OAuth - Twitter

Twitter Account

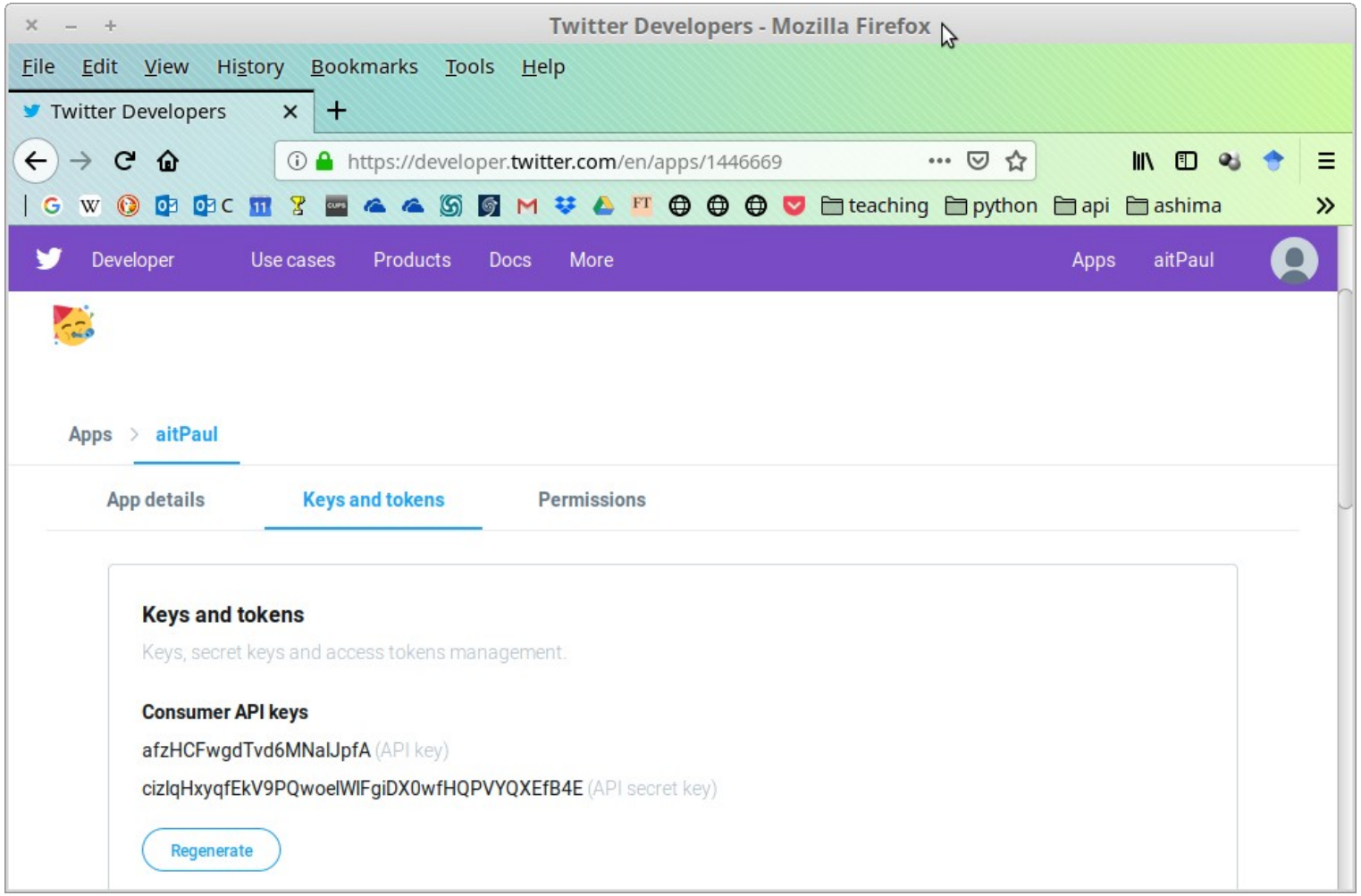
- Create a Twitter account.
- Next go to the Twitter developers page to register an application.
- https://dev.twitter.com/
-

