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This document was prepared by the OpenID Foundation (OIDF) (as OAuth 2.0 Form Post Response Mode) and drafted in accordance with its editorial rules. It was adopted, under the JTC 1 PAS procedure, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

Abstract

This specification defines the Form Post Response Mode. In this mode, Authorization Response parameters are encoded as HTML form values that are auto-submitted in the User Agent, and thus are transmitted via the HTTP `POST` method to the Client, with the result parameters being encoded in the body using the `application/x-www-form-urlencoded` format.

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1.1. Requirements Notation and Conventions

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The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 [RFC2119].

In the .txt version of this document, values are quoted to indicate that they are to be taken literally. When using these values in protocol messages, the quotes MUST NOT be used as part of the value. In the HTML version of this document, values to be taken literally are indicated by the use of `this fixed-width font`.

1.2. Terminology

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This specification uses the terms "Access Token", "Authorization Code", "Authorization Endpoint", "Authorization Grant", "Authorization Server", "Client", "Client Identifier", "Client Secret", "Protected Resource", "Redirection URI", "Refresh Token", "Resource Owner", "Resource Server", "Response Type", and "Token Endpoint" defined by OAuth 2.0 [RFC6749] the term "User Agent" defined by RFC 7230 [RFC7230], and the term "Response Mode" defined by OAuth 2.0 Multiple Response Type Encoding Practices [OAuth.Responses].

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2. Form Post Response Mode

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This specification defines the Form Post Response Mode, which is described with its `response_mode` parameter value:

form_post

In this mode, Authorization Response parameters are encoded as HTML form values that are auto-submitted in the User Agent, and thus are transmitted via the HTTP `POST` method to the Client, with the result parameters being encoded in the body using the `application/x-www-form-urlencoded` format. The action attribute of the form MUST be the Client's Redirection URI. The method of the form attribute MUST be `POST`. Because the Authorization Response is intended to be used only once, the Authorization Server MUST instruct the User Agent (and any intermediaries) not to store or reuse the content of the response.

Any technique supported by the User Agent MAY be used to cause the submission of the form, and any form content necessary to support this MAY be included, such as submit controls and client-side scripting commands. However, the Client MUST be able to process the message without regard for the mechanism by which the form submission was initiated.

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3. IANA Considerations

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This specification makes no requests of IANA.

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4. Security Considerations

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As described in OAuth 2.0 Multiple Response Type Encoding Practices [OAuth.Responses], there are security implications to encoding response values in the query string and in the fragment value. Some of these concerns can be addressed by using the Form Post Response Mode. In particular, it is safe to return Authorization Response parameters whose default Response Modes are the query encoding or the fragment encoding using the `form_post` Response Mode.

5. Normative References

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[OAuth.Responses] de Medeiros, B., Ed., Scurtescu, M., Tarjan, P., and M. Jones, "OAuth 2.0 Multiple Response Type Encoding Practices," February 2014.

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels," BCP 14, RFC 2119, March 1997 (TXT, HTML, XML).

[RFC6749] Hardt, D., "The OAuth 2.0 Authorization Framework," RFC 6749, October 2012 (TXT).

[RFC7230] Fielding, R. and J. Reschke, "Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing," RFC 7230, June 2014 (TXT).

Appendix A. "form_post" Response Mode Example

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Below is a non-normative request/response/request example as issued/received/issued by the User Agent (with extra line breaks for display purposes only) demonstrating an auto-submitted `form_post` encoded response.

Authorization Request to the Authorization Endpoint:

```
  GET /authorize?
   response_type=id_token
   &response_mode=form_post
   &client_id=some_client
   &scope=openid

&redirect_uri=https%3A%2F%2Fclient.example.org%2Fcallbac
k
   &state=DcP7csa3hMlvybERqcieLHrRzKBra
   &nonce=2T1AgaeRTGTMAJyeDMN9IJbgiUG HTTP/1.1
  Host: server.example.com
```

