

- Create two proxies on Apigee, one to accept the request that is routed to Github and another to create and revoke OAuth licenses. – The primary proxy should only accept GET requests

The first proxy is already part of the Apigee API Management list of default API Proxies

The screenshot shows the Apigee API Management console. The 'API Proxies' section is active, displaying a table of existing proxies. The 'oauth' proxy is highlighted with a yellow circle.

API Proxy	Environments	Metrics for Last 24 Hours (prod)				Modified	Actions
		Traffic	Message Trend by Hour	Avg Time	Error Rate		
hello-world-nodes-4	test	0				2 hours ago	<a href="#">Delete</a> <a href="#">Roles</a>
hello-world-nodes-3	test	0				a day ago	<a href="#">Delete</a> <a href="#">Roles</a>
hello-world-nodes-2	test	0				13 days ago	<a href="#">Delete</a> <a href="#">Roles</a>
weatherapi	test, prod	0				14 days ago	<a href="#">Delete</a> <a href="#">Roles</a>
hello-world-nodes	test	0				a month ago	<a href="#">Delete</a> <a href="#">Roles</a>
oauth	test	0				a month ago	<a href="#">Delete</a> <a href="#">Roles</a>

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This proxy is called to get the access token. This is the steps in which I accessed this proxy to get my token.

1. I created my Proxy called, "Homework3"

The screenshot shows the 'New API Proxy' form. The 'Name' field is filled with 'Homework3'. The 'Project Base Path' is set to '/homework3'. The 'Description' field is empty. The 'Add Features' section is visible at the bottom.

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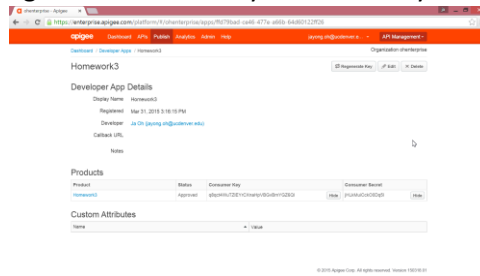
2. I published my App in the developer Apps

The screenshot shows the 'Developer Apps' page. The 'Homework3' app is listed with the following details:

App	Developer	App Family	Company	Key	Traffic	Error Rate (%)	Published	Actions
Homework3	Ja Yong	default		1			Mar 31, 2015 1:16:12 PM	<a href="#">Delete</a>
Weather App	Weather Team	Weather		1			Mar 31, 2015 1:16:12 PM	<a href="#">Delete</a>

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3. I gained access to my customer key and secret



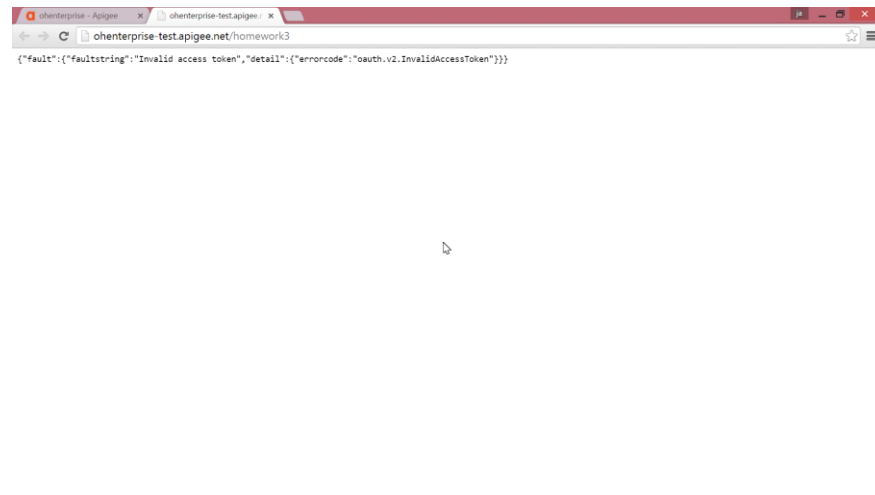
4. I then took these two ID and secret, and using 'curl' command from terminal, I gained my access token.

```
ja@ja-VPSC31FM:~$ curl https://ohenterprise-test.apigee.net/oauth/client_credentials/access_token?grant_type=client_credentials -X POST -d 'client_id=q8qct4WuTZ1EYrCXnaHpVBGvBnYGZ6Ql&client_secret=jHkKhuicck08Dq5l'
{"issued_at": "1427847447227",
 "application_name": "ffd79bad-ce46-477e-a66b-64d68122ff26",
 "scope": "",
 "status": "approved",
 "api_product_list": "[Homework3]",
 "expires_in": "3599",
 "developer_email": "jayong.oh@ucdenver.edu",
 "organization_id": "0",
 "token_type": "BearerToken",
 "client_id": "q8qct4WuTZ1EYrCXnaHpVBGvBnYGZ6Ql",
 "access_token": "ITc7PLj148Z08Py2a43E89aaTgtA",
 "organization_name": "ohenterprise",
 "refresh_token_expires_in": "0",
 "refresh_count": "0"
}ja@ja-VPSC31FM:~$
```