Create an Application

- https://dev.twitter.com/apps/new

- Website
  - www.ait.ie/paul

Application's OAuth Settings



OAuth Settings - Client Credentials

- Consumer key
  - afzHCFwgdTvd6MNalJpfA
- Consumer secret
  - cizlqHxyqfEkV9PQwoelWlFgiDX0wfHQPVYQXEfB4E

OAuth Settings – Access URLS

- Request URL
  - https://api.twitter.com/oauth/request_tokenAuthorize
- Authorize URL
  - https://api.twitter.com/oauth/authorize
- Access URL
  - https://api.twitter.com/oauth/access_token
-

Client Code

oauth-signpost

- OAuth client library.
- http://code.google.com/p/oauth-signpost/

- API
  - http://kaeppler.github.com/signpost/signpost-core-apidocs/index.html

Client

- Add jars
  - commons-codec-1.3.jar
  - signpost-core-1.2.1.1.jar

[Scenario – Desktop Client]

1. Client asks for Request Credentials
2. Client asks user to go to Server (authorize URL) and get a PIN.
3. User logs on and gets PIN.
4. User enters it in to client.
5. Client requests access token (sends PIN)
6. Client requests resources.

class TwitterClient

```
//System.getProperties().put("proxySet", "true");
//System.getProperties().put("proxyHost", "192.168.8.3");
