



# Developer Guide

September 2020



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# About the Guide

This guide describes how to work with FedEx Web Service for Office and Print. It is written for the application developer who uses web services to design and deploy applications which enable users to manage the creation, configuration, and submission of FedEx Office digital print orders. The guide includes descriptions of available services and outlines the steps required for successful development, certification, and deployment of your custom solution.

Note: FedEx Web Service for Office and Print is not a component of the FedEx shipping integration portfolio. If your intent is to develop a shipping solution, please visit the FedEx Developer Resource Center for information regarding FedEx Web Services for Shipping.

## Resources

The following may also be useful for the FedEx Web Services for Office and Print developer:

FedEx Developer Resource Center for FedEx Office: <http://www.fedex.com/us/developer/web-services/office/index.html>

FedEx Web Service for Office and Print – Office Print Online Developer Guide

FedEx Web Service for Office and Print – Office Order Service Transaction Guide

FedEx Office® Print Online: [printonline.fedex.com](http://printonline.fedex.com)

FedEx Service Guide: [fedex.com/us/services/pdf/](http://fedex.com/us/services/pdf/)

Web services Interoperability: [www.ws-i.org/Profiles/BasicProfile-1.1-2004-08-24.html](http://www.ws-i.org/Profiles/BasicProfile-1.1-2004-08-24.html)

Web Services Description Language (WSDL) explained:  
[msdn.microsoft.com/en-us/library/ms996486.aspx](http://msdn.microsoft.com/en-us/library/ms996486.aspx)

## Support

### Integration Consultants

A FedEx Office Web Integration Solutions Consultation team member can assist you in the pre-production stages of integration. Contact your FedEx Office account executive or email [officewebservices@fedex.com](mailto:officewebservices@fedex.com) to request a consultation. A consultant will contact you within 3 business days.

### Email Support

Email [officewsprodsupport@fedex.com](mailto:officewsprodsupport@fedex.com) and we'll send your request to our internal team of FedEx Office Web Services specialists for print services. They will address your questions as quickly as possible.

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# Introduction

FedEx Web Service for Office and Print is a portfolio of transaction interfaces to digital printing functionality hosted by FedEx Office. These transactions provide an avenue for software developers to create custom, highly efficient solutions that enable users to manage the creation, configuration, and submission of FedEx Office digital print orders.

Here are just a few of the ways a company can use web services to take control of their digital printing processes:

- **Improve Efficiency**

Use *Print Online Service* to access FedEx Office Print Online from within the software you use most. Direct document upload capabilities combined with a step-by-step order interface means using FedEx Office for printing and finishing will be more convenient and efficient than ever.

- **Establish Consistency**

Provide a consistent, cross-organization channel for the ordering of document printing and finishing services by developing an integrated web services solution that meets your company's unique needs.

- **Eliminate Redundancy**

Use *Office Order Service* to upload documents and submit print orders to FedEx Office. Integrating this service into your existing content creation, document management, or online storage solution eliminates the need to create and manage a duplicate document library hosted by a print service provider.

Why should developers be interested in web services?

- **Interoperability**

Any web service can interact with any other web service and can be written in any programming language.

- **Ubiquity**

Web services communicate using HTTP and XML. Any connected device that supports these technologies can both host and access web services.

- **Low Barrier to Entry**

The concepts behind web services are easy to understand, and developers can quickly create and deploy them using many tool-kits available on the web.

- **Industry Support**

Major content providers and vendors are supporting the web services movement.

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# Web Development Technology

This section provides an overview of the web development technology used in FedEx Web Service for Office and Print.

## Web Services

Web services - defined by the World Wide Web Consortium (W3C) as *software systems designed to support interoperable, machine-to-machine interaction over a network* - and associated technologies such as SOAP and WSDL (described below), allow you to build programming solutions for application integration.

## SOAP

SOAP, originally defined as Simple Object Access Protocol, is a protocol specification for exchanging structured information in the implementation of web services in computer networks. It relies on XML as its message format, and usually relies on other application layer protocols - most notably Hypertext Transport Protocol (HTTP) - for message negotiation and transmission.

Built on open standards supported by numerous development tools on various platforms, SOAP provides a way to communicate between applications running on different operating systems, with different technologies and programming languages. The SOAP request interface is an object in your application programming language.

SOAP enables data to pass through layers of intermediaries and arrive at the ultimate receiver the way it was intended. It is worth noting that you may not need to actually construct the SOAP messages yourself—many development tools available today construct SOAP behind the scenes.

## SOAP Message

A SOAP message is an ordinary XML document that can be a -request|| for a web service from a client or a -reply|| from a web service to a client.

