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# **django-browserid Documentation**

***Release 0.7.1***

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# CONTENTS



django-browserid is a library that integrates [BrowserID](#) authentication into [Django](#).

django-browserid provides an authentication backend, `BrowserIDBackend`, that verifies BrowserID assertions using the [browserid.org](#) verification service and authenticates users. It also provides `verify`, which lets you build more complex authentication systems based on BrowserID.

django-browserid is a work in progress. Contributions are welcome. Feel free to [fork](#) and contribute!



# SETUP

## 1.1 Installation

You can use pip to install django-browserid and requirements:

```
pip install django-browserid
```

## 1.2 Configuration

To use django-browserid, add it to `INSTALLED_APPS` in `settings.py`:

```
INSTALLED_APPS = (
    # ...
    'django.contrib.auth',
    'django_browserid', # Load after auth to monkey-patch it.
    # ...
)
```

and add `django_browserid.auth.BrowserIDBackend` to `AUTHENTICATION_BACKENDS` in `settings.py`:

```
AUTHENTICATION_BACKENDS = (
    # ...
    'django_browserid.auth.BrowserIDBackend',
    # ...
)
```

Edit your `urls.py` file and add the following:

```
urlpatterns = patterns('',
    # ...
    (r'^browserid/', include('django_browserid.urls')),
    # ...
)
```

You should also add the following in `settings.py`:

```
# Note: No trailing slash
SITE_URL = 'https://example.com:8000'
```

BrowserID uses an assertion and an audience to verify the user. This `SITE_URL` is used to determine the audience. For security reasons, it is *very important* that you set `SITE_URL` correctly.

You can also set the following optional config in `settings.py` (they have sensible defaults):

```
# Path to redirect to on successful login.
LOGIN_REDIRECT_URL = '/'

# Path to redirect to on unsuccessful login attempt.
LOGIN_REDIRECT_URL_FAILURE = '/'
```

Somewhere in one of your templates, you'll need to create a link and a form with a single hidden input element, which you'll use to submit the BrowserID assertion to the server. If you want to use `django_browserid.forms.BrowserIDForm`, you could use something like the following template snippet:

```
{% if not user.is_authenticated %}
<a class="browserid-login" href="#">Sign In</a>
<form method="POST" action="{% url browserid_verify %}">
    {% csrf_token %}
    {{ browserid_form.as_p }}
</form>
{% endif %}
```

---

**Note:** If you're using the default JavaScript mentioned below, you can use as many login links as you like as long as they all have the class `browserid-login`. However, you must only include the form on the page once.

---

If you use `browserid_form`, it is further recommended that you add `django_browserid.context_processors.browserid_form` to `TEMPLATE_CONTEXT_PROCESSORS`; this will create the `browserid_form` variable automatically in `RequestContext` instances when needed. That is, in `settings.py`:

```
TEMPLATE_CONTEXT_PROCESSORS = (
    # ...
    'django_browserid.context_processors.browserid_form',
    # ...
)
```

You will also need to include JavaScript to power the BrowserID popup and form. You can use `django` form media at the bottom of your page (see [Form Media](#) and [Managing static files](#) for more information):

```
{{ browserid_form.media }}
```

This JavaScript file requires jQuery 1.6 or higher.

---

**Note:** If you don't want to use the static files framework, you'll need to include the `https://login.persona.org/include.js` file, as well as JavaScript similar to `django_browserid/static/browserid/browserid.js`:

```
<script src="https://login.persona.org/include.js"></script>
<!-- Include JS for browserid_form here. -->
```

---

**Note:** If your site uses [Content Security Policy](#), you will have to add directives to allow the external `browserid.org` JavaScript, as well as an `iframe` used as part of the login process.

If you're using `django-csp`, the following settings will work:

```
CSP_SCRIPT_SRC = ('self', 'https://login.persona.org')
CSP_FRAME_SRC = ('self', 'https://login.persona.org')
```

---

## 1.3 Logging Out

To log users out, create a view that calls `django.contrib.auth.logout`, or use the standard logout view `django.contrib.auth.views.logout`. Then, add a link to your page with the `browserid-logout` class:

```
<a href="{% url logout %}" class="browserid-logout">Log Out</a>
```

---

**Note:** Ensure that you include the form media on the same page, as it handles calling `navigator.id.logout` when the logout link is clicked.

---



# ADVANCED USAGE

## 2.1 navigator.id.request Arguments

The `navigator.id.request` function accepts several optional arguments that customize the BrowserID login dialog. The default JavaScript provided by `django-browserid` checks for data attributes on the login link and passes them to `navigator.id.request`. For example, the following customizes the website name shown in the BrowserID dialog:

```
<a href="#" data-site-name="Site Name">Login</a>
```

---

**Note:** `navigator.id.request` arguments are in camelCase, but data attributes must use dashes in place of capitalization changes.

