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# Andromeda Trader Deployment Guide

Andromeda Trader is a space-trading game set in a simulated galaxy, where C# algorithms written by players guide spaceships in search of wealth through trade and piracy.

This deployment guide helps you with localizing Andromeda Trader and deploying it on your own Azure subscription. The guide assumes experience with Azure and ASP.NET.

We tried to package it as well as we could. However, primarily due having to localize the project, launching your own copy of Andromeda will still take between 1 and 8 hours.

If you have any questions or issues regarding the game, e-mail me at balint.farkas@windowslive.com.
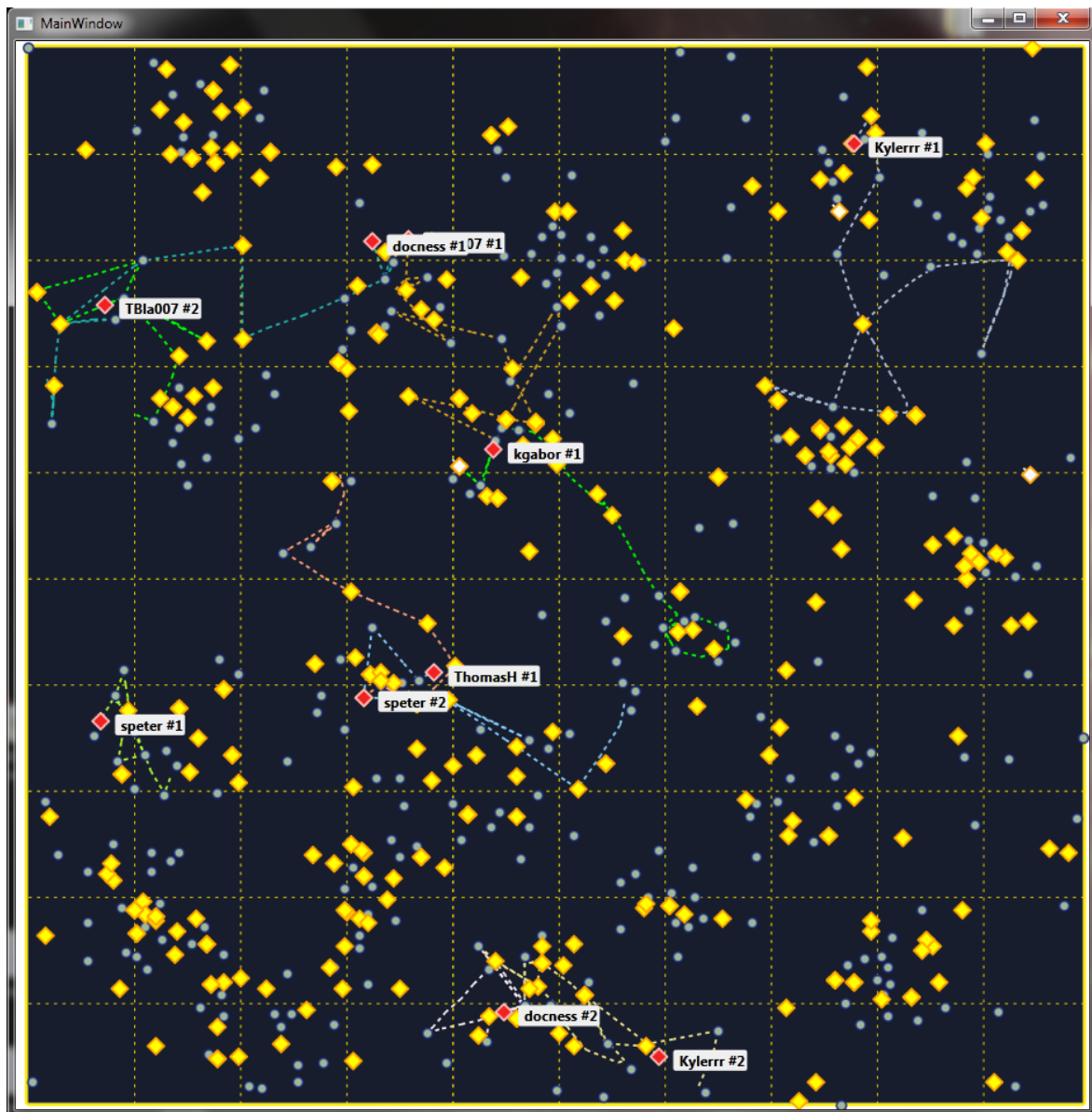


*Screenshot of a WPF starmap viewer written by Minstait, a Hungarian fan of the game*

The project consists of two main parts:

- The server, which is the central component that serves the web site and simulates the galaxy,
- and the Scaffold, which is basically a Visual Studio template that takes care of communicating with the server via web services, leaving the players free of such concerns and enabling them to focus on writing their algorithms.

