

Aquaforest SDK **Deployment Guide**



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1 Introduction

This guide is for users who are setting up an application using Aquaforest SDK 3.2. This document contains information about the folder structure of the SDK, breaking down the purpose of each component. It also provides a checklist of the references needed to use each module, and the files that must be included in the bin/resource folder for deployment.

1.1 Folders

The “**Aquaforest SDK**” main folder contains the following sub-folders:

Barcode

- **bin** - Contains all the assemblies, DLLs and configurations files for Barcode projects
- **samples** – Contains Barcode samples in C#

Data Extractor

- **bin** - Contains all the assemblies, DLLs and configurations files for Data Extractor projects
- **samples** – Contains Data Extractor samples in C# and VB.NET

Diagnostics - Contains a pre-requisite checker to identify any missing requirements

docs - Contains documentation for using the SDK

License - Contains the Aquaforest License Agreement

OCR

- **Cloud**
 - **bin** - Contains all the assemblies, DLLs and configurations files for Cloud OCR projects
 - **samples** – Contains Cloud OCR samples in C#
- **Extended**
 - **bin** - Contains all the assemblies, DLLs and configurations files for Extended OCR projects
 - **samples** – Contains Extended OCR samples in C#, VB.NET and ASP.NET
- **Standard**
 - **bin** - Contains all the assemblies, DLLs and configurations files for Standard OCR projects
 - **samples** – Contains Standard OCR samples in C#, VB.NET and ASP.NET

PDF Toolkit

- **bin** - Contains all the assemblies, DLLs and configurations files for PDF Toolkit projects
- **samples** – Contains PDF Toolkit samples in C# and VB.NET

welcome - Contains the SDK welcome page

The main folder also contains “**Aquaforest SDK 3.2**”, a shortcut to the SDK welcome page.

2 System Requirements

2.1 Supported Operating Systems

The SDK supports the following operating systems:

- Windows 8
- Windows 10
- Windows Server 2012
- Windows Server 2016
- Windows Server 2019

2.2 Prerequisites

The table below shows the prerequisites needed for building applications using the Aquaforest OCR engine.

Application Platform	VC++ Redistributable	Minimum .NET Framework Version	Minimum Visual Studio Version
x86	Visual C++ Redistributable 2017 x86	.NET Framework 4.7.2	Visual Studio 2017
x64	Visual C++ Redistributable 2017 x86 Visual C++ Redistributable 2017 x64		
Any CPU	Visual C++ Redistributable 2017 x86 Visual C++ Redistributable 2017 x64		

There is a diagnostics tool found at “[SDK installation path]\diagnostics\Aquaforest OCR SDK Prerequisite Check.exe”, which can be used to check if the correct versions of .NET Framework and Visual Studio Redistributables are installed.

3 Application Development and Deployment

3.1 References

To use each module, you must reference the correct DLLs in your project. In deployment, these DLLs must be in a bin/resource folders with the correct files for it to function correctly. This section lists all the references and files to be included when using each module.

3.1.1 Aquaforest Logging

A reference to **Aquaforest.Logging.dll** is needed for the majority of modules as it is commonly used in class constructors. It is included in every module’s bin folder and is useful for getting different levels of logging information from our other modules. By instantiating a logger, specifying the logging level, and messages that are at that level of logging or above will be output to console and/or written to file. The levels of logging are as follows:

0. **Debug** – Detailed information for debugging
1. **Information** – Information about the general flow of the program
2. **Warning** – Any unusual event in the program flow
3. **Error** – Any errors that cause the program to end prematurely.
4. **Fatal** – Any catastrophic failures that require attention.
5. **None** – No log messages will be produced.

There is a code sample available that demonstrates the different levels of logging in the PDF Toolkit samples. It can be found at “[Install location]\Aquaforest SDK\PDF Toolkit\samples\src\Samples.sln” as the csharp project “LoggingExample”.

3.1.2 Standard OCR

To use the standard OCR API, a reference to **“Aquaforest.OCR.API”** must be included in your application. If you wish to enumerate your OCR results rather than simply generate PDF, RTF or TXT outputs then you will also need to add reference to **“Aquaforest.Ocr.Definitions”**.

The Standard OCR bin folder, found at “[Install location]\Aquaforest SDK\OCR\Standard\bin”, must be set as the resource folder when instantiating the OCR class. You must also have the files **“DPDFRenderNative_x86.dll”** (32-bit) and/or **“DPDFRenderNative_x64.dll”** (64-bit) in your output file path location. Without these files, the program will fail when attempting to use the OCR engine. These files can be copied from the Standard OCR bin folder.

