Adobe AIR Support

Adobe AIR™ is a runtime environment that allows Rich Internet Applications (RIAs) to be deployed as standalone desktop applications. A powerful advantage for these *browserless* RIAs is that they are given unlimited local storage and file system access. This also means they are given the ability to work offline and they have much greater flexibility to handle data locally as opposed to an RIA in a browser.
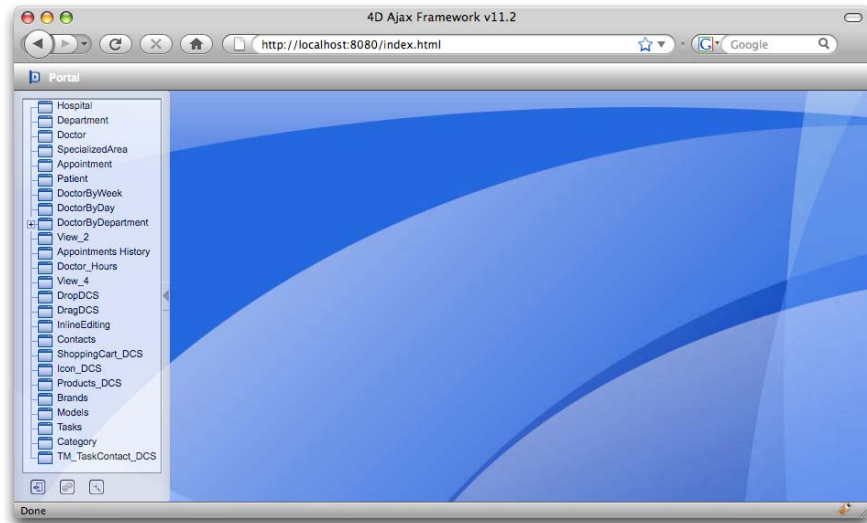
Enter the 4D Ajax Framework (4DAF), which supports Adobe AIR in two fashions:

- The 4DAF Client (*seen when users typically connect to localhost/index.html*) is now also deployed as an Adobe AIR application.
- The 4DAF Framework is now Adobe AIR compatible. Developers can build their own Adobe AIR applications and incorporate the 4DAF (such as the Data Grid object) into their application. More intriguingly, they can instead build their own user interface and use the 4DAF's Bridge to communicate with the 4D backend.

For more information on Adobe AIR, take a look at http://www.adobe.com/products/air/.
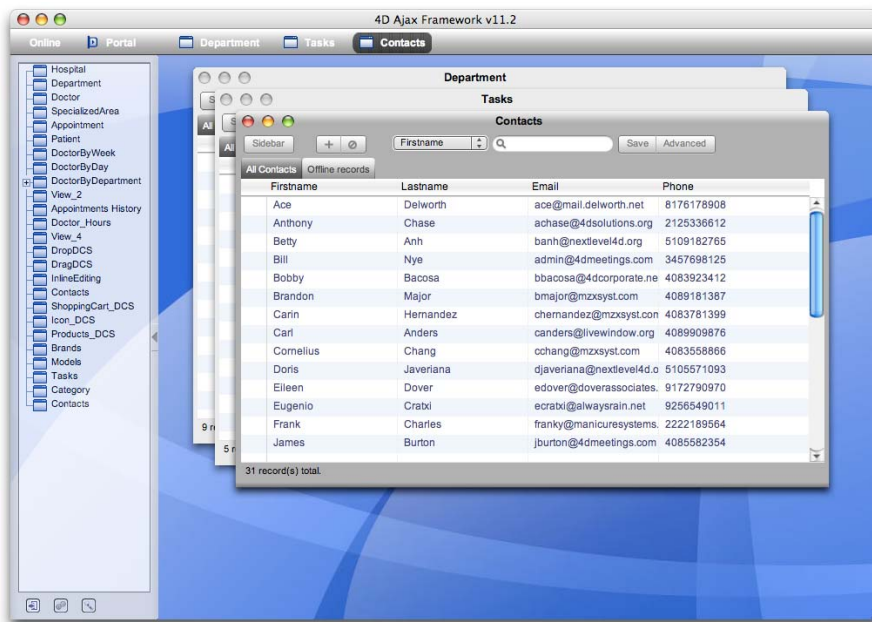
4DAF client with Air

