



ADOBE® AIR™

# Adobe Integrated Runtime

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About me..

- Work at FusionLink, ColdFusion / Flex hosting provider in Atlanta
- Been using ColdFusion since version 2 and Flex since version 4
- Only been using Flex this year and AIR since July
- Contributed to the CFDJ and several of the CF and Flex lists
- Board member of the Atlanta ColdFusion User Group
- Founded and started the Atlanta Flash/Flex User Group
- Certified Advanced CF and Adobe Flex Champion

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If you have any questions, my email is..  
[mason@fusionlink.com](mailto:mason@fusionlink.com)

Notes, slides and code samples will be posted at  
<http://labs.fusionlink.com>

A revised version of this presentation will be posted on labs and..  
<http://www.carehart.org/ugtv>

The next 360|Flex Conference is in Atlanta, Feb 25-27, 2008  
<http://www.360conferences.com/360flex/>



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What is AIR?

- Adobe Integrated Runtime (AIR)
- cross-operating system runtime for the desktop environment
- supported for Windows and Mac OS X
- Linux is coming after the initial release



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AIR is NOT..

- Flash projector file
- Flash player for the desktop

AIR is a runtime environment just like Java's JVM or Microsoft's .NET Framework.

But note,  
Just like Java applications,  
To run AIR applications the user needs the runtime first



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How can you build AIR applications?

You can write them with your existing web development skills

- HTML
- AJAX
- Flash
- Flex



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## What's inside AIR Framework?

- Actionscript 3 JIT compiler, which provides 10x speed improvement over Flash Player 8
- Open source WebKit engine for HTML ([webkit.org](http://webkit.org))
  - same browser framework that powers Safari and iPhone
- Open source Tamarin VM for Flash ([mozilla.org/projects/tamarin](http://mozilla.org/projects/tamarin))
  - ECMAScript engine
  - mozilla.org project
  - supported by Adobe
  - core JavaScript engine embedded in Firefox
  - also helps power Actionscript in the Flash player





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## What's inside AIR Framework?



### -SQLite engine (sqlite.org)

- a lightweight database engine written in C

- complete SQL database with multiple tables, indices, triggers, and views, is contained in a single disk file

- implements most of the SQL-92 standard

- it's missing

- foreign key constraints

- transactional constraints



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- SQLite engine (sqlite.org)
  - Some common SQLite limits
    - Does not support joins containing more than 64 tables
    - Maximum number of bytes in the text of an SQL statement is 1 million
    - Maximum number of bytes in a string or BLOB is 1 billion
    - Selects are multi-threaded, but changes are single threaded
- It is dependable and used by..
  - Firefox
  - some PDAs
  - and now AIR



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## Building AIR with HTML and AJAX

- There a free Aptana plugin for Eclipse - <http://www.aptana.com/>
- Dave Watts of FigLeaf, presentation at <http://figleaf.mmalliance.acrobat.com/p93875693/>

But..

- No interactive debugger with building AIR with HTML/AJAX
- Just have `air.trace()` function to debug



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## Building AIR with Flash

- There is a update for Flash CS3 Professional

[http://labs.adobe.com/wiki/index.php/AIR:Flash\\_CS3\\_Professional\\_Update](http://labs.adobe.com/wiki/index.php/AIR:Flash_CS3_Professional_Update)

## Building AIR with Flex

-Will be supported in the next released of Flex Builder 3 and the SDK

Also..

-There is an AIR SDK

<http://labs.adobe.com/downloads/airsdk.html>



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When posting AIR apps for download on common Web Servers

You may need to add a MIME type so the web server knows what the .air file extension is.

`application/vnd.adobe.air-application-installer-package+zip`



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## AIR Security Model

- Same install/removal procedure
- All AIR apps are required to be digitally signed
- AIR runtime security model of sandboxes is composed of the Flash Player security model with the addition of the application sandbox.
- However, unless there are OS policies in place, an AIR application can write anywhere on the filesystem

### Things to watch for

- External sources determining local file paths
- Importing files into the application sandbox
- Take care with credentials; encryption, transmission, etc.





