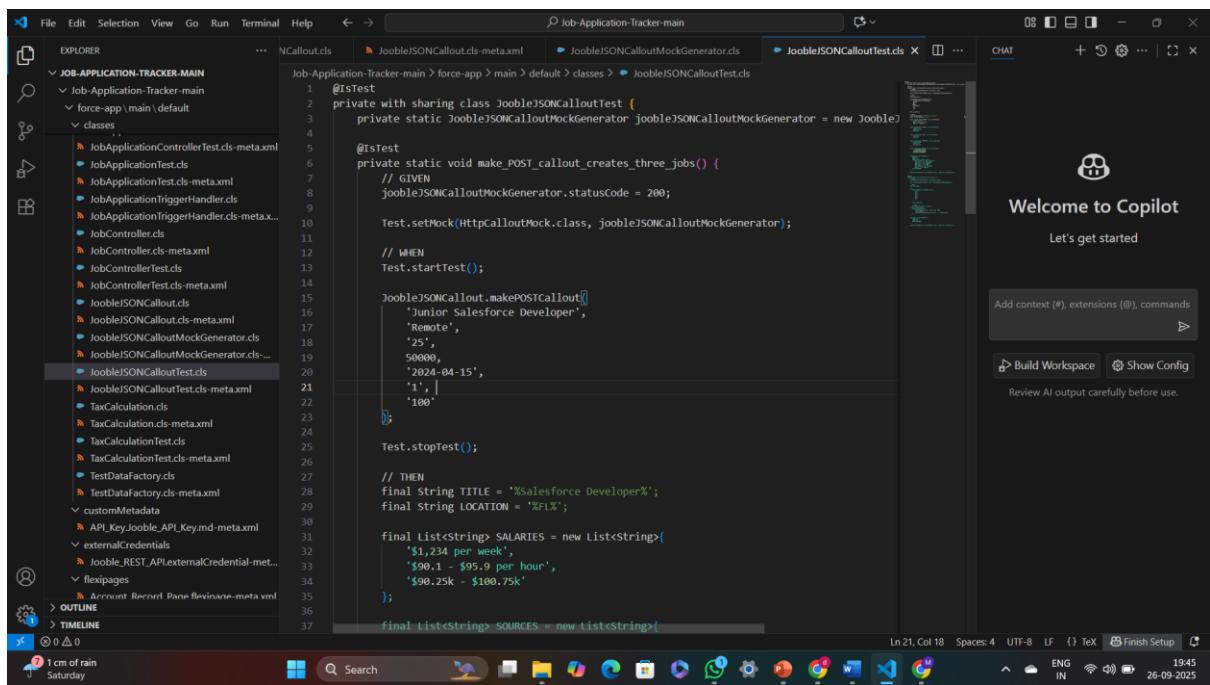
```
public with sharing class JoobleJSONCalloutMockGenerator implements HttpCalloutMock {
    @TestVisible
    private Integer statusCode;

    public HttpResponse respond(HttpRequest req) {
        HttpResponse res = new HttpResponse();
        res.setHeader('Content-Type', 'application/json');

        if (req.getMethod() == 'POST') {
            res.setBody(
                '{"totalCount":3,"jobs":[{"title":"Junior Salesforce Developer","location":"Orlando, FL"}, {"title":"Senior Java Developer","location":"New York, NY"}, {"title":"Mid-Level Python Developer","location":"San Francisco, CA"}]}');
        }

        res.setStatusCode(statusCode);
    }

    return res;
}
```



```
@Test
private with sharing class JoobleJSONCalloutMockGenerator {
    private static JoobleJSONCalloutMockGenerator joobleJSONCalloutMockGenerator = new JoobleJSONCalloutMockGenerator();

    @Test
    private static void make_POST_calloutCreatesThreeJobs() {
        // GIVEN
        joobleJSONCalloutMockGenerator.statusCode = 200;

        Test.setMock(HttpCalloutMock.class, joobleJSONCalloutMockGenerator);

        // WHEN
        Test.startTest();

        JoobleJSONCallout.makePOSTCallout(
            'Junior Salesforce Developer',
            'Remote',
            '25',
            50000,
            '2024-04-15',
            '1',
            '100'
        );

        Test.stopTest();
    }

    // THEN
    final String TITLE = "%Salesforce Developer%";
    final String LOCATION = "%FL%";

    final List<String> SALARIES = new List<String>{
        '$1,234 per week',
        '$96.1 - $95.9 per hour',
        '$96.25k - $100.75k'
    };

    final List<String> SOURCES = new List<String>{
        ...
    };
}
```