

# Job Ticket Builder

## User Guide

**Version 4.5.0**



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## 1 Introduction

Adlib's Job Ticket Builder (JTB) is a useful component distributed along with Adlib's products, that allows a user to easily read, create, and modify XML Job Tickets through programmatic means. The library exposes a JobTicket class that allows the user to easily create and modify XML job tickets from within their Adlib integration. The JobTicket class mirrors the structure of Adlib's DTD, with corresponding defaults.

Details regarding the job ticket structure can be found in the **Express XML Job Ticket User Guide**, distributed with both Express and Express Web Services. This guide relies on a understanding of the XML job ticket format; the specifics of which, along with other useful information, can be derived from the **Express XML Job Ticket User Guide**.

As well as the JobTicket class, there are three other helper classes exposed in the library.

- XmlJobTicketReader is used to read in a job ticket from a stream or file
- XmlJobTicketWriter allows the user to write out a job ticket to a stream or file
- JobTicketBuilder is a utility allowing easy application of job ticket templates to job tickets

This guide outlines examples showing how to use these classes in conjunction, to achieve a successful integration.

## 2 Adlib.JobTickets Reference

To use Job Ticket Builder functionality in a project, a reference will be needed to the .dll. The Adlib.JobTickets.dll can be found in the installation directory of Express or Connector. For .Net projects, once the reference has been added, a `using Adlib.JobTickets;` directive can be added to give easy access to the namespace.

## 3 JobTicket Class

The main representation of an Adlib XML job ticket is the JobTicket class. The structure of this class is a mirror of the Adlib Express DTD. This allows for programmatic manipulation of all the settings in a given job ticket.

```
//instantiate a JobTicket object
JobTicket objJobTicket = new JobTicket();

//properties of the JobTicket elements can be set directly
objJobTicket.Settings.Merge = true;

//collection items must be declared ahead of time...
DocInput objDocInput = new DocInput();
objDocInput.Filename = "test.doc";
objDocInput.Folder = @"c:\inputs";

//... and then added to the appropriate collection
objJobTicket.Inputs.Add(objDocInput);
```

## 4 XMLJobTicketReader

The XMLJobTicketReader class will read from a string or a file, and return a job ticket.

```
JobTicket objJobTicket;

//job tickets can be read from a file...
XMLJobTicketReader objReader = new XMLJobTicketReader();
objJobTicket = objReader.Read(@"c:\path\ticket.xml");

//... or from a string
string strJobTicketXML = "<?xml version=\"1.0\" encoding=\"UTF-16\" ?>" +
    "<?AdlibExpress applanguage=\"USA\" appversion=\"4.5.0\" dtdversion=\"2.5.2\" ?>" +
    "<!DOCTYPE JOBS SYSTEM \"C:\\Adlib Express\\DTD\\AdlibExpress.dtd\">" +
    "<JOBS xmlns:JOBS=\"http://www.adlibsoftware.com\" xmlns:JOB=\"http://www.adlibsoftware.com\">" +
    "<JOB><JOB:DOCINPUTS><JOB:DOCINPUT FILENAME=\"InputFile.doc\" FOLDER=\"C:\\Inputs\" />" +
    "</JOB:DOCINPUTS><JOB:DOCOUTPUTS>" +
    "<JOB:DOCOUTPUT FILENAME=\"OutputFile.pdf\" FOLDER=\"c:\\Outputs\" DOCTYPE=\"PDF\"/>" +
    "</JOB:DOCOUTPUTS></JOB></JOBS>";

objJobTicket = objReader.ReadXMLString(strJobTicketXML);
```

## 5 XMLJobTicketWriter

The XMLJobTicketWriter class will take a job ticket object, and output it as XML, either written to a file, or to a string.

```
XMLJobTicketWriter objWriter = new XMLJobTicketWriter();

//the Job Ticket Writer will output the Job Ticket object to an xml string...
string strJobTicketXML = objWriter.ToString(objJobTicket);

//...or it will write it to a file.
string strOutputPath = @"c:\JobTicket.xml";

//Remember to set the proper encoding when writing to a file!
objWriter.XmlEncoding = Encoding.Unicode;
bool blnResult = objWriter.Write(objJobTicket, strOutputPath);
```

## 6 JobTicketTemplates

An XML job ticket has the capacity to contain or reference one or more job ticket templates. Job ticket templates are basically partial job tickets, which can apply their settings to their parent job ticket. For more details about templates, please see the XML Job Ticket User Guide.