When 4D Developers have typically installed the 4DAF to their databases they were provided with a Rich Internet Application out of the box, the 4DAF Client. Developers would connect to this application by entering their web server's URL, such as http://localhost:8080/index.html for example, within their web browser (*as seen below*).
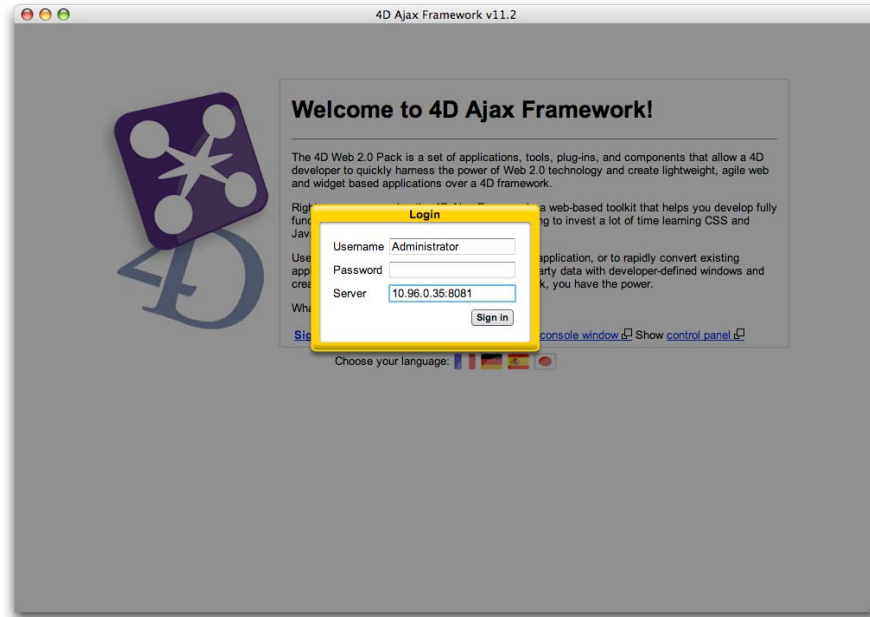

The 4DAF Client as seen in a web browser

Now with Adobe AIR in the picture, the 4DAF Client is also deployed as an Adobe AIR application offering the same power and functionality as before.

The same 4DAF Client as an Adobe AIR application

Remember that in order to run this or any other Adobe AIR application, you must first install Adobe AIR onto your machine. Adobe AIR can be downloaded at http://www.adobe.com/products/air/.

Login

One minor difference is that the Adobe AIR 4DAF Client starts up with a splash login screen where the user must provide a valid URL that points to the 4D Server as well as a username and password. For convenience, username and server URL are saved for future login attempts.

Adobe AIR Apps with the 4DAF

There are three ways of developing Adobe AIR Applications:
- Adobe Flex Builder
- Adobe Flash
- HTML/Ajax

For more information on Adobe Flash and Adobe Flex please see the Adobe developer website http://www.adobe.com/devnet/air/.

> For the purposes of this product, we will cover Adobe AIR development using HTML/Ajax.

To create an HTML/Ajax Adobe AIR application that is compatible with the 4D Ajax Framework, only two steps are necessary:

- Include linking libraries
- Point to the 4D server

Include Linking Libraries

You need to link to two libraries, *AirAliases.js* and *Airsupport.js,* in your HTML page in order to make your Adobe AIR application compatible with the 4D Ajax Framework.

AirAliases.js is a library provided by Adobe to make JavaScript compatible with Adobe AIR.

Airsupport.js is a library provided by 4D to make the 4DAF compatible with Adobe AIR.

Here's an example where these libraries are included (in bold below).

```
<!-- default 4DAF library files -->
<script language="javascript" type="text/javascript" charset="ISO-8859-1"
src="/dax/dev/callbacks.js"></script>
<script language="javascript" type="text/javascript" charset="utf-8"
src="/dax/js/localization/resources_en.js"></script>
<script language="javascript" type="text/javascript" charset="ISO-8859-1"
src="/dax/js/compile.js"></script>

<!-- support for Adobe AIR -->
<script src="dax/external/AIRAliases.js" type="text/javascript"></script>
<script language="javascript" type="text/javascript" charset="ISO-8859-1"
src="/dax/js/air/airsupport.js"></script>
```

Point 4DAF to 4D server

After linking the libraries, 4DAF needs to know the IP address of the 4D server. This is notably because the page is not served from 4D but rather is part of a desktop application. To point to the 4D Server, call the following command when web page is fully loaded:

```
dax_air_setURL(serverUrl);
```

For example, if the 4D server resides at http://my4dserver.com:8000, call the following:

```
dax_air_setURL('http://my4dserver.com:8000');
```