//System.getProperties().put("proxyPort", "8080");

DefaultOAuthConsumer consumer = new DefaultOAuthConsumer(
    "afzHCFwgfTvd6MNalJpfA",
    "cizlqHxyqfEkV9PQvoelWlFgiDX0wfHQPVYQXEfB4E"
);
DefaultOAuthProvider provider = new DefaultOAuthProvider(
    "http://twitter.com/oauth/request_token",
    "http://twitter.com/oauth/access_token",
    "http://twitter.com/oauth/authorize"
);
```

class TwitterClient

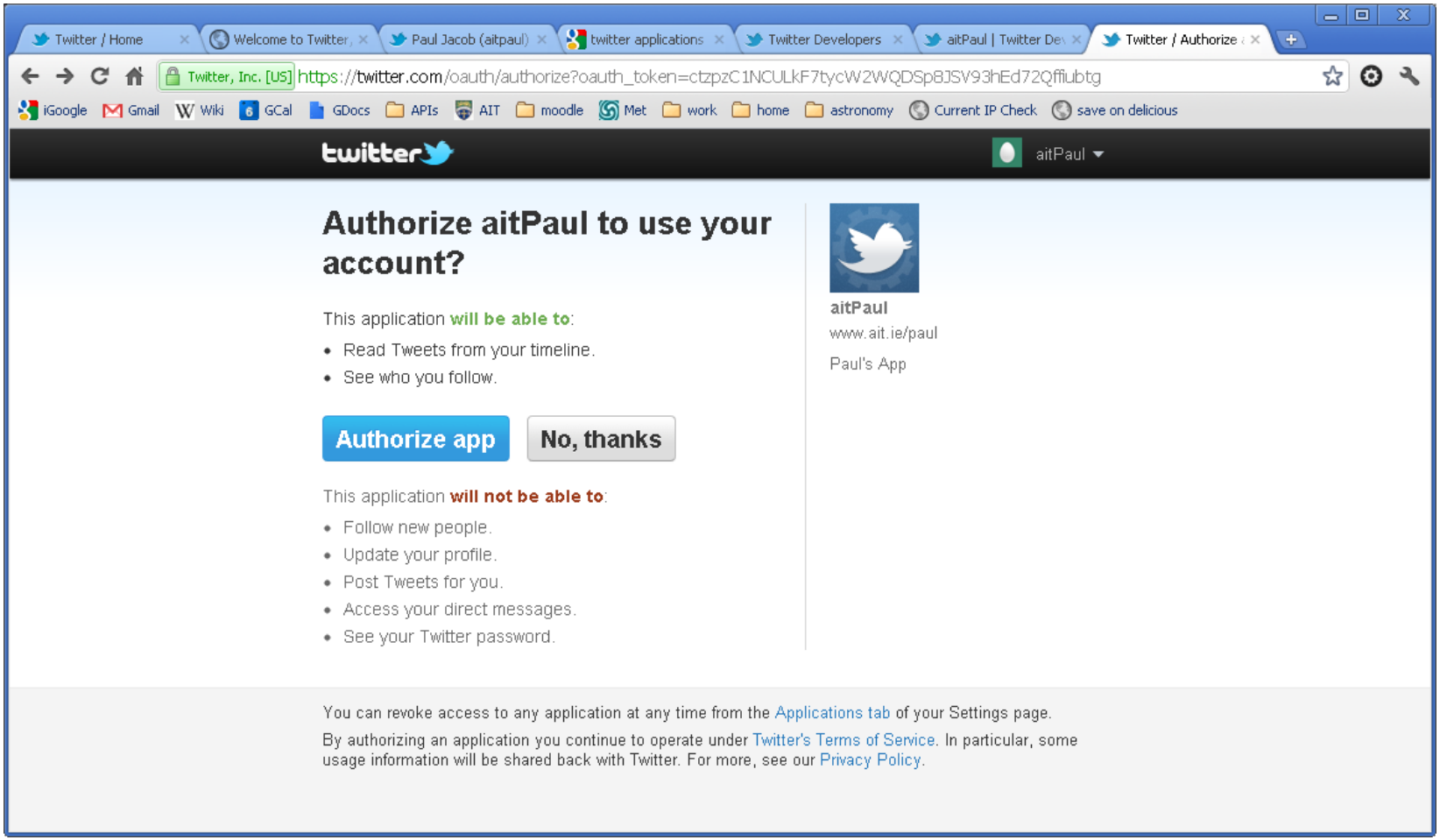
```
// token and tokenSecret for resource owner
String pin, token, tokenSecret;
//  1. Client asks for Request Credentials
String authUrl = provider.retrieveRequestToken(consumer,
                                    OAuth.OUT_OF_BAND);
Scanner scanner = new Scanner(System.in);
// 2. Client asks user to go authorize URL and get a PIN.
System.out .println("Get your PIN code from " + authUrl + " and enter it.");
// 4. Read in the pin
pin = scanner.next();
// 5. requests access token (sends PIN)
provider.retrieveAccessToken(consumer, pin);
// Can obtain keys and secrets if you wish
// token = consumer.getToken();
// tokenSecret = consumer.getTokenSecret();
```