5. With this token I have gained access to my server. This had nothing more than the “hello world” output at the testing of the access token. Further enhancement is made in the later steps

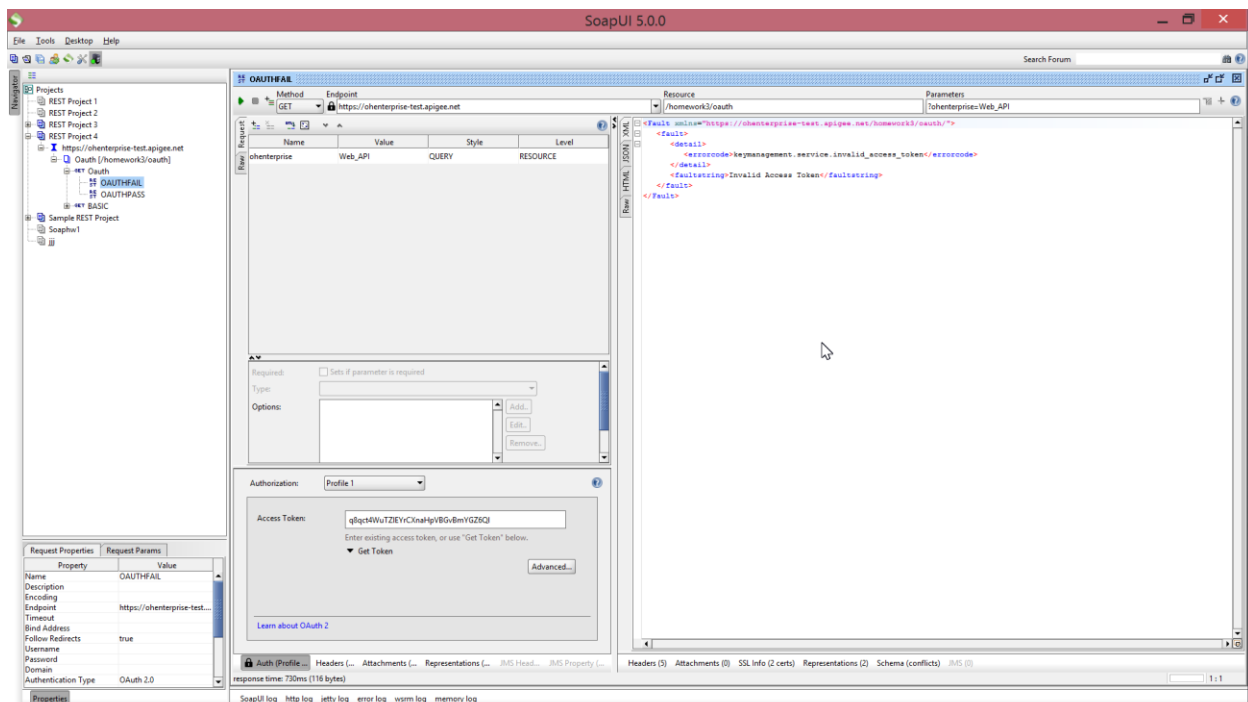
```
ja@ja-VPSC31FM:~$ curl -H "Authorization: Bearer q8qct4WuTZ1EYrCXnaHpVBGvBnYGZ6Ql" http://ohenterprise-test.apigee.net/homework3
Hello, World!ja@ja-VPSC31FM:~$
```

6. If you do not pass in the token through terminal, postman, or other client request module, you get a invalid response.