After authentication and approval by the End-User, the Authorization Server issues the Authorization Response:

```
  HTTP/1.1 200 OK
  Content-Type: text/html;charset=UTF-8
  Cache-Control: no-cache, no-store
  Pragma: no-cache
```

```
  <html>
   <head><title>Submit This Form</title></head>
   <body onload="javascript:document.forms[0].submit()">
    <form method="post"
action="https://client.example.org/callback">
      <input type="hidden" name="state"
       value="DcP7csa3hMlvybERqcieLHrRzKBra"/>
      <input type="hidden" name="id_token"

value="eyJhbGciOiJSUzI1NiIsImtpZCI6IjEifQ.eyJzdWIiOiJqb2
huIiw

iYXVkIjoiZmZzMiIsImp0aSI6ImhwQUI3RDBNbEo0c2YzVFR2cllxUkI
iLC

Jpc3MiOiJodHRwczpcL1wvbG9jYWxob3N0OjkwMzEiLCJpYXQiOjEzNj
M5M

DMxMTMsImV4cCI6MTM2MzkwMzcxMywibm9uY2UiOiIyVDFBZ2FlUlRHV
E1B

SnllRE1OOUlKYmdpVUciLCJhY3IiOiJ1cm46b2FzaXM6bmFtZXM6dGM6
U0F

NTDoyLjA6YWM6Y2xhc3NlczpQYXNzd29yZCIsImF1dGhfdGltZSI6MTM
2Mz
         kwMDg5NH0.c9emvFayy-
YJnO0kxUNQqeAoYu7sjlyulRSNrru1ySZs2qwqq
         wwq-
Qk7LFd3iGYeUWrfjZkmyXeKKs_OtZ2tI2QQqJpcfrpAuiNuEHII-_fk

IufbGNT_rfHUcY3tGGKxcvZO9uvgKgX9Vs1v04UaCOUfxRjSVlumE6fW
Gcq

XVEKhtPadj1elk3r4zkoNt9vjUQt9NGdm1OvaZ2ONprCErBbXf1eJb4N
W_h

nrQ5IKXuNsQ1g9ccT5DMtZSwgDFwsHMDWMPFGax5Lw6ogjwJ4AQDrhzN
CFc
         0uVAwBBb772-86HpAkGWAKOK-
wTC6ErRTcESRdNRe0iKb47XRXaoz5acA"/>
    </form>
   </body>
  </html>
```

which results in an HTTP POST to the Client:

```
  POST /callback HTTP/1.1
  Host: client.example.org
  Content-Type: application/x-www-form-urlencoded
```

```
id_token=eyJhbGciOiJSUzI1NiIsImtpZCI6IjEifQ.eyJzdWIiOiJq
b2huIiwiYX

VkIjoiZmZzMiIsImp0aSI6ImhwQUI3RDBNbEo0c2YzVFR2cllxUkIiLC
Jpc

3MiOiJodHRwczpcL1wvbG9jYWxob3N0OjkwMzEiLCJpYXQiOjEzNjM5M
DMx

MTMsImV4cCI6MTM2MzkwMzcxMywibm9uY2UiOiIyVDFBZ2FlUlRHVE1B
Snl

lRE1OOUlKYmdpVUciLCJhY3IiOiJ1cm46b2FzaXM6bmFtZXM6dGM6U0F
NTD

oyLjA6YWM6Y2xhc3NlczpQYXNzd29yZCIsImF1dGhfdGltZSI6MTM2Mz
kwM
         Dg5NH0.c9emvFayy-
YJnO0kxUNQqeAoYu7sjlyulRSNrru1ySZs2qwqqwwq
         -
Qk7LFd3iGYeUWrfjZkmyXeKKs_OtZ2tI2QQqJpcfrpAuiNuEHII-
_fkIuf

bGNT_rfHUcY3tGGKxcvZO9uvgKgX9Vs1v04UaCOUfxRjSVlumE6fWGcq
XVE

KhtPadj1elk3r4zkoNt9vjUQt9NGdm1OvaZ2ONprCErBbXf1eJb4NW_h
nrQ

5IKXuNsQ1g9ccT5DMtZSwgDFwsHMDWMPFGax5Lw6ogjwJ4AQDrhzNCFc
0uV
         AwBBb772-86HpAkGWAKOK-
wTC6ErRTcESRdNRe0iKb47XRXaoz5acA&
  state=DcP7csa3hMlvybERqcieLHrRzKBra
```

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