class TwitterClient

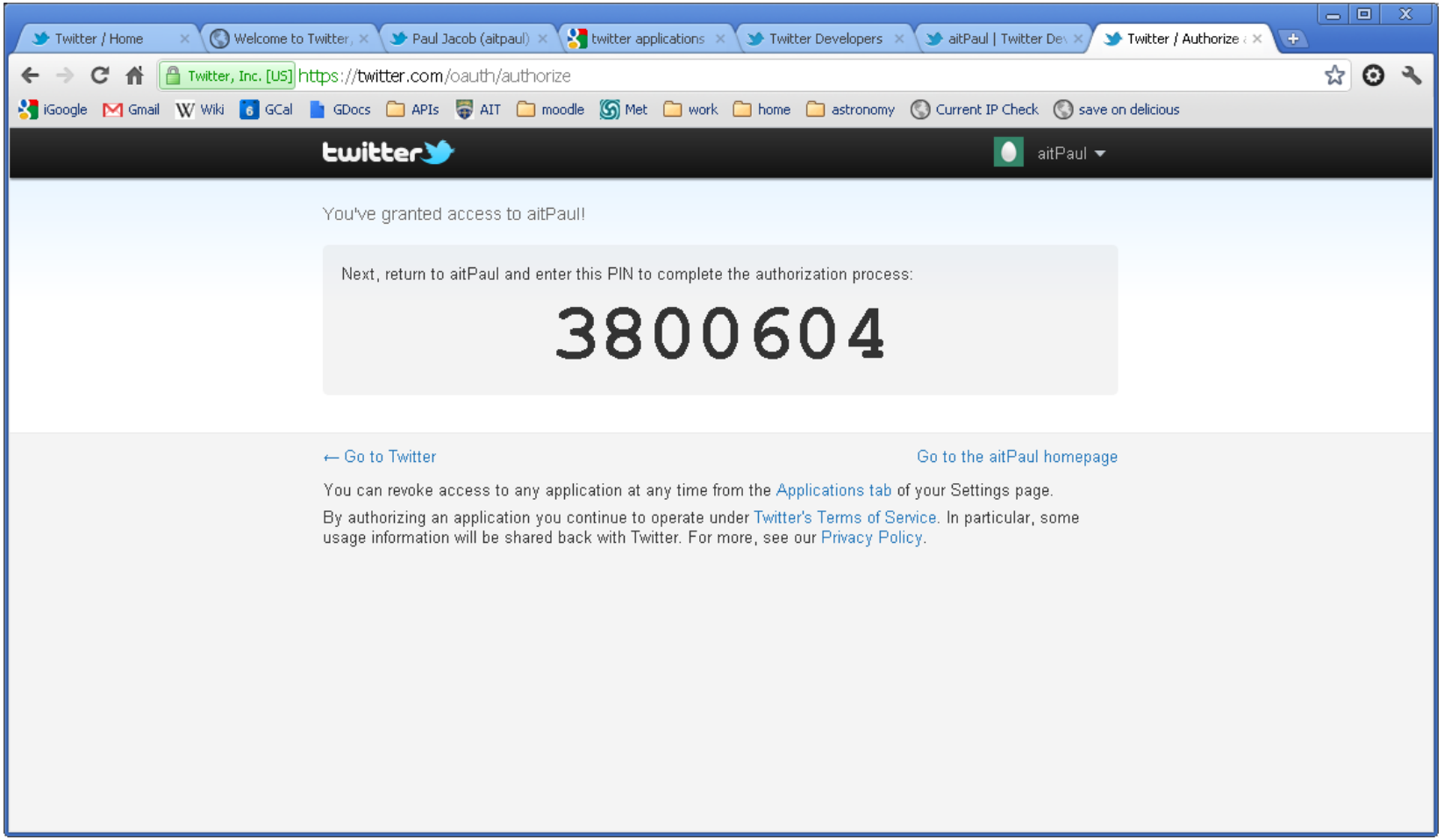
```
// 6. requests resource (signs the request)
URLConnection connection = new URL(
    "http://api.twitter.com/1/statuses/home_timeline.json")
      .openConnection();
consumer.sign(connection);

// read response from input stream and print it out
Scanner r = new Scanner(connection.getInputStream());
String line;
while (r.hasNext()) {
    line = r.nextLine() ;
    System.out.println(line);
}
```

Authorization



Granted Authorization



DefaultOAuthConsumer

```
DefaultOAuthConsumer(
        String consumerKey, String consumerSecret)

DefaultOAuthProvider(String requestTokenEndpointUrl,
            String accessTokenEndpointUrl,
            String authorizationWebsiteUrl)
```

retrieveRequestToken()

```
def authUrl = provider.retrieveRequestToken(
                consumer, OAuth.OUT_OF_BAND)
```

- Passes
  - consumer credentials.
  - CallBack URL for notification OR
  - OAuth.OUT_OF_BAND if none.
- Returns the URL to which the user must be sent in order to authorize the consumer.

retrieveAccessToken()

```
provider.retrieveAccessToken(consumer, pin)
```

- If a callback was provided previously, then pin is unnecessary.
- Consumer (application) will have been provided with a request token.

getToken() & getTokenSecret()

```
token = consumer.getToken()
tokenSecret = consumer.getTokenSecret()
```

- Retrieves the access token and access token secret.
- (This is not necessary. Just if you want to see them.)

Sign the request

```
def request = new URL(
 "http://api.twitter.com/1/statuses/home_timeline.json")
 .openConnection()
consumer.sign(request)
```

- This is the request for resources.
- It must be signed, demonstrating that you have the access token secret.