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Links:

Encryption Code

<http://code.google.com/p/as3corelib/>

SQLite Admin

<http://coenraets.org/blog/2007/10/new-air-sqlite-administration-app-with-source-code/>

AIR Security Model

[http://download.macromedia.com/pub/labs/air/air\\_security.pdf](http://download.macromedia.com/pub/labs/air/air_security.pdf)

Labs.adobe.com

Flex.org

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Thanks for coming

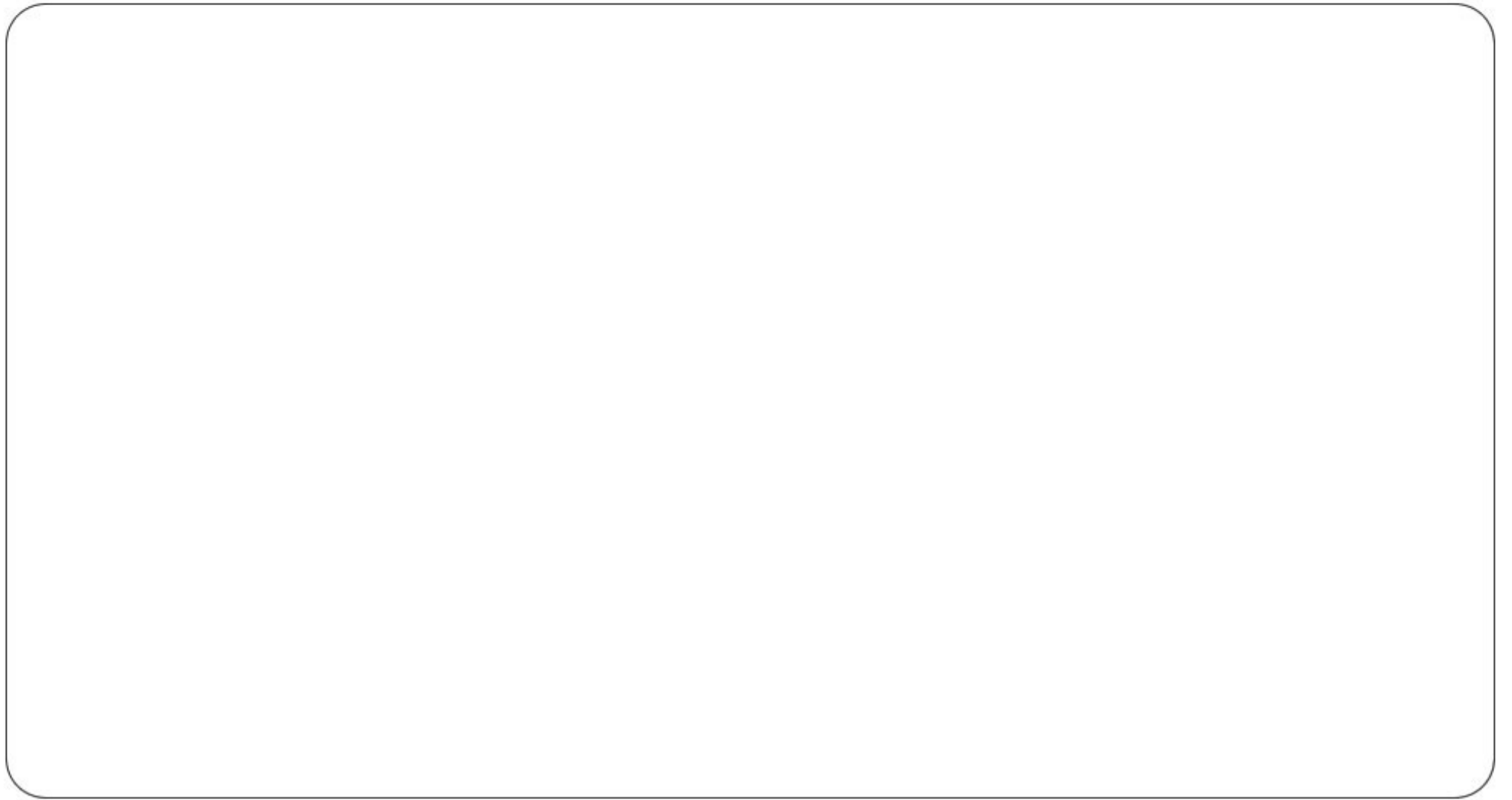
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