Sample page

This is a simple example that displays the <HEAD> element of a 4DAF enabled Adobe AIR application page. Note that it is a bare minimum example because it holds the following:

- The Adobe AIR supported libraries (as well as 4DAF libraries)
- The *dax_air_SetURL()* command to point to the 4D Server
- The *dax_login()* function to login

For those wanting to develop Adobe AIR applications with the 4DAF, this sample serves as a good starting point.

```
<?xml version="1.0" encoding="utf-8" ?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">

<head>

<title>4DAF Adobe AIR sample page</title>

<!-- link to 4DAF libraries with English localization -->
<script language="javascript" type="text/javascript" charset="ISO- 8859-
1" src="dax/dev/callbacks.js"></script>
<script language="javascript" type="text/javascript" charset="ISO- 8859-
1" src="dax/js/compile.js"></script>
<script language="javascript" type="text/javascript" charset="utf-8"
src="/dax/js/localization/resources_en.js"></script>

<!-- link to 4DAF Adobe AIR support library -->
<script language="javascript" type="text/javascript" charset="ISO- 8859-
1" src="dax/js/airsupport.js"></script>

<!-- Adobe AIR required script -->
<script language="javascript" type="text/javascript" charset="ISO-8859-1"
src="dax/external/AIRAliases.js"></script>

<!-- Adobe AIR extension for Introspect debugger, optional -->
<script language="javascript" type="text/javascript"
src="dax/external/AIRIntrospector.js"></script>

<!-- 4DAF CSS -->
<link charset="ISO-8859-1" href="dax/themes/leopard/leopard.css"
media="all" type="text/css" title="Leopard" />


<!-- initialization code that sets 4D URL, runs when web page is loaded -
-->
  <script language="javascript">
     window.onload = function() {
        // set server address
        dax_air_setURL('http://my4dserver.com:8000');

        // perform login
        dax_login('myUsername', 'myPassword');
     }
   </script>

</head>
```