---

See the [navigator.id.request documentation](#) for a list of accepted parameters.

## 2.2 Automatic Account Creation

`django-browserid` will automatically create a user account for new users. The user account will be created with the verified email returned from the BrowserID verification service, and a URL safe base64 encoded SHA1 of the email with the padding removed as the username.

To provide a customized username, you can provide a different algorithm via your `settings.py`:

```
# settings.py
BROWSERID_CREATE_USER = True
def username(email):
    return email.rsplit('@', 1)[0]
BROWSERID_USERNAME_ALGO = username
```

You can provide your own function to create users by setting `BROWSERID_CREATE_USER` to a string path pointing to a function:

```
# module/util.py
def create_user(email):
    return User.objects.create_user(email, email)

# settings.py
BROWSERID_CREATE_USER = 'module.util.create_user'
```

You can disable account creation, but continue to use the `browserid_verify` view to authenticate existing users with the following:

```
BROWSERID_CREATE_USER = False
```

## 2.3 Custom Verification

If you want full control over account verification, don't use `django-browserid`'s `browserid_verify` view. Create your own view and use `verify` to manually verify a BrowserID assertion with something like the following:

```
from django_browserid import get_audience, verify
from django_browserid.forms import BrowserIDForm

def myview(request):
    # ...
    if request.method == 'POST':
        form = BrowserIDForm(data=request.POST)
        if not form.is_valid():
            result = verify(form.cleaned_data['assertion'], get_audience(request))
            if result:
                # check for user account, create account for new users, etc
                user = my_get_or_create_user(result.email)
```

`result` will be `False` if the assertion failed, or a dictionary similar to the following:

```
{
    u'audience': u'https://mysite.com:443',
    u'email': u'myemail@example.com',
    u'issuer': u'browserid.org',
    u'status': u'okay',
    u'expires': 1311377222765
}
```

You are of course then free to store the email in the session and prompt the user to sign up using a chosen identifier as their username, or whatever else makes sense for your site.

## 2.4 Javascript Fallback

It is a good idea to provide an alternative method of authenticating with your site for users that do not have JavaScript available. An easy way of doing this is to modify the `href` of the link that you bind to BrowserID login to point to a traditional login and registration page:

```
<a id="browserid" href="{% url 'login.view.name' %}">Sign In</a>
```

If a user has JavaScript enabled, when they click the link the JavaScript will take over and show a BrowserID popup. If a user has JavaScript disabled, they will be directed to your login view (which should not require JavaScript, of course).

## 2.5 Multiple Login Buttons

If you are using the default JavaScript provided by `django-browserid`, you can have multiple login buttons on a single page by marking them with the class `browserid-login`. Be sure to only include the hidden login form on

the page once to avoid errors from using the same id multiple times.

## 2.6 Signals

`django_browserid.signals.user_created`

Signal triggered when a user is automatically created during authentication.

- sender**: The function that created the user instance.
- user**: The user instance that was created.

## 2.7 Custom User Model

Django 1.5 allows you to specify a custom model to use in place of the built-in User model with the `AUTH_USER_MODEL` setting. `django-browserid` supports custom User models, however you will most likely need to subclass `django-browserid.BrowserIDBackend` and override the `create_user`, `get_user`, and `filter_users_by_email` functions to work with your class.



# SETTINGS

`django.conf.settings.LOGIN_REDIRECT_URL`

**Default:** `' /accounts/profile'`

Path to redirect to on successful login. If you don't specify this, the [default](#) Django value will be used.

`django.conf.settings.LOGIN_REDIRECT_URL_FAILURE`

**Default:** `' /'`

Path to redirect to on an unsuccessful login attempt.

`django.conf.settings.BROWSERID_CREATE_USER`

**Default:** `True`

If `True` or `False`, enables or disables automatic user creation during authentication.

If set to a string, it is treated as an import path pointing to a custom user creation function. See *auto-user* for more information.

`django.conf.settings.BROWSERID_VERIFICATION_URL`

**Default:** `'https://browserid.org/verify'`

Defines the URL for the BrowserID verification service to use.

`django.conf.settings.BROWSERID_DISABLE_CERT_CHECK`

**Default:** `False`

Disables SSL certificate verification during BrowserID verification. *Never disable this in production!*

`django.conf.settings.BROWSERID_CACERT_FILE`

**Default:** `None`

CA cert file used during validation. If none is provided, the default file included with [requests](#) is used.



