Paypal; online payment service.

Sandbox environment:virtual testing env that mimics the production env with all its features.

Paypal webservice:

Here,we are going to use Paypal payment API,which is a rest API.

Automate them using rest assured.

Create a developer account in paypal:

Email :jansi.bt@gmail.com

Pwd :Jansi90.

Step1:

Create application:

Login with credentials🡪dashboard🡪My appa&Credentials🡪create APP 🡪e.g.sampleAPP1🡪u will get unique client id and secret.

This client id and secret is unique for each app created.

SampleApp1:

Client id: AegBbtdoDxkk0h4SzDxR0Ns\_NxrdqydYXn77jG9\_Nxb\_FDgYvlBg99NZYaVf21dh9cj20iCy2C07lFRc

Client Secret: EMmvG7p4Y3Sci59V4o1wnkC8mhJnomAjSPjGMVLht6w0wnbdrIYms0T\_cVyBRQI6XZ4jK\_tjXZOGkcZi

Step2:

Generate access token from Paypal OAuth server using postman app

Postman🡪Post()🡪https://api.sandbox.paypal.com/v1/oauth2/token-->

Authorization->Basic Auth🡪

usrename:ClientID

password:Client Secret

Body🡪 x-www-form-urlencoded

Raw🡪text🡪JSON(application/json)

grant\_type :client\_credentials

Response: "access\_token": "A21AAFi\_3VYkjz0EvOwCjwOmSWLKWZQCP2gk4fJG23HpLezNS1S9l6FZ720PYOdl0yxEULbIVe4DhSlKk4rrjJKeKAUK\_C1NA",

"token\_type": "Bearer",

"app\_id": "APP-80W284485P519543T",

"expires\_in": 32400,

"nonce": "2019-07-20T15:59:01ZsdO79gmlTqBZNsa-sjLCcccbmBcNxCZXSRLCQCdWHKI"

Step3:

Here,we have chosen Payment API,and we are using Create payment resource

Note:use API version1 for payment API

Post()

<https://api.sandbox.paypal.com/v1/payments/payment>

Headers🡪Authorization🡪 Bearer A21AAFi\_3VYkjz0EvOwCjwOmSWLKWZQCP2gk4fJG23HpLezNS1S9l6FZ720PYOdl0yxEULbIVe4DhSlKk4rrjJKeKAUK\_C1NA

Body🡪

Sample response in API page.

Response:

New payment will be created with payment id: "id": "PAYID-LUZUCCA13032330SC575090X"

Step4:cheking the payment using Shoe payment details resource

<https://api.sandbox.paypal.com/v1/payments/payment/PAYID-LUZUCCA13032330SC575090X>

//here, PAYID-LUZUCCA13032330SC575090X 🡪payment ID

Authorization: 🡪 Bearer A21AAFi\_3VYkjz0EvOwCjwOmSWLKWZQCP2gk4fJG23HpLezNS1S9l6FZ720PYOdl0yxEULbIVe4DhSlKk4rrjJKeKAUK\_C1NA

How to extract access token via eclipse?

Steps:

1.create base class in src/main/java and write the code for access token in base class,so that it acts as a parent class and we can extend it in all other classes which used access token

2.we need to pass client id and client secret as username and password in ,so we can write all these base properties in client.properties file.

**public** **class** TestBase {

String path="C:\\jansi\_javafiles\_2\\Paypalexamples\\src\\main\\java\\com\\properties\\client.properties";

Properties prop;

**static** String *accesstoken*;

@BeforeMethod

**public** **void** init() **throws** IOException

{

FileInputStream ip=**new** FileInputStream(path);

prop=**new** Properties();

prop.load(ip);

}

@Test

**public** **void** gettoken()

{

*accesstoken*=*given*()

.param("grant\_type", "client\_credentials")

.auth()

.preemptive()

.basic(prop.getProperty("username"),prop.getProperty("password"))

.when()

.post("https://api.sandbox.paypal.com/v1/oauth2/token")

.then()

.log()

.all().extract()

.path("access\_token");

System.***out***.println("Response token is:" +*accesstoken*);

}

//here,we are passing client id and client secret in preemptive basic authentication

And extracting access token alone from response body

//.premptive() 🡪is used to pass the username and password before the server asks for authorization in Rest Assured ,if preemptive is not given in Rest Assured,401 unauthorizes response is thrown.

How OAuth authentication is used in paypal?

Paypal OAuth server

(token end point) Access token



Valid token Resource



Access Token client ID,client Secret Paypal Resource server



Access token +Request URI



(get,put,post,delete)



Valid response



My first APP

Workflow:

1.we obtain client ID and client secret and then create our app.

2.send client is and client secret to paypal OAuth Authentication server,and get Access token as response.[note:access token may bhave expiration time/date]

3.send access token along with our request body to paypal Resource server.