3.1.3 Extended OCR

A reference to **"Aquaforest.ExtendedOCR.API"** should be included in your application to use the Extended OCR API. You can also add a reference to **"Aquaforest.ExtendedOcr.Shared"** to access the results of the OCR on a word-by-word basis, allowing access to both word and character results, including positional information.

The Extended OCR bin folder, found at "[Install location]\Aquaforest SDK\OCR\Extended\bin\resources", must be set as the resource folder when setting up the Extended OCR Engine. You must also have the files **"DPDFRenderNative_x86.dll"** (32-bit) and/or **"DPDFRenderNative_x64.dll"** (64-bit) in your output file path location. Without these files, the program will fail when attempting to use the OCR engine. These files can be copied from the Extended OCR bin folder.

3.1.4 Cloud OCR

To use the Cloud OCR API, a reference to both **"Aquaforest.CloudOCR.API"** and **"Aquaforest.CloudOCR.Shared"** must be included. Your program should then have access to the Aquaforest API and both Cloud Engines.

The Cloud OCR bin folder, found at "[Install location]\Aquaforest SDK\OCR\Cloud\bin", must be set as the resource folder when instantiating the CloudOCR class. You must also have the files **"grpc_csharp_ext.x86.dll"** (32-bit) and/or **"grpc_csharp_ext.x64.dll"** (64-bit) in your output file path location. Without these files, the program will fail when attempting to use the Google Cloud engine. These files can be copied from the Cloud OCR bin folder.

3.1.5 PDF Toolkit

A reference to **"Aquaforest.PDF"** will give you most of the functionality for the PDF Toolkit module in your program. There are a few situational API references that can be made in addition, such as the **"Aquaforest.Office.PDF"** reference for office conversions. Other references include **"Aquaforest.PDF.Font"** and **"Aquaforest.PDF.Model"**, and examples of their uses can be found in the sample projects at "[Install location]\Aquaforest SDK\PDF Toolkit\samples\src\Samples.sln".

3.1.6 Barcode Recognition

References to both **"Aquaforest.BarcodeReader.API"** and **"Aquaforest.BarcodeReader.Shared"** must be included in your program to be able to use the ZXBarcode engine.

3.1.7 Data Extractor

To use the Data Extractor API, a reference to **"Aquaforest.DataExtractor.API"** must be included in your application. This will allow you to use methods to retrieve key/value pairs from documents in your program.

You must also have the files **"DPDFRenderNative_x86.dll"** (32-bit) and/or **"DPDFRenderNative_x64.dll"** (64-bit) in your output file path location. These files are necessary for the functioning of the Recognition Engine and can be copied from the Recognition Engine bin folder.

3.2 Deploying C# and VB.NET Applications

Any deployment method should ensure that the target system meets the requirements (see Section 2.2) and install Visual C++ 2017 Redistributable package and .NET Version 4.7.2 framework, if necessary, in addition to the full contents of the specific SDK module's **bin** folder.

The SDK also contains an in-built functionality to detect if all the essential assemblies and files required for the SDK are present. If they are not, an exception will be thrown listing all the files that are missing.

3.3 Deploying ASP.NET Applications

The same two approaches that work for C# and VB.NET can also be employed for ASP.NET applications. Note that with trial licenses, a pop-up dialog box appears on the server.

3.4 Licensing

Production system deployment requires that a license string be defined in the code. The license string decides the number of concurrent processes that can be run.

- For Extended OCR, it needs to be set before making an OCR instance.
- A PDF Toolkit license must be set before using any related tools.
- The Barcode Reader needs to have its license set after instantiating a reader.
- For other modules, you pass the license key to the constructor.

For example:

```
string license = "MT0xMjM0NTY7BLk4uT3RoZX0zM9NDs0PVRydWEYzMDRF0EQxMzg0QkQ5ODREQTk3RQ";
```

- **STANDARD OCR**
`Ocr ocr = new Ocr(license, resourcePath, logger);`
- **EXTENDED OCR**
`ExtendedOcrEngine.SetupOcr(license, resourcePath);`
- **CLOUD OCR**
`CloudOcr ocr = new CloudOcr(license, resourcePath, logger);`
- **PDF TOOLKIT**
`PDFToolkit.LicenseKey = license;`
- **DATA EXTRACTOR**
`RecognitionEngine recognitionEngine =
 new RecognitionEngine(license, resourcePath, logger);`
- **BARCODE READER**
`BarcodeReader reader = new BarcodeReader(settings, logger);
reader.License = license;`

4 Technical Support

Please contact Aquaforest Technical Support with any queries by email at support@aquaforest.com. If required, telephone support is also available; please contact Aquaforest using the telephone contact details provided on the company website contact page.