Inside of the JobTicket object, templates are represented by the JobTicketTemplate class, and can be added to the JobTicketTemplates collection of the JobTicket class. Templates can either be an external file, as represented by the Path property of the JobTicketTemplate object, or as a Base64 stream stored directly in the job ticket.

```
//retrieve the template object from the templates collection
//be sure to check that the collection isn't empty before retrieving an object
JobTicketTemplate objTemplate = (JobTicketTemplate)objJobTicket.JobTicketTemplates[0];

//the Mode property determines how the template is applied to the job ticket
//specifically, relating to existing collections which are modified by the template
//see the XML Job Ticket User Guide for more details
objTemplate.Mode = TEMPLATEMODE.Merge;

//here is a template represented by a stream
//when viewed as xml, this would appear as a garbled characters near the bottom of the ticket
objTemplate.StreamEncoding = STREAMENCODING.Base64;
objTemplate.Stream = "...some base64 stream...";

//alternatively, the template can be an externally referenced file
//in the xml ticket, the path will appear exactly as described here
objTemplate.Path = @"c:\path\template.xml";
```

## 7 JobTicketBuilder

The JobTicketBuilder class allows any job ticket to be applied to another, as if it were a template. This mimics the behaviour inside of Adlib Express, when it applies a job ticket template to an XML job ticket. The difference here is that the JobTicketBuilder class takes as an argument, a JobTicket object, as opposed to a JobTicketTemplate argument. The JobTicket objects are not required to be complete valid XML job tickets, though, and therefore are exactly like job ticket templates.

```
//the job ticket builder can be instantiated using a source job ticket
//this will act as the parent job ticket, to which other tickets are applied
JobTicketBuilder objTicketBuilder = new JobTicketBuilder(objJobTicket);

//alternatively, you can assign a job ticket manually to the builder class
objTicketBuilder.JobTicket = objJobTicket;

//the BuildActivity property affects how collections are handled
//this is analagous to the template behaviour above
objTicketBuilder.DefaultBuildActivity = BUILDACTIVITY.Merge;

//other tickets can now be read in and applied to the parent ticket
JobTicket objAnotherTicket = objReader.Read(@"c:\path\jobticket.xml");
objTicketBuilder.ApplyTemplate(objAnotherTicket);
```

Here is an example of how one or more job ticket templates could be applied to a ticket

```
//instantiate the job ticket builder using our main job ticket
JobTicketBuilder objTicketBuilder = new JobTicketBuilder(objJobTicket);

//loop through all the templates in the ticket
foreach (JobTicketTemplate template in objJobTicket.JobTicketTemplates)
{
    //read the job ticket template into a job ticket object
    //this uses an xml job ticket reader object
    JobTicket objTemplateTicket = objReader.Read(template.Path);

    //apply that ticket to the builder
    objTicketBuilder.ApplyTemplate(objTemplateTicket);
}

//all the templates have been applied using the job ticket builder
//reassign the builder's ticket to our main ticket
objJobTicket = objTicketBuilder.JobTicket;

//the templates have already been applied, they can be removed from the ticket
objJobTicket.JobTicketTemplates.Clear();

//the job ticket has had all the settings stored in the templates applied to it
```

## Appendix A – Glossary

- DTD – Document Type Definition. An XML Schema language.
- Express XML Job Ticket – see XML Job Ticket (below)
- XML – Extensible Markup Language.
- XML Job Ticket – An XML-formatted piece of text used by Express Server to process job instructions. For further details, refer to the **Express XML Job Ticket User Guide** (installed with Express Server).
- XML Job Ticket Template – An XML-formatted piece of text used by Express Server to process job instructions. For further details, refer to the **Express XML Job Ticket User Guide** (installed with Express).

## Appendix B – Contact Adlib Software

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