4.Paypal resource server validates the access token with paypal Authentication server and get response.

If response is valid,it sends request to resource and in turn receives response body .

5.Resource server sends the response body received from resource to First app

Creating payment via post():

@Test

**public** **void** createpayment()

{

System.***out***.println("Inside createpayment(): createpaymenttest class");

System.***out***.println("token is:"+*accesstoken*);

String body="{\"intent\":\"sale\",\"payer\":{\"payment\_method\":\"paypal\"},\"transactions\":[{\"amount\":{\"total\":\"30.11\",\"currency\":\"USD\",\"details\":{\"subtotal\":\"30.00\",\"tax\":\"0.07\",\"shipping\":\"0.03\",\"handling\_fee\":\"1.00\",\"shipping\_discount\":\"-1.00\",\"insurance\":\"0.01\"}},\"description\":\"The payment transaction description.\",\"custom\":\"EBAY\_EMS\_90048630024435\",\"invoice\_number\":\"48787589673\",\"payment\_options\":{\"allowed\_payment\_method\":\"INSTANT\_FUNDING\_SOURCE\"},\"soft\_descriptor\":\"ECHI5786786\",\"item\_list\":{\"items\":[{\"name\":\"hat\",\"description\":\"Brown hat.\",\"quantity\":\"5\",\"price\":\"3\",\"tax\":\"0.01\",\"sku\":\"1\",\"currency\":\"USD\"},{\"name\":\"handbag\",\"description\":\"Black handbag.\",\"quantity\":\"1\",\"price\":\"15\",\"tax\":\"0.02\",\"sku\":\"product34\",\"currency\":\"USD\"}],\"shipping\_address\":{\"recipient\_name\":\"Brian Robinson\",\"line1\":\"4th Floor\",\"line2\":\"Unit #34\",\"city\":\"San Jose\",\"country\_code\":\"US\",\"postal\_code\":\"95131\",\"phone\":\"011862212345678\",\"state\":\"CA\"}}}],\"note\_to\_payer\":\"Contact us for any questions on your order.\",\"redirect\_urls\":{\"return\_url\":\"https://example.com/return\",\"cancel\_url\":\"https://example.com/cancel\"}}";

*given*()

.contentType(ContentType.***JSON***)

.auth()

.oauth2(*accesstoken*)

.when()

.body(body)

.post("/payments/payment")

.then()

.log()

.all();

}

//here pojo is sent as a String object .but not recommended.

Sending pojo as an object :

Create pojo class;

1.define all member variables and class and List items

**private** String intent;

**private** String note\_to\_payer;

**private** Payer payer;

//these are member variables

**private** List<Transactions> transactions;// this is an array list,

List<Transactions>-name of array list class

**private** Redirect\_urls redirect\_urls; //this is an object which in turm contains one or more member variables, Redirect\_urls-name of object class

2.now,generate getter and setter for all these member variables,object,and array list

3.create a separate class for array list and object class and define their respective member variables and also gernerate getters and setters for the respective class members and add all the classes in main postclass object

4.create a separate package named com.paypal.RequestBuilder and create a requestBuilder class in it ,and then create a method in it and create constructor or instance for all the classes and set the values in it using setmethod like:

Redirect\_urls redurl=**new** Redirect\_urls();

redurl.setCancel\_url("https://example.com/cancel");

redurl.setReturn\_url("https://example.com/return");

5.If arraylist has more than one indexex,then set values for all the indexes separatel and all the indexes to an arraylist and pass the list to setmethod.

6.return the final instance of final postobj class in which all other classes are added in the method.

7.create the class object for requestbuilder class and access the method defined within it and assign it to a variable and pass that variable in post().

PaypalRequestBuilder reqbuilder=**new** PaypalRequestBuilder();

postobj posobj=reqbuilder.createPaymentRequest();

*given*()

.contentType(ContentType.***JSON***)

.auth()

.oauth2(*accesstoken*)

.when()

.body(posobj)

.post("/payments/payment")

.then()

.log()

.all();

NOTE:

1.Why do we always declare member variables as private in POJO?

Because,these values may change on later time and we don’t want any other class to access these variables.

If we declare public,and any other class access thses,then any change in the value might impact them.

2.Why do we use getters and setters?

To read and write properties of the class members.

3.What is serialization?

Rest assured automatically converts our pojo class members as a json request using serialization concept with the help of getters and setters.

Pojo:

public Car(String make, String model, int year) {

        this.make = make;

        this.model = model;

        this.year = year;

    }

    public String getMake() {

        return this.make;

    }

    public void setMake(String make) {

        this.make = make;

    }

Car myCar = new Car("Aston Martin","DB9",2004);

json request body:

{

    "make": "Aston Martin",

    "model": "DB9",

    "year": 2004

}

e.g.in paypal payment API ,