Working Example

Part of the 4D Web 2.0 Pack installer is a demo database named *4DAF v11.2 Demo.* This is a demo database that demonstrates many of the latest features of the 4D Ajax Framework. In Release v11.2 of the framework, an Adobe AIR application comes bundled as well. First, launch the demo database in 4D.
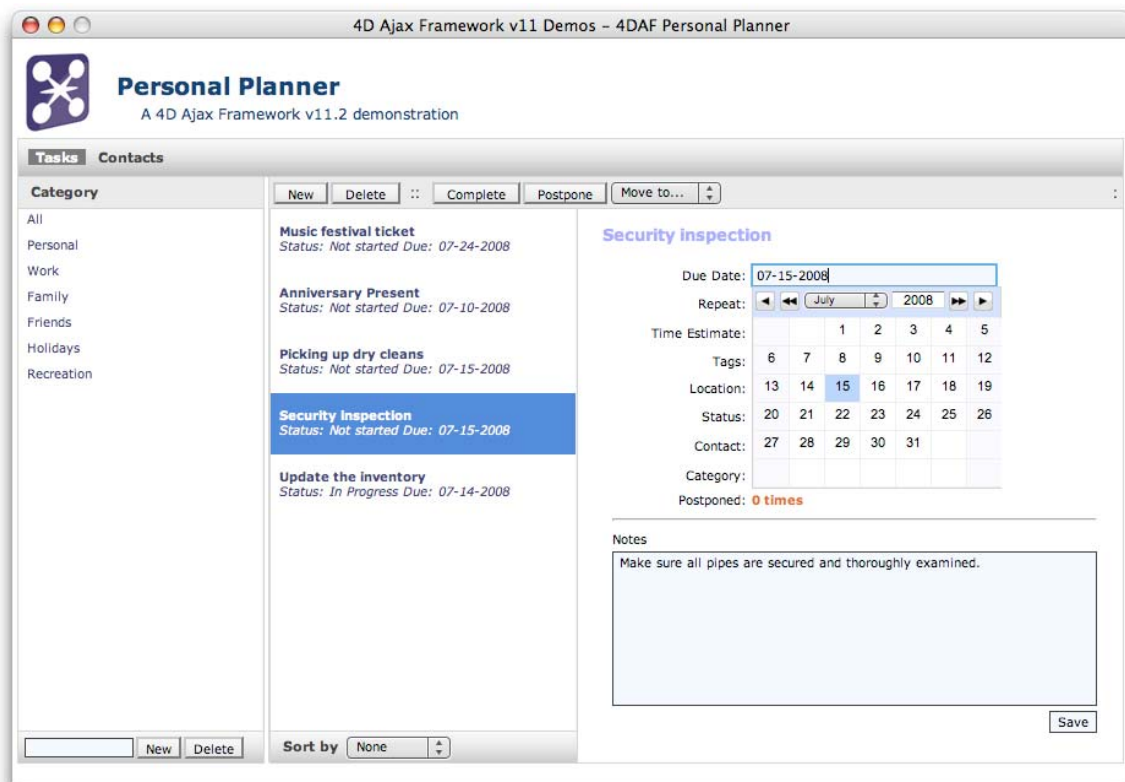
Next to the database structure is the installer for the *Personal Planner* Adobe AIR application (named *4DAFPersonalPlanner.air*). Launch the installer and follow the instructions to install it on your system. After installation is complete launch the *Personal Planner* Adobe AIR application.
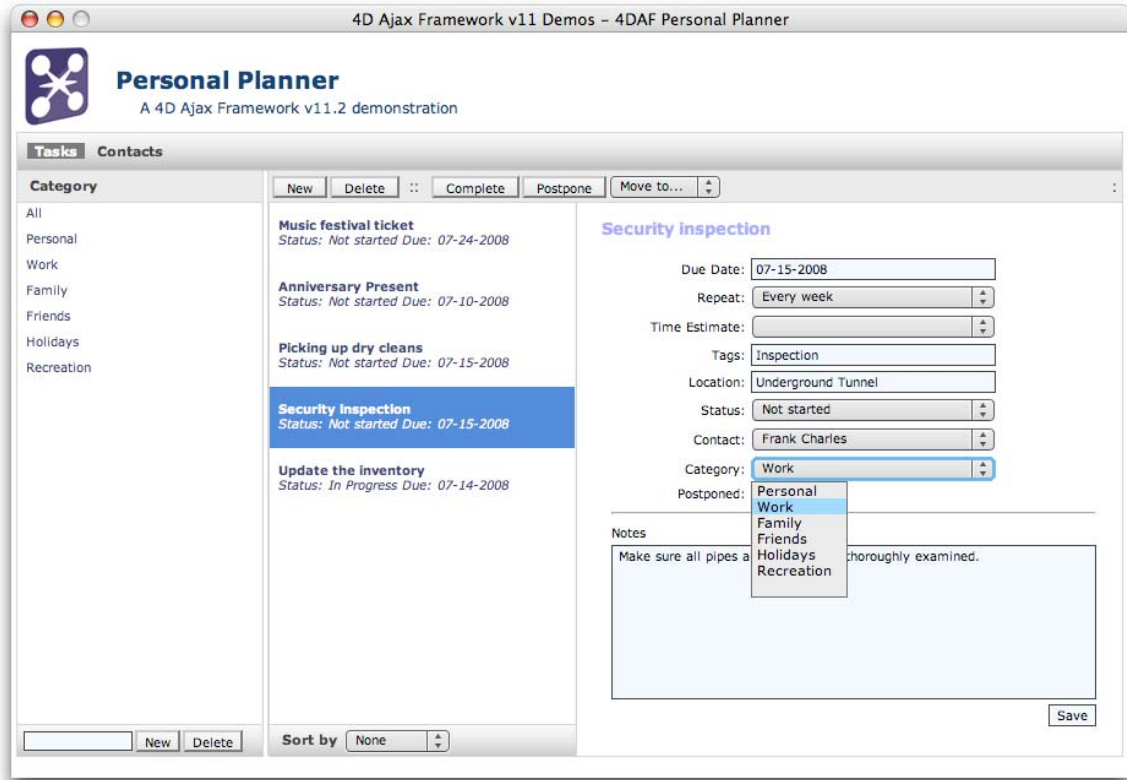
In order to run this or any other Adobe AIR application you must first have Adobe AIR installed. Adobe AIR can be downloaded at http://www.adobe.com/products/air/.

This is not a full-featured personal planner, but rather an example of what you can do with the 4DAF and Adobe AIR.

This particular application is configured to run on the same machine that is running the *4DAF v11.2 Demo.* It is different from the Adobe AIR 4DAF Client where the user can enter the URL of the server. This application is hard coded to run on the local machine.

Here is a look at the *Personal Planner* Adobe AIR application:

The interface is exactly the same as the Personal Planner application for web browsers. The only difference is that Offline Mode is not currently supported in this Adobe AIR version. We will add Offline support for Adobe AIR in an upcoming release.