### SOAP Elements

- <SOAP:Envelope>     *Required*
- <SOAP:Header>       *Optional*
- <SOAP:Body>         *Required*

## SOAP Example Message

```
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope
  xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <soap:Body>
    <OfficeOrderUploadLocationRequest
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      xmlns:xsd="http://www.w3.org/2001/XMLSchema">
      <WebAuthenticationDetail
        xmlns="http://fedex.com/ws/officeorder/v1">
        <UserCredential>
          <Key>xxxxxxxxxxxxxxxxxx</Key>
          <Password>xxxxxxxxxxxxxxxxxxxxxxxxxx</Password>
        </UserCredential>
      </WebAuthenticationDetail>
      <ClientDetail
        xmlns="http://fedex.com/ws/officeorder/v1">
        <ClientProductId>XXXX</ClientProductId>
        <ClientProductVersion>0000</ClientProductVersion>
        <IntegratorId>00000</IntegratorId>
      </ClientDetail>
      <TransactionDetail
        xmlns="http://fedex.com/ws/officeorder/v1">
        <CustomerTransactionId />
      </TransactionDetail>
      <Version
        xmlns="http://fedex.com/ws/officeorder/v1">
        <ServiceId>oord</ServiceId>
        <Major>1</Major>
        <Intermediate>0</Intermediate>
        <Minor>0</Minor>
      </Version>
    </OfficeOrderUploadLocationRequest>
  </soap:Body>
</soap:Envelope>
```

For more information about the SOAP standard, refer to the World Wide Web Consortium (W3C) website at [w3.org/TR/SOAP](http://w3.org/TR/SOAP).

Note: Unlike FedEx Web Services for Shipping, FedEx Web Service for Office and Print does not currently offer a non-SOAP web services solution. Your development environment must support SOAP protocol in order to integrate using FedEx Web Service for Office and Print.

## WSDL

WSDL (Web Services Description Language) is an XML-based language that provides a model for describing web services. The functions supported by a web service are described in an abstract way that is independent of what programming language the actual service is written in or what computer and operating system it runs on.

A SOAP request to, or response from, a service is generated according to the service's WSDL definition. The purpose of a WSDL is to completely describe a web service to a client, and it accomplishes this using seven major elements. The elements can be either *abstract* or *concrete*. Abstract elements describe the web service, and concrete elements provide connection details.

### Abstract XML Elements

- **<portType>** The most important WSDL element. It is a set of all operations that a web service can accept and is a container for <operation> elements. This WSDL element describes a web service, the operations that can be performed, and the messages that are involved, and can be compared to a function library (or a module or a class) in a traditional programming language.
- **<types>** Defines variable types used in the web service (both the parameters passed to a function and the type of the value passed back via the response). The data types are described by XML schema. This element contains user-defined data types (in the form of XML schema). For maximum platform neutrality, WSDL uses XML schema syntax to define data types.
- **<message>** Defines the data elements of an operation. Each message can consist of one or more parts that can be compared to the parameters of a function call in a traditional programming language.
- **<operation>** Child of the <binding> element that defines each operation that the port exposes. This element allows three messages only:
  - Input Message: Data web services receives
  - Output Message: Data web services sends
  - Fault Message: Error messages from web services

## Concrete XML Elements

- **<service>** The <service> element contains a <port> child element that describes the URL where the service is located. This is the location of the ultimate web service.
- **<port>**
- **<binding>** The <binding> element defines the message format and protocol details for each port. The binding element has two attributes: the name attribute and the type attribute. This element specifies how the client and the web service should send messages to one another.

Note: FedEx Web Services are not offered as part of a UDDI (Universal Description, Discovery, and Integration) and must be downloaded from the FedEx Developer Resource Center ([fedex.com/developer](http://fedex.com/developer)) and stored locally for development and usage.

# Getting Started

This section of the guide outlines the initial steps associated with developing a FedEx Web Service for Office and Print solution, including: reviewing developer materials, selecting the right web service to meet your specific needs, and obtaining test credentials.

## FedEx Developer Resource Center

Developers who elect to take advantage of FedEx Web Service for Office and Print must begin by registering at the FedEx Developer Resource Center located at [fedex.com/developer](https://fedex.com/developer). Upon registering, this software integration portal will provide you with access to technical documentation, sample software code, and support materials designed to help you build your custom solution.