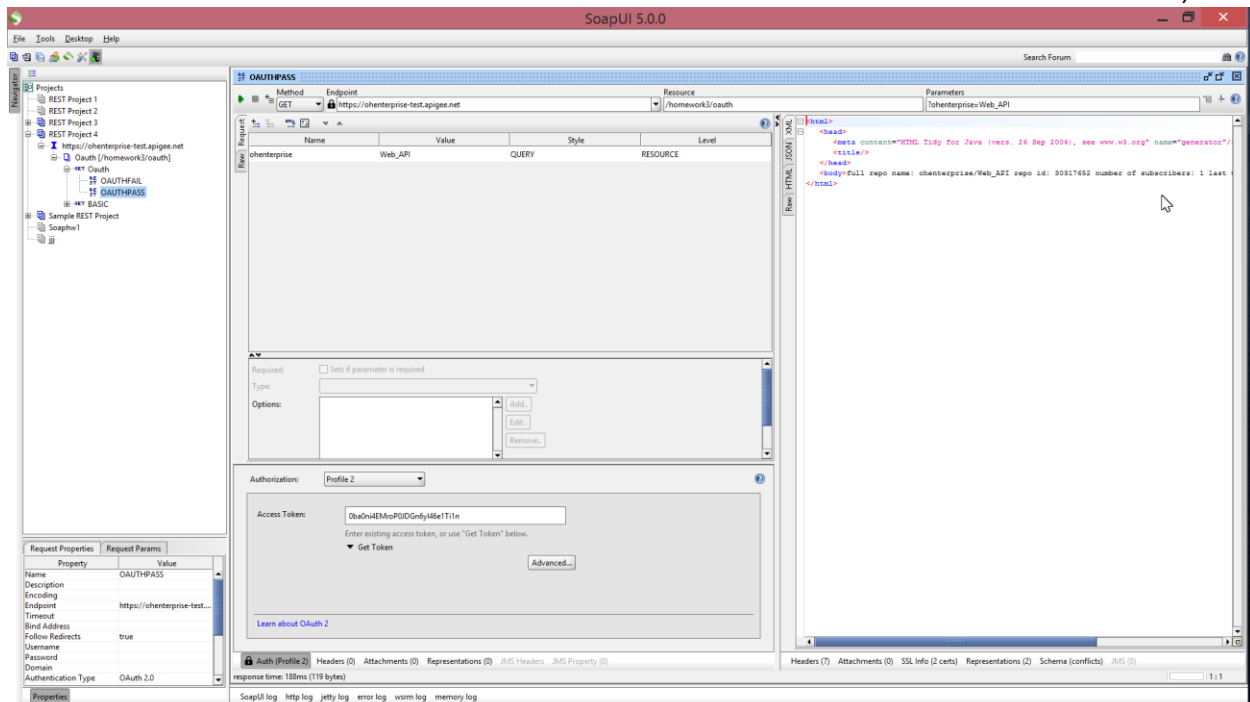


This is the SOAPUI project

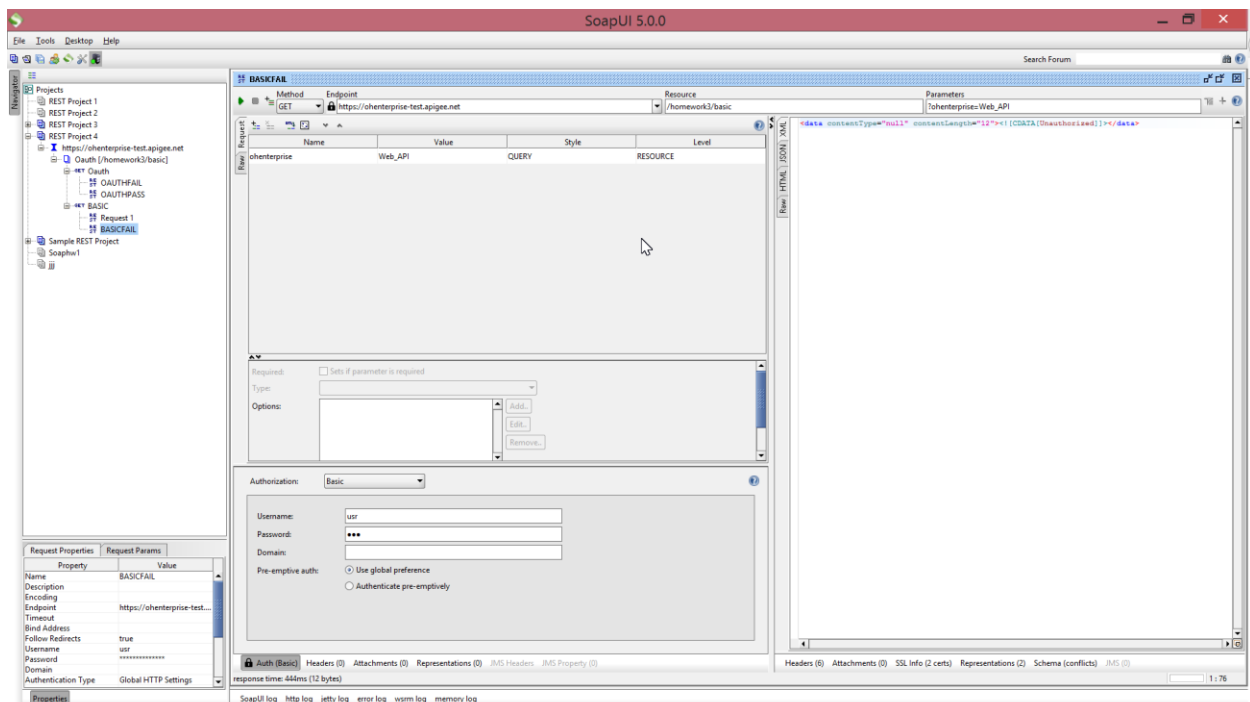
- 1 OAuth with bad credential:



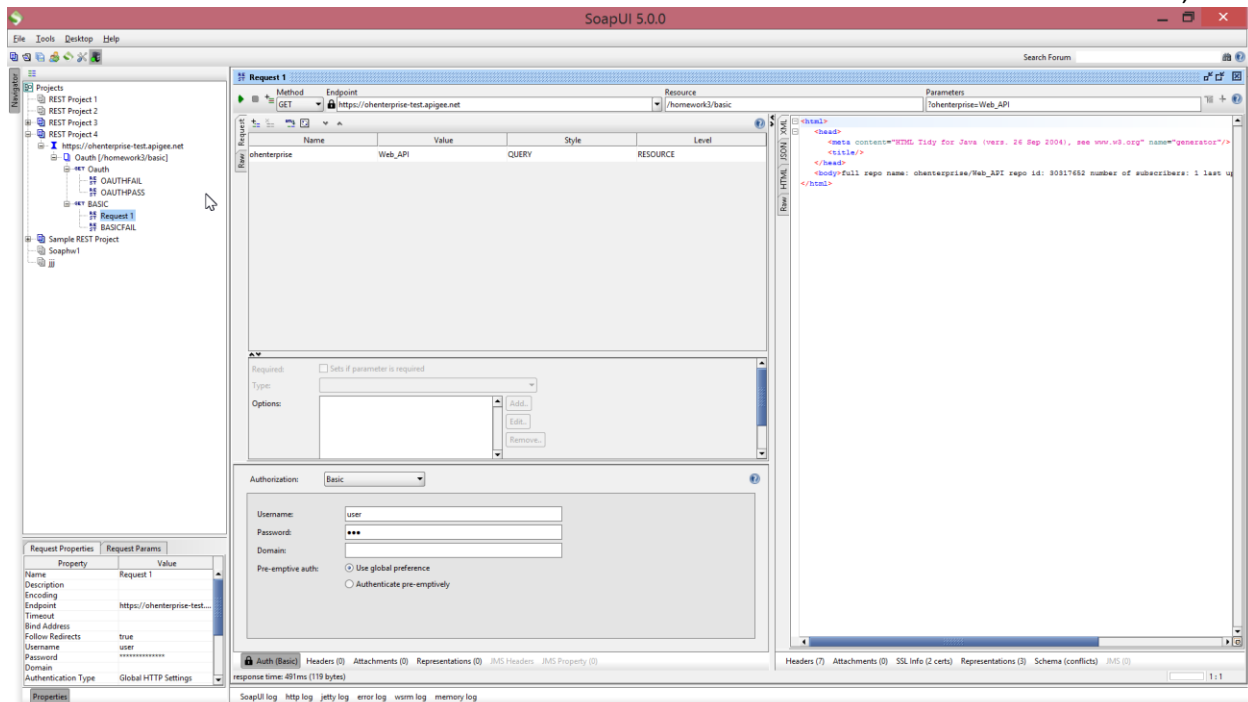
2. OAuth with good credentials:



### 3. BASIC with bad credential:



### 4. BASIC with good credentials:



- **Answer the following question: – Basic Authorization is easily handled in the main flow, without the need for an additional proxy. Give one reason (there are many) OAuth tokens should not be granted in the main flow, assuming the user has sent in the correct credentials**

This type of authentication adds another level of security that will make it even harder to gain access to a server. Basic authentication, access to the server can be easily found on the same server as the one you are trying to access. However, OAuth authentication requires you to get a token from another server and use that token to get granted access to the server you are trying to access. It is much like the certificate you might need to gain access to a server that is given by a third party.