The deployment steps are:

1. Extract the Andromeda Trader source (you should have gotten it along with this guide).
2. Create an Azure subscription. Inside the subscription, create a hosted service, a storage account and a SQL Azure server.
3. The source includes a backup of a SQL Azure database (in a BACPAC file). Import this to your SQL Azure server. This BACPAC includes the tables and stored procedures required by Andromeda Trader. It also includes the default administrator user:
   Username: admin
   Password: tdZRtfa977ndzTQDAqVE
   Andromeda Trader uses standard ASP.NET Membership. Administrator users should be members of the „Administrator" role. The sole difference between administrators and non-administrators is that administrator users may use the galaxy generation tools to create and recreate the galaxy. You should change the password of this user (by using Visual Studio's built-in ASP.NET configuration tool once the Web Role is set up in Step 5).
4. Andromeda Trader is in English. You need to enter the description of your local competition (such as available prizes) into the files, and you can also localize the files to your own language if you so wish. The necessary steps are:
   a. In the AndromedaServer.WebRole project, go through the ASPX files and localize the markup (the text in HTML) plus enter competition details to the appropriate places (these will be marked).
   b. Open Localization.resx and localize all strings inside. These strings are used by Andromeda Trader's web services and Javascript interface.
   c. In the AndromedaScaffold.WorkerRole, go through the code files and localize the code comments. These are present to make it easy for users to understand what they are doing.
5. You also need to modify some settings to have Andromeda Trader work correctly in your local environment. These are found in:
   a. the role properties of the AndromedaServer.WebRole project; you should set the Storage Account in the diagnostic connection string of the role to something meaningful. The role tracks CPU and memory use, both of which are instrumental in assessing when the role needs to be scaled out.
   b. the web.config file of the AndromedaServer.WebRole project; here, you'll be able to set your local time zone, the connection string of your SQL Azure database and the URL of your support forum for players. (Having one is highly recommended; this provided an essential meeting and discussion ground for players of the original Hungarian version of the game.),

      c.  the app.config file of the AndromedaServer.WorkerRole project; here, you'll be able to specify the root URL of the Andromeda Trader hosted service (such as http://andromedatraderdemo.cloudapp.net/),

      d.  the app.config file of the AndromedaScaffold project where you should set the URL of web service to Andromeda Trader's web role. (The PlayerGuid setting does not need to be set by you, players will do this on their own.)

6. Copy the modified app.config file from the AndromedaScaffold project to the AndromedaScaffold.zip in the AndromedaServer.WebRole project's root folder.

7. Deploy the Server component to your hosted service, then visit the hosted service URL. You should see a map screen, although it will be empty, since at this point the galaxy is without form and void.

8. Log in as the admin user and visit the Admin.aspx page. First generate the starmap (the default settings are just fine, but you can experiment if you wish). Second, you'll need to generate commodities: a set of defaults that has served us well in the Hungarian competition are:
Water|100|80|100|100|20|500|50
Dehydrated Foods|300|60|100|70|14|500|50
Crude Oil|800|400|60|60|12|500|50
Heavy Machinery|1500|300|40|30|6|100|10
Semiconductors|2000|500|30|20|4|100|10
Robots|5000|1500|20|10|2|50|5
Fusion Reactors|30000|9000|10|5|1|10|1

After this step the galaxy is now populated with stars and each star has wares for sale and trade.

9. Sign out as Administrator, and enter the competition (by clicking on the link below the large yellow note). During this procedure you'll register a new user and launch a spaceship. Download the Scaffold and run it; if everything went fine, the starmap will now display your spaceship and events will pop up on the right side of the screen.

10. Prepare a video about deploying the finished Andromeda Trader scaffold to Azure. We have such a video in Hungarian, but trying to localize this 5-minute-long video is probably more effort than recreating it from scratch. The video should be a short screencast that shows the procedure of creating an Azure Free Trial account, then packaging the user's Scaffold copy (into an Azure CSPKG package) and uploading it via the Azure Management Portal.
This video should be called AndromedaUpload.wmv and should go into the root of the Web Role (there is already a 0-byte placeholder file). This video is referenced in several locations across Andromeda. (After this step you'll need to re-deploy or upgrade your project.)

11. You are ready to launch. During the game, you should monitor the forum to answer player questions and you should also keep an eye on the load of the web role and the space available in the SQL Azure DB. Since Andromeda records every single action the players take (to make fraud detection easy), the database can grow quite large. (Of course you may purge the EventLogEntries table periodically to keep size down – this will not affect the flow of the game.)
We also recommend that you run several rounds of the game to give a chance for new players to catch up. To do a new round, simply back up the database, then drop it altogether

and restore a fresh copy, finally copying over the old users table. This last step is important – in our experience there is a minority of very active "fan" players, but the majority won't update their code continuously. Since the server identifies players by their GUIDs, if you don't migrate the users table, then your old players will be forced to re-register, get new GUIDs and thus their old Andromeda clients will no longer be able to reach the server. A lot of players won't bother with redeployment and you'll lose a significant amount of activity.

We hope that you and your audience will like Andromeda Trader. Although this version of the game was stress-tested by a month-long competition and a group of inquisitive players who did their best to pry it apart, some issues still might pop up during deployment or gameplay. In such a case, do not hesitate to contact us.

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*The Andromeda Galaxy, 2.6 million light-years from Earth. Hubble Space Telescope*