ODIN Subscription

Outage Data Initiative Nationwide (ODIN)

Overview

The Outage Data Initiative Nationwide (ODIN) provides both an anonymous (non-authenticated) and authenticated API can be used to subscribe and get outage data information that is sent to us by utilities. We provide active / current outage information reported at the FIPS county code level via our non-authenticated public API and more granular outage information is made available from the authenticated API; however, the information we provide via the authenticated API depends upon the type of outage information we receive from the utility or OMS. ODIN receives outage event information either at the county, zip code, polygon, or point level of detail.

To see a list of all the utilities currently providing outage information to ODIN and the level of outage event detail that is available from that utility, we provide a publicly accessible endpoint that describes information via an HTTP GET call.

https://odin.ornl.gov/odi/status

Historical Power Outage Information

If you would like access to historical power outage information from ODIN, we have a website called https://openenergyhub.ornl.gov/ that makes accessing historical information from ODIN and other resources available to the public. However, to gain access to these datasets, you will need to create an account at https://openenergyhub.ornl.gov/signup/ or by simply clicking on the "signup" link in the upper right-hand corner. When you fill in the information on the account screen, please enter a reason in the Message for Administrator field that says, "Requesting access to ODIN historical outage information."

Request registration to OpenEnergy Hub

Registration is required for users to view and download our open data tables. Users without account can still browse our data portal.

Email

Password

Minimum 12 characters, with at least one letter, one number and one special character.

Confirm password

Last name (optional)

First name (optional)

Message for the administrator

Requesting access to ODIN historical outage information

☑ I accept the terms and conditions and privacy policy of the website.

✓ I'm not a robot

reCAPTCHA
Privacy - Terms

Once your access is approved. Simply login to the website and click on the "Data" tab and under filters simply type in the keyword "ODIN" to pull up all the historical datasets that are available for ODIN. An example of what the search results returned should look like the pictured below.
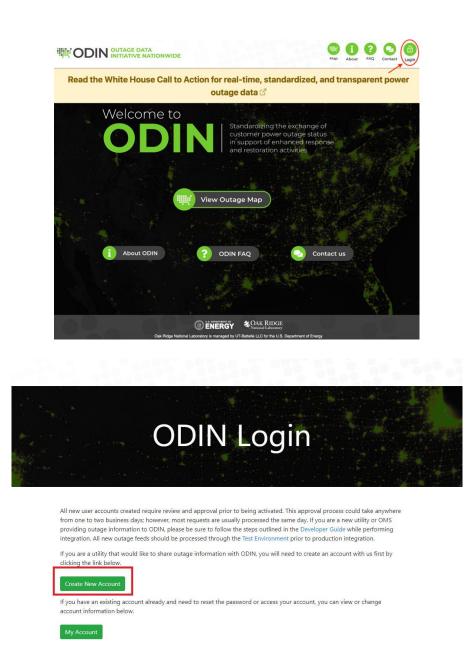
Accessing The ODIN API

We have APIs available that allows users to get current / real-time outage information from ODIN. For more information about the public and authenticated APIs, please view all our Open API documentation by simply visiting the link below.

https://odin.ornl.gov/swagger-ui/index.html#/

If you require access to ODIN's secure API, you will need to need first request access here and follow the steps below to register and create your account. We ask that you fill in detailed contact information and the reason / justification for access in the description area so that the DOE can review and approve your access request in a timely manner.

Step 1: New account registration

1. Go to the ODIN website
2. Click on "Login" button (see image at the bottom left) and then click on "Create New Account" (see image at the bottom right)
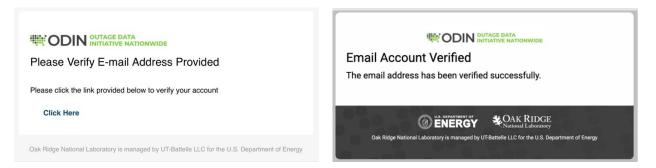
3. Please provide all information requested on the form to register the account with ODIN. When completed, please click "Create Account."