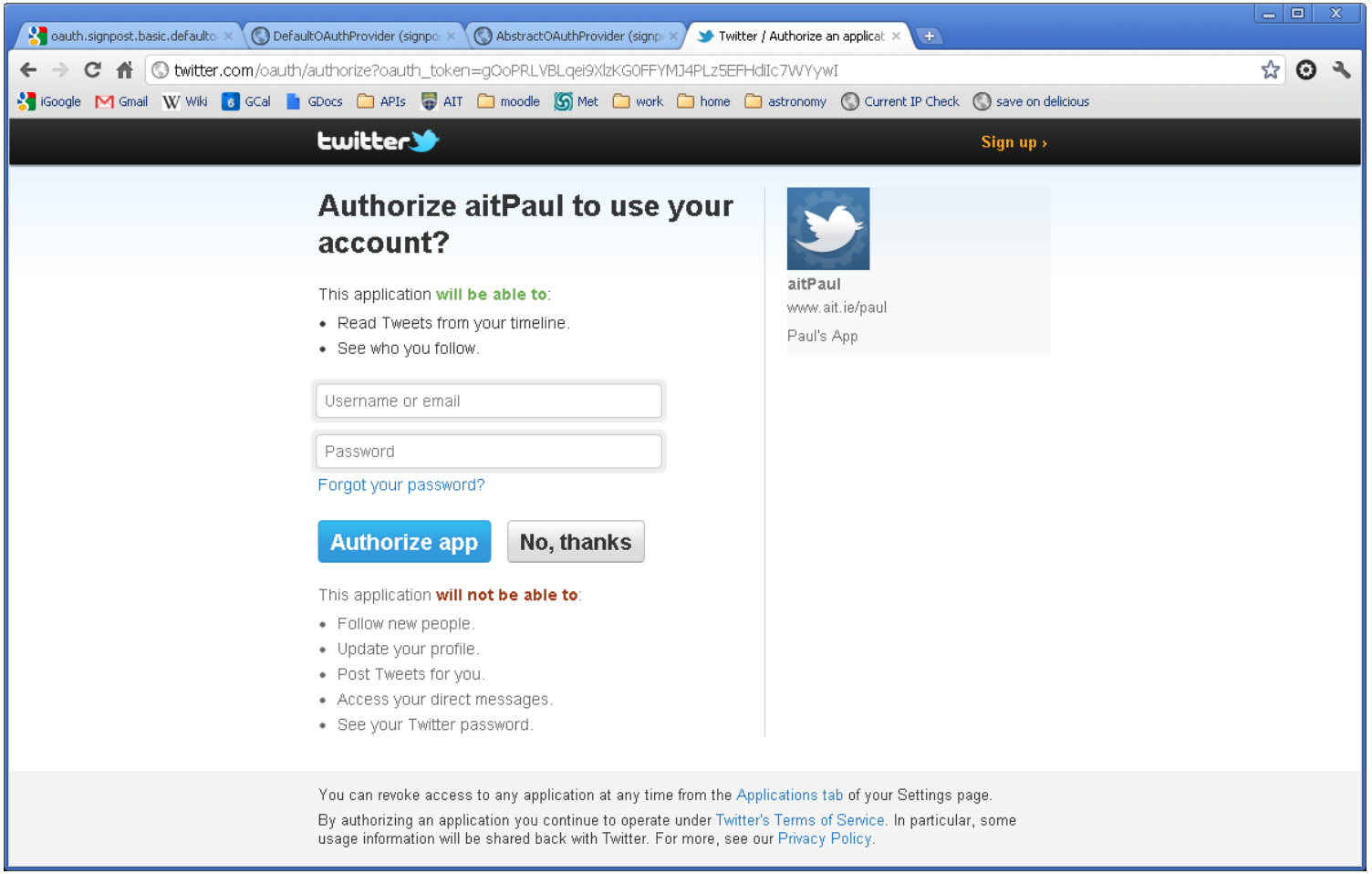
Read the Response

```
Scanner r = new Scanner
            (connection.getInputStream());
String line;
while (r.hasNext()) {
    line = r.nextLine() ;
    System.out.println(line);
}
```

