Rapid Miner in Amazon EC2

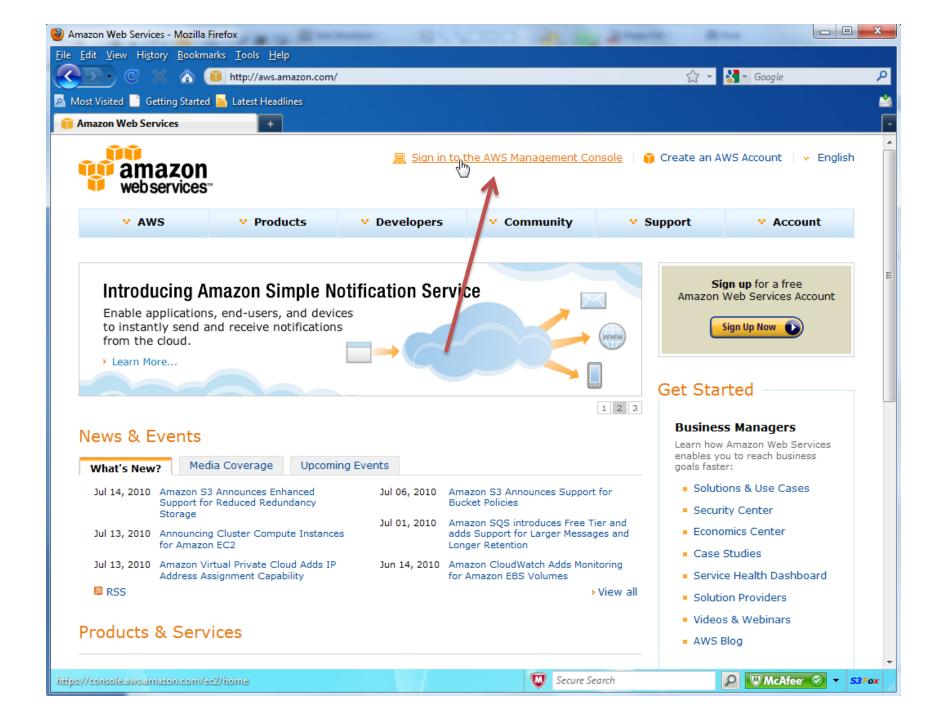
Short Guide

Things you need to have before you start this guide

- An account with Amazon
- An account with Amazon AWS (Amazon Web Services):
- https://aws-portal.amazon.com/gp/aws/developer/registration/index.html
- The first time you sign in, you will have to create your "Access Keys"
- I did this a long time a go. I recommend you watch: http://www.youtube.com/watch?v=RkVSkL76U-M

Signing in

Go to http://www.amazon.com/aws and sign in



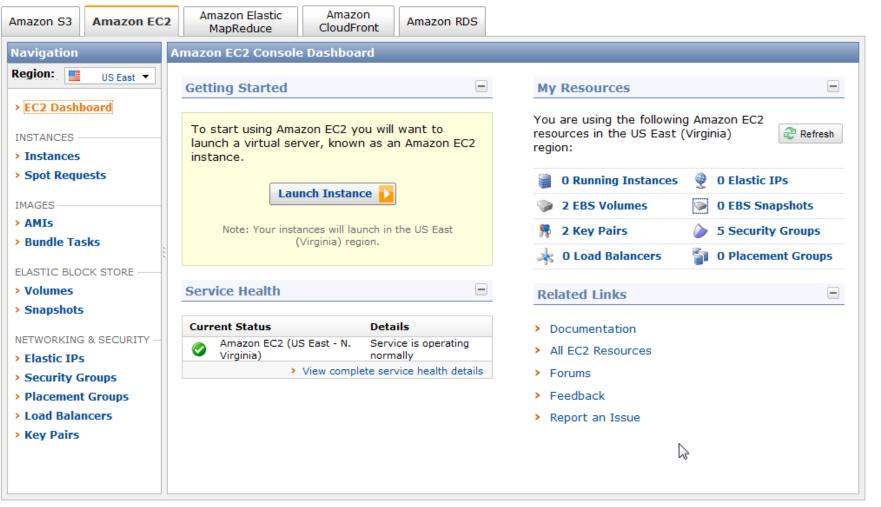
| <u>AWS</u> | <u>Products</u> | <u>Developers</u> | Community | <u>Support</u> | <u>Account</u> |
|------------|-----------------|-------------------|-----------|----------------|----------------|
|------------|-----------------|-------------------|-----------|----------------|----------------|

