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# Information technology — OpenID connect — OpenID connect core 1.0 incorporating errata set 2

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This document was prepared by the OpenID Foundation (OIDF) (as OpenID Connect Core 1.0 incorporating errata set 2) 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

OpenID Connect 1.0 is a simple identity layer on top of the OAuth 2.0 protocol. It enables Clients to verify the identity of the End-User based on the authentication performed by an Authorization Server, as well as to obtain basic profile information about the End-User in an interoperable and REST-like manner.

This specification defines the core OpenID Connect functionality: authentication built on top of OAuth 2.0 and the use of Claims to communicate information about the End-User. It also describes the security and privacy considerations for using OpenID Connect.

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## 1. Introduction

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OpenID Connect 1.0 is a simple identity layer on top of the OAuth 2.0 [RFC6749] protocol. It enables Clients to verify the identity of the End-User based on the authentication performed by an Authorization Server, as well as to obtain basic profile information about the End-User in an interoperable and REST-like manner.

The OpenID Connect Core 1.0 specification defines the core OpenID Connect functionality: authentication built on top of OAuth 2.0 and the use of Claims to communicate information about the End-User. It also describes the security and privacy considerations for using OpenID Connect.

As background, the OAuth 2.0 Authorization Framework [RFC6749] and OAuth 2.0 Bearer Token Usage [RFC6750] specifications provide a general framework for third-party applications to obtain and use limited access to HTTP resources. They define mechanisms to obtain and use Access Tokens to access resources but do not define standard methods to provide identity information. Notably, without profiling OAuth 2.0, it is incapable of providing information about the authentication of an End-User. Readers are expected to be familiar with these specifications.

OpenID Connect implements authentication as an extension to the OAuth 2.0 authorization process. Use of this extension is requested by Clients by including the `openid` scope value in the Authorization Request. Information about the authentication performed is returned in a JSON Web Token (JWT) [JWT] called an ID Token (see Section 2). OAuth 2.0 Authentication Servers implementing OpenID Connect are also referred to as OpenID Providers (OPs). OAuth 2.0 Clients using OpenID Connect are also referred to as Relying Parties (RPs).

This specification assumes that the Relying Party has already obtained configuration information about the OpenID Provider, including its Authorization Endpoint and Token Endpoint locations. This information is normally obtained via Discovery, as described in OpenID Connect Discovery 1.0 [OpenID.Discovery], or may be obtained via other mechanisms.

Likewise, this specification assumes that the Relying Party has already obtained sufficient credentials and provided information needed to use the OpenID Provider. This is normally done via Dynamic Registration, as described in OpenID Connect Dynamic Client Registration 1.0 [OpenID.Registration], or may be obtained via other mechanisms.

The previous versions of this specification are:

- OpenID Connect Core 1.0 incorporating errata set 1 [OpenID.Core.Errata1]
- OpenID Connect Core 1.0 (final) [OpenID.Core.Final]

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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", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 [RFC2119].

In the .txt version of this specification, 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 specification, values to be taken literally are indicated by the use of `this fixed-width font`.

All uses of JSON Web Signature (JWS) [JWS] and JSON Web Encryption (JWE) [JWE] data structures in this specification utilize the JWS Compact Serialization or the JWE Compact Serialization; the JWS JSON Serialization and the JWE JSON Serialization are not used.