4. Once the information is submitted a "User Account Created" message (see image at the bottom) will display on the screen.

5. Check your email inbox for a verification email (this will come from an account called smtp_rdseuser@ornl.gov with "ODIN" as the sender) and click on "Click Here" hyperlink to verify your address.

6. Please allow the ODIN team 1-2 business days to review the registered account. Note that all requests to subscribe or pull authenticated ODIN endpoints will be reviewed and get approved by our DOE sponsor before you can proceed the next step.

Step 2: Get ODIN Security Access Token

1. Send a POST request to the ODIN Authentication/Token server ([URL](#)) using basic authorization with the username/password that you created for ODIN.
   - A basic authorization header is a base-64 encoded string that contains the "username:password" for the account, but most scripting or programming languages can also handle this natively for you as part of the HTTP request.
   - This POST will also need to include a form/URL-encoded parameter called "grant_type" with the value set to "client_credentials." An example of what this looks like in a request is pictured below.

```
POST /oauth2/token HTTP/1.1
HOST: staging-odin-security.ornl.gov
user-agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/94.0.4606.81 Safari/537.36
accept-language: en-US,en;q=0.8
content-type: application/x-www-form-urlencoded
authorization: Basic ████████████████████
accept: application/json
accept-encoding: gzip, deflate
content-length: 29

grant_type=client_credentials
```

2. After a POST request is sent to the authorization server, you should receive back a JSON message with a status of 200 (OK) response. The message body (which is pictured below) will contain an "access_token" property that contains your authentication credentials that will be passed to ODIN. This token is only valid and will expire after five minutes has passed by default.

```
{
    "access_token": "eyJraWQiOiI0OGUzNjM1Mi04MzQyLTRjMzktOTM3Ny1jNTRjNmViNzk3MjkiLCJhbGciOiJSUzI1NiJ9.eyJzdWIiOiJwaW9uZWVyMTIzIiwiYXVkIjoicGlvbmVlcj
EyMyIsIm5iZiI6MTY1NDM5MjE0Nywic2NvcGUiOlsib3BlbmlkIiwiZGVmYXVsdC5hcHAuMTAwIiwiZGVmYXVsdC5jbGllbnQucGlvbmVlcjEyMyJdLCJpc3MiOiJodHRwczpcL1wvc3RhZ2
luZy1vZGluLXNlY3VyaXR5Lm9ybmwuZ292IiwiZXhwIjoxNjU0MzkzOTQ3LCJpYXQiOjE2NTQzOTIxNDd9.la8zC854uiIhSsx4523B0Mx0dqedsDEYvCF8DMkQU3EXqSFVB3aFGb-
8lRhUDDLr413z_ptvcYzkOKoMnx1rqDoFBqu2NglREbsMs2DGhP-04BVN9vIlMPJepnEJx1coBDsf0BWbN7_NmHmYUCNZ82-CLR6cXFuOwSTs1hTWnacODsS9-
rn1DABuTMqpsKGJtVjVTWJgJ1-PCAFYx-6v2q4eJ3LXPrkritfU8guA2HpZy3pR_ZWcNHmbf6PbU58Wc-MxguIpMlU3ywlkHBmEWKmggoqtWK5vp5FHAVnBev8ZWWsNLYlKyHT8o-
L6ahudJ4_Ia-Lk3ERCTsXWws_cyQ",
    "scope": "openid default.app.100 default.client.pioneer123",
    "token_type": "Bearer",
    "expires_in": 1799
}
```

3. Now, simply use HTTP GET to pull the outage feed from ODIN
   - **Header:**
     - Include an authorization header in the request and set the header to be of type "Bearer" followed by a space and the complete access token that was provided to you in the previous step.
     - Set 'Content-Type': 'application/xml' or other data type (depends on the endpoints)

Questions?
- For more information, visit the [ODIN website](#).
- Feel free to email the ODIN team with questions at [odin@ornl.gov](#).