Developer materials include:

- **FedEx Web Service for Office and Print Developer Guide**  
Provides an overview of FedEx Web Service for Office and Print and outlines the steps required for successful development, certification, and deployment of FedEx Office® integrated solutions.
- **Web Service Transaction Guides**  
Documents web service transactions and their associated elements in detail. Transaction examples and reply notification codes are also included.
- **WSDLs**
- **Sample software code**  
C#, VB.net, Java, PHP

Download and review these materials within the context of your specific needs prior to initiating development. Planning your integration and organizing your application data to address your printing requirements can sometimes take more time than the actual development of the integration. Once familiar with the available web services and their functionality, you can begin selecting and incorporating these services into your design.

## Available Services

FedEx Web Service for Office and Print provides the following web service:

### Office Order Web Service

Office Order Service empowers the developer to design their client software application with the capability to directly manage all steps within the customer's end-to-end print purchase workflow. As such, the Office Order Service client software is responsible for capturing document, print, finishing, payment, and fulfillment intent from the user and transmitting that intent to FedEx Office via the defined transaction set. The developer's client software is also responsible for receiving and responding to reply transactions returned by the web service.

A typical implementation of this web service involves:

- Client software connecting to FedEx Office and authenticating
- Client software requesting a file upload location
- FedEx responding with a file upload location
- Client software uploading document file
- Client software obtaining print, finishing, and fulfillment intent from the user
- Client software submitting a Create Order Request
- FedEx responding with a Create Order Reply
- Client software communicating the returned Order Confirmation and GTN to user

## Development Guidelines

Before you begin your implementation of FedEx Web Service for Office and Print, make note of the following guidelines:

- FedEx Web Service for Office and Print is designed for use by skilled developers who are familiar with the communication standards SOAP and web services Description Language (WSDL).
- Unlike traditional client/server models, such as a web server or web page system, web services do not provide the user with a GUI. Instead, web services share business logic, data, and processes through a programmatic interface across a network.
- To perform a particular FedEx task such as creating a print order, you need to use a class, module, or function that creates your request, sends it to the FedEx platform, and handles the response.
- Web services are designed to support any operating system and coding language. Downloadable sample code is available in Java, C#, VB.Net, and PHP languages.
- If you are in the pre-production stages of implementing FedEx Web Service for Office and Print and require technical consultation, you may request that a FedEx Office customer technology consultant contact you.

To initiate FedEx Web Service for Office and Print technical consultation, please e-mail us at [officewebervices@fedex.com](mailto:officewebervices@fedex.com) with a detailed description of your issue(s) along with return contact information. A FedEx Office customer technology consultant will contact you within three business days. Alternatively, you may advise your FedEx Office account executive of your need for web services consultation and they will be glad to initiate the request for technical consultation on your behalf.

## Developer Test Credentials

Developers of FedEx Web Service for Office and Print solutions are provided, upon request, with -testll credentials to facilitate code development, evaluation of available services and pre-certification preparation. These credentials will allow your application to access the FedEx test environment. Prior to requesting that your solution be certified for deployment, it is recommended that you test and assure yourself that your code operates as desired. Please remember, although useful for confirming functionality, test credentials should not be employed for stress testing.

### Obtain Developer Test Key

- Login to FedEx Developer Resource Center ([fedex.com/developer](https://fedex.com/developer))
- Go to FedEx Web Service for Office and Print Technical Resources
- Go to Develop & Test Your Application and click the Obtain Developer Test Key icon
- By default, test credentials are initially disabled for FedEx Web Service for Office and Print. Therefore, once you receive your Developer Test Key, complete and submit the Developer Test Key Enablement Request Form as outlined within the FedEx Developer Resource Center

Note: Credentials must be included in your code as specified in the FedEx Web Service for Office and Print technical documentation. Without this information, your transactions will be rejected. Once your code includes the test credentials, you may proceed with testing your application.



# Certification

This section of the guide introduces the concept of FedEx Web Service for Office and Print certification and the associated evaluation criteria and processes.

## Overview

Once you have completed the design, development, and testing of your project, you must certify your application with FedEx. Certification is the process of determining if your implementation meets a number of requirements to achieve the safe, secure, and effective operation of your solution in the FedEx production environment.

You will be assigned a FedEx certification contact prior to the start of certification testing. This contact will serve as your primary contact throughout this process. This individual will notify you of any issues that arise during certification testing, as well as when you have achieved certification. You are not permitted to use or distribute your FedEx Web Service for Office and Print solution until you have received notice from your FedEx certification contact that you have successfully completed certification and that your solution is authorized to deploy.

If you have more than one solution that utilizes FedEx Web Service for Office and Print, separate certification of each solution is required. Similarly, new versions of a solution must be re-certified.

## Requirements

Certification of your solution will include review and consideration of the items listed below. This list is not intended to be exhaustive, and additional measures of evaluation may be employed where required to ensure that the solution ultimately deployed is successful. Additionally, all requirements may not be applicable to all implementations.