# TROUBLESHOOTING

## 4.1 CSP WARN: Directive "...” violated by https://browserid.org/include.js

This warning appears in the Error Console when your site uses [Content Security Policy](#) without making an exception for the browserid.org external JavaScript include.

To fix this, include <https://browserid.org> in your script-src directive. If you’re using the `django-csp` library, the following settings will work:

```
CSP_SCRIPT_SRC = ('self', 'https://browserid.org', 'https://login.persona.org')
CSP_FRAME_SRC = ('self', 'https://browserid.org', 'https://login.persona.org')
```

---

**Note:** The example above also includes the frame-src directive. There is an `iframe` used during BrowserID login, but some people report that login will work without the directive. In general, you should probably include it.

---

## 4.2 Site keeps redirecting to the same page repeatedly

Sometimes, after attempting to login, you might notice that the page keeps reloading itself over and over. This usually means that something has gone wrong in your login process, and you should check the log output as well as the solutions below to see if they can point you in the right direction.

The reason for the repeating redirects has to do with Persona, the default BrowserID server that `django-browserid` uses. If you have attempted to log in to a site via Persona, and the site fails to accept your login, Persona will continue to attempt to log you in if the JavaScript shim that it provides is included on the page.

The easiest way to get around this is to simply not include the login form on any pages when the user is logged in. `django-browserid` attempts to avoid these infinite loops in certain cases, but they may still come up if, for example, `SESSION_COOKIE_SECURE` is `True` on a development instance without SSL.

## 4.3 Login fails silently due to SESSION\_COOKIE\_SECURE

If you try to login on a local instance of a site and login fails without any error (typically redirecting you back to the login page), check to see if you’ve set `SESSION_COOKIE_SECURE` to `True` in your settings.

`SESSION_COOKIE_SECURE` controls if the *secure* flag is set on the session cookie. If set to `True` on a local instance of a site that does not use HTTPS, the session cookie won't be sent by your browser because you're using an HTTP connection.

The solution is to set `SESSION_COOKIE_SECURE` to `False` on your local instance, typically by adding it to *settings/local.py*:

```
SESSION_COOKIE_SECURE = False
```

## 4.4 Login fails silently due to cache issues

Another possible cause of silently failing logins is an issue with having no cache configured locally. Several projects (especially projects based on `playdoh`, which uses `django-session-csrf`) store session info in the cache rather than the database, and if your local instance has no cache configured, the session information will not be stored and login will fail silently.

To solve this issue, you should configure your local instance to use an in-memory cache with the following in your local settings file:

```
CACHES = {
    'default': {
        'BACKEND': 'django.core.cache.backends.locmem.LocMemCache',
        'LOCATION': 'unique-snowflake'
    }
}
```

# DEVELOPER GUIDE

## 5.1 Changelog

### 5.1.1 History

#### 0.7.1 (2012-11-08)

- Add support for a working logout button. Switching to the Observer API in 0.7 made the issue that we weren't calling `navigator.id.logout` more pronounced, so it makes sense to make a small new release to make it easier to add a logout button.

#### 0.7 (2012-11-07)

- Actually start updating the Changelog again.
- Remove deprecated functions `django_browserid.auth.get_audience` and `django_browserid.auth.BrowserIDBackend.verify`, as well as support for `DOMAIN` and `PROTOCOL` settings.
- Add small fix for infinite login loops.
- Add automated testing for Django 1.3.4, 1.4.2, and 1.5a1.
- Switch to using `format` for all string formatting (**breaks Python 2.5 compatibility**).
- Add support for Django 1.5 Custom User Models.
- Fix request timeouts so that they work properly.
- Add ability to customize BrowserID login popup via arguments to `navigator.id.request`.
- Update JavaScript to use the new Observer API.
- Change `browserid.org` urls to `login.persona.org`.

## 5.2 Authors

`django-browserid` is written and maintained by various contributors:

### 5.2.1 Current Maintainer

- Michael Kelly <mkelly@mozilla.com>

### 5.2.2 Previous Maintainers

- Paul Osman
- Austin King
- Ben Adida

### 5.2.3 Patches and Suggestions

- Thomas Grainger
- Owen Coutts
- Francois Marier
- Andy McKay
- Giorgos Logiotatidis
- Alexis Metaireau
- Rob Hudson
- Ross Bruniges
- Les Orchard
- Charlie DeTar
- Luke Crouch
- shaib
- Kumar McMillan
- Carl Meyer
- ptgolden
- Will Kahn-Greene
- Allen Short
- meehow
- Greg Koberger
- Niran Babalola
- callmekatootie
- Paul McInahan

# PYTHON MODULE INDEX

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`django.conf.settings`, ??

`django_browserid.signals`, ??