Amazon Web Services Sign In

You may sign in using your existing Amazon account or you can create a new account by selecting "I am a new user."

| My e-mail address is: | |
|-----------------------|---|
| 0 | I am a new user. |
| • | I am a returning user and my password is: |
| | |
| | Sign in using our secure server |
| | Forgot your password? |
| | Has your e-mail address changed? |

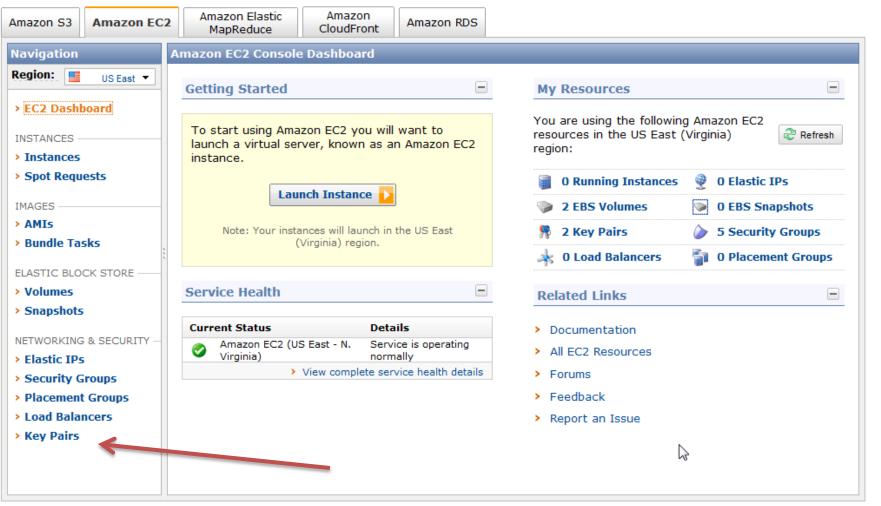
- After you sign in, you are taken directly to the EC2 Dashboard
- Here you can check your instances running
- Obviously, when you start you will have none



Support

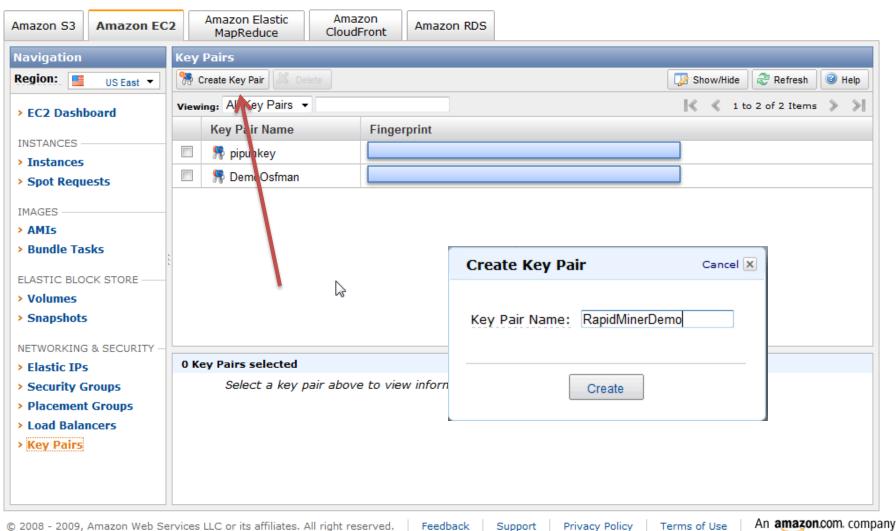
Key-Pair

- Before we can run an instance, we have to create a key-pair (don't ask me what this is; it is part of the security protocol)
- You'll only have to do this once (the key-pairs are reusable)
- Click Key-Pairs on the left pane