- FedEx Developer Resource Center End User License Agreement (EULA) signed
- FedEx Web Services EULA signed
- Additional contracts and/or legal agreements signed (where applicable)
- FedEx Office operations compliant
- FedEx brand standards compliant (Go to [brand.fedex.com](http://brand.fedex.com) for more information.)
  - FedEx logo usage
  - FedEx service names and descriptions
- FedEx Office features and functionality confirmed
  - Application work flow clear
  - Required features present
  - Features and options presented clearly and correctly
  - Sends and receives transactions correctly
  - Document file types and file sizes are compatible
  - Document content is FedEx Office compliant in form and function
  - Test order successfully received by FedEx Office center
- Solution is maintainable
- User support plan established for FedEx Office solution

## Exceptions

- **Consultants Working on Behalf of a FedEx Customer**

Consultants developing on behalf of a FedEx customer must ensure that their client provides their contact information and a signed End User License Agreement to FedEx prior to initiating the certification process.

- **Commercial Software Developers**

While the certification requirements associated with commercial software implementations are more rigorous than those associated with non-commercial solutions, the exact certification process will depend to some degree on the nature of the implementation. See the FedEx Developer Resource Center for information regarding how to apply to become a FedEx Web Services for Office and Print certified commercial developer.

## Process

Please see below for a step-by-step review of the FedEx Web Service for Office and Print development and certification lifecycle.

- Register at the FedEx Developer Resource Center. (Go to [fedex.com/developer](https://fedex.com/developer).)
- Download and review FedEx Web Service for Office and Print materials.
- Obtain Developer Test Key.
- Complete and submit Developer Test Key Enablement Request Form containing a detailed description of your implementation intent.
- FedEx will review your Developer Test Key Enablement Request to ensure that FedEx Web Services for Office and Print is a viable option for meeting your expressed needs. Where applicable, your FedEx Office account executive will be advised of your interest in web services and at their discretion, a FedEx customer technology consultant may contact you at this early step to answer any questions you may have.
- FedEx will notify you via email once your Test Key has been FedEx Office enabled.
- Develop and test your solution utilizing the support of the FedEx Developer Resource Center, your FedEx customer technology consultant (where applicable), and FedEx Web Service for Office and Print email support ([officewebservices@fedex.com](mailto:officewebservices@fedex.com)).
- Complete and submit the FedEx Web Service for Office and Print Certification Request Form containing a detailed description of your completed implementation. Where possible, include information regarding who will use the application, how it will be used and for what purpose, and specifics regarding the FedEx Office products and services that will be accessible through your solution. Application screen shots and/or access to the solution itself may be required by FedEx in order to certify your solution.
- Upon receiving your Certification Request Form, you will be assigned a FedEx certification contact. FedEx will perform a preliminary review of the implementation material that you have provided and then contact you regarding the FedEx Integrator ID, Client Product ID, and Client Product Version values to use during certification testing.
- FedEx will provide you with a set of certification test scripts and work with you to coordinate their execution.
- Your FedEx certification contact will evaluate the form and function of your implementation and confirm that it meets the minimum requirements for certification. You will be notified of any certification compliance failures discovered during the evaluation process.
- Update your solution to address the points of failure and advise your FedEx certification contact when your solution is ready to be re-evaluated.
- FedEx will advise you when your solution has successfully completed certification testing.

- Return to the FedEx Developer Resource Center and Obtain a Production Key by following the procedures outlined in the Move to Production section of the site. As part of the credential request process you will be required to provide your previously assigned FedEx Integrator ID.
- After receiving your production key, complete and submit the FedEx Web Service for Office and Print Production Key Enablement Request Form.
- FedEx will confirm your request and enable your FedEx Web Service for Office and Print production credentials.

## Production Deployment

After you receive your production credentials and they have been enabled, you must replace the previously supplied test credentials within your code with the aforementioned production credentials as specified in the FedEx Web Service for Office and Print transaction guide. Additionally, you must update the <port> element within the WSDL to point to the FedEx production environment.

Once these steps have been performed, your FedEx Web Service for Office and Print integrated solution is ready for use.

## URL Errors

If a VB.NET or C# project still sends transactions to the test server after changing the URL in the WSDLs to point to production, perform the following:

- Make sure permissions are already activated in the production environment.
- Copy the WSDL files to a different folder.
- Follow the directions on changing the new WSDL files to point to production as described in the Developer Resource Center in the Move to Production topic.
- Remove existing web services references from your project that point to old WSDLs containing the URLs to the test environment.
- Create new web references that point to the modified WSDLs. Use the same names as the old references.
- Compile and test the project.

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