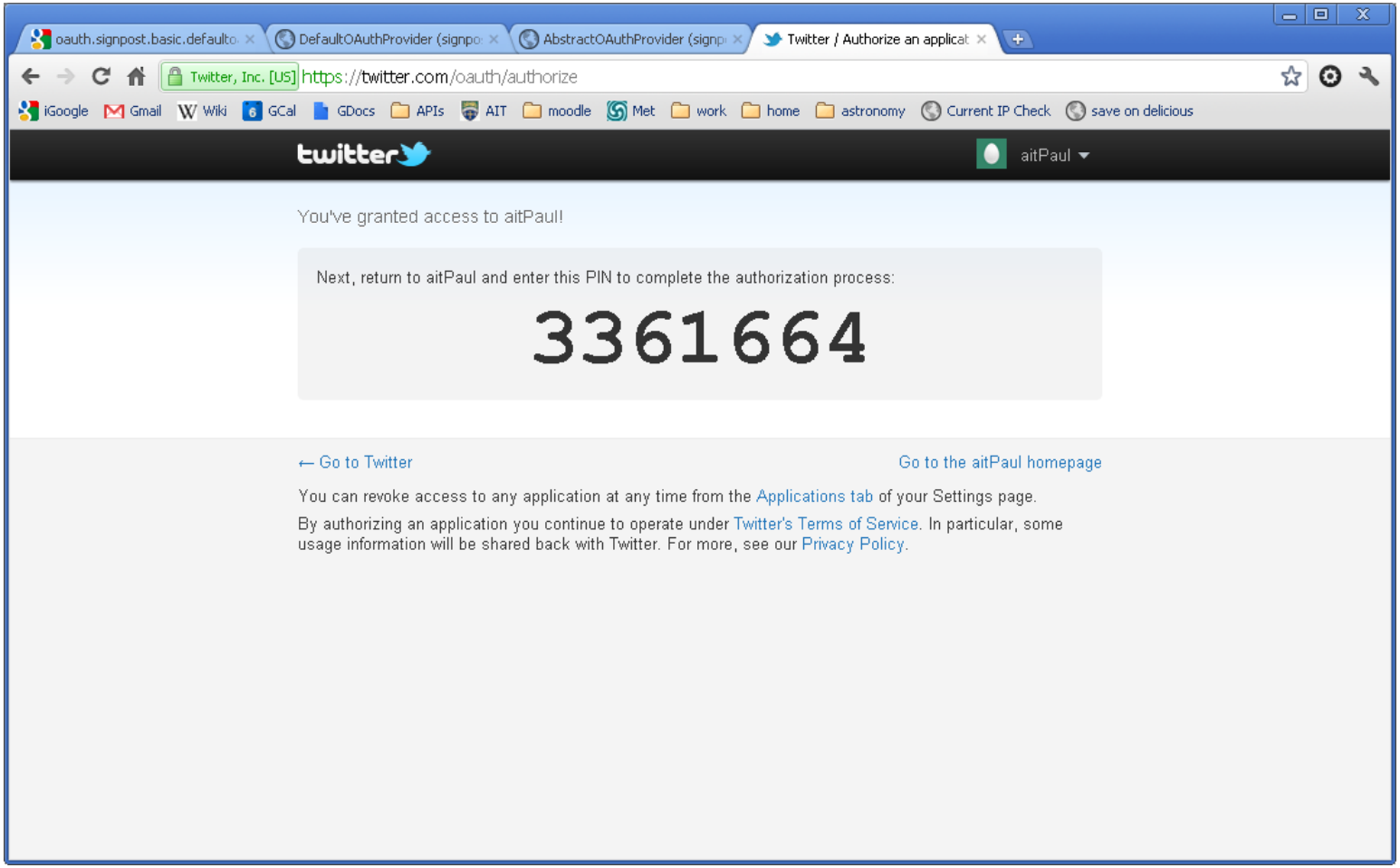
Program Running

- Get your PIN code from http://twitter.com/oauth/authorize?oauth_token=g1tqGMkroEq61ZeZ7uZrdDcL8u6SfXOqpuQPPN4kYY and enter it.

Resource Owner Authorization



Get the PIN


oauth.signpost.basic.defaultc
DefaultOAuthProvider (signpo
AbstractOAuthProvider (signp
Twitter / Authorize an applicat
Twitter, Inc. [US] https://twitter.com/oauth/authorize
iGoogle Gmail Wiki GCal GDocs APIs AIT moodle Met work home astronomy Current IP Check save on delicious
twitter
aitPaul
You've granted access to aitPaul!
Next, return to aitPaul and enter this PIN to complete the authorization process:
3361664
← Go to Twitter
Go to the aitPaul homepage
You can revoke access to any application at any time from the Applications tab of your Settings page.
By authorizing an application you continue to operate under Twitter's Terms of Service. In particular, some usage information will be shared back with Twitter. For more, see our Privacy Policy.

Output of Resources (Tweets)

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[{"in_reply_to_user_id":null,
"favorited":false,"place":null,
"created_at":"Fri Jan 06 14:06:06 +0000 2012"
……..