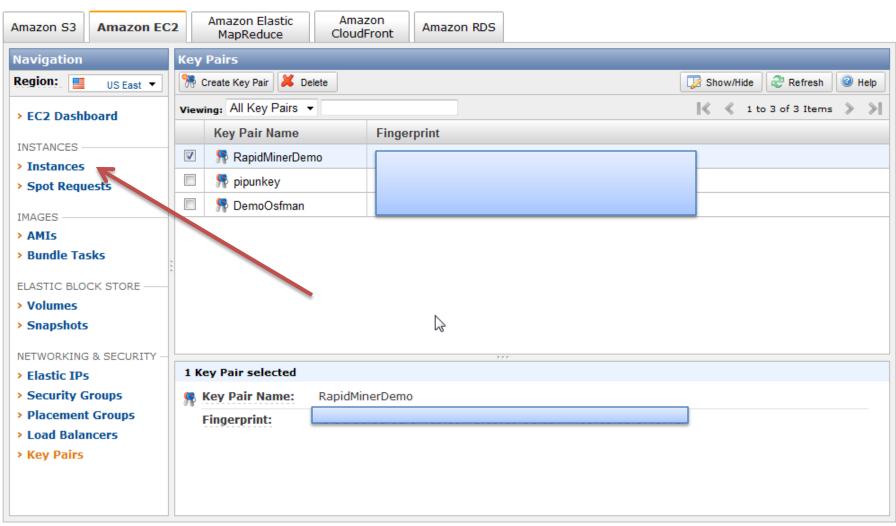


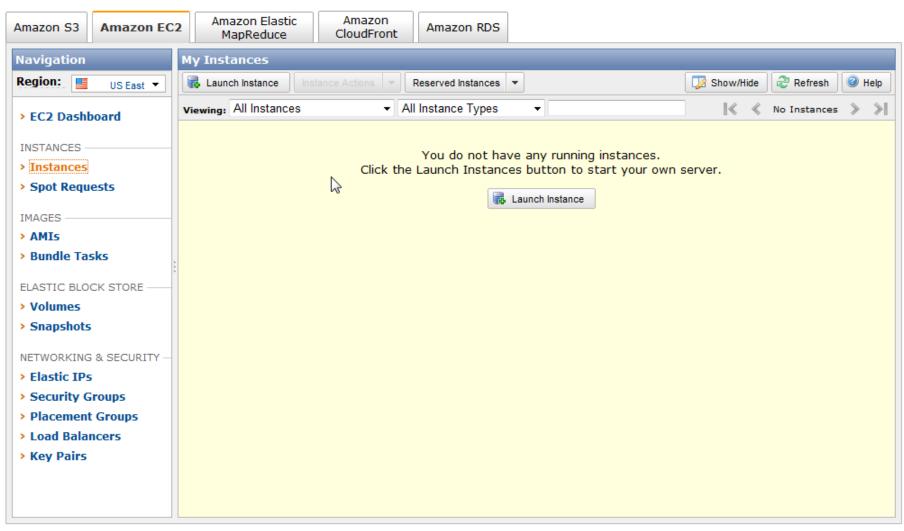
Support

- (I have two key-pairs already created, but let's create one)
- Click the button "Create Key Pair"
- Give the key the name you want. Here I'm naming it RapidMinerDemo
- A file named RapidMinerDemo.pem will be created. Save it in your computer.
- We will need this key later on



Now click on Instances on the left pane





- Click on the the button "Launch Instance"
- You'll get the "Request Instances Wizard"
- Scroll down until you find "Basic 64-bit Windows Server 2008", AMI Id: ami-d9e40db0
- Click the button "Select" next to the instance's name



INSTANCE DETAILS

CREATE KEY PAIR

CONFIGURE FIREWALL

REVIEW

Choose an Amazon Machine Image (AMI) from one of the tabbed lists below by clicking its Select button.

| Quick Start | My AMIs Community AMIs | |
|---------------------|---|------------|
| fedora ⁹ | Basic 64-bit Fedora Core 8 (AMI Id: ami-86db39ef) Fedora Core 8, 64-bit architecture, and Amazon EC2 AMI tools. | Select D |
| Mindows: | Getting Started on Microsoft Windows Server 2008 (AMI Id: ami-c5e40dac) Microsoft Windows Server 2008 R1 SP2 Datacenter edition, 32-bit architecture, Microsoft SQLServer 2008 Express, Internet Information Services 7, ASP.NET 3.5. | Select 🔼 |
| Mindows: | Basic Microsoft Windows Server 2008 (AMI Id: ami-c3e40daa) Microsoft Windows 2008 R1 SP2 Datacenter edition and 32-bit architecture. | Select 🔼 |
| Mindows: | Basic 64-bit Microsoft Windows Server 2008 (AMI Id: ami-d9e40db0) Microsoft Windows 2008 R1 SP2 Datacenter edition and 64-bit architecture. | Select [2] |
| Mindows: | Microsoft SQLServer 2008 on Windows Server 2008 (AMI Id: ami-dde40db4) Microsoft Windows Server 2008 R1 SP2 Datacenter edition, 64-bit architecture, and Microsoft SQLServer 2008 Standard. | Select D |
| ∰ CentOS | Basic Cluster Instances HVM CentOS 5.4 (AMI Id: ami-7ea24a17) Minimal CentOS 5.4, 64-bit architecture, and HVM-based virtualization for use with Amazon EC2 Cluster Instances. | Select D |

- Now you have to select :
- The numbers of instances = 1
- The availability zone = US or Europe
- The Instance Type= Large (m1.large, 7.5 Gb)
- For this demo, we only want ONE instance
- The availability zone depends on where you are (the US for me, Europe for many RapidMiner users)
- I've selected the cheapest Instance Type (\$0.48/hour), but you have choices
- Now you'll get the "Instance Details". Click "Continue"

Instance Types

- You can check the details at:
- http://aws.amazon.com/ec2/instance-types/
- Windows instances are more expensive
- The instance I selected (m1.large) has this description:

Large Instance

7.5 GB memory
4 EC2 Compute Units (2 virtual cores with 2 EC2 Compute Units each)
850 GB instance storage (2×420 GB plus 10 GB root partition)
64-bit platform
I/O Performance: High
API name: m1.large



INSTANCE DETAILS

CREATE KEY PAIR

CONFIGURE FIREWALL

REVIEW

Number of Instances: 1

Availability Zone: us-east-1d

Advanced Instance Options

Here you can choose a specific **kernel or RAM disk** to use with your instances. You can also choose to enable CloudWatch Monitoring or enter data that will be available from your instances once they launch.

RAM Disk ID: Use Default ▼

Monitoring: □ Enable CloudWatch Monitoring for this instance (additional charges will apply)

User Data: □ base64 encoded □ base64

Key-Pair

- Now you have to select the key-pair you created earlier on
- Select it
- Click "Continue"



CONFIGURE FIREWALL

REVIEW

Public/private key pairs allow you to securely connect to your instance after it launches. To create a key pair, enter a name and click Create & Download your Key Pair. You will then be prompted to save the private key to your computer. Note, you only need to generate a key pair once - not each time you want to deploy an Amazon EC2 instance.

Ochoose from your existing Key Pairs

Your existing Key Pairs*: RapidMinerDemo ▼





- Create a new Key Pair
- Proceed without a Key Pair



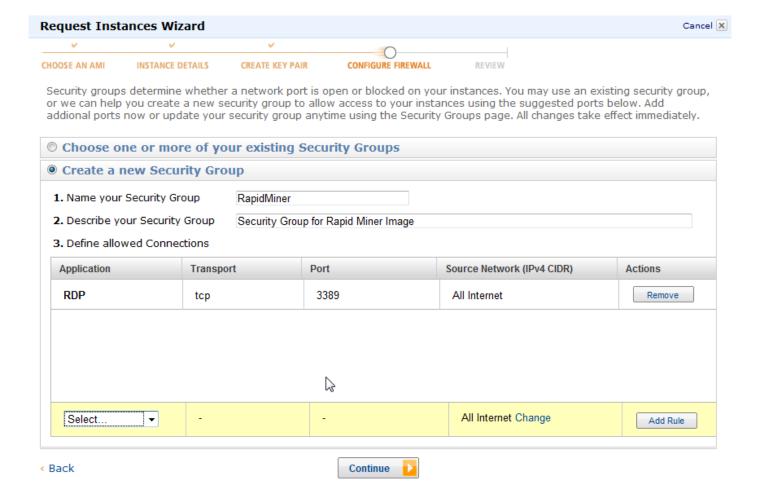
Continue



Security Groups

- Now we have to select or create a security group
- To run RapidMiner in the Windows Server the only port you need is RDP (add other ports if you want: ssh, http, https...)
- So, accept the suggested default
- Name the group RapidMiner
- You only have to create Security Groups once
- In the future, you can reuse them

Security Group



Review

- Now you'll get a final review of the details of this instance
- If everything looks fine to you, click "Launch Instance"
- You'll get a confirmation screen telling you the instance launched successfully.
- Click "Close"

Request Instances Wizard

Cancel X

CHOOSE AN AMI

INSTANCE DETAILS

CREATE KEY PAIR

CONFIGURE FIREWALL



Please review the information below, then click Launch.

AMI: Windows AMI ID ami-d9e40db0 (x86_64)

Name: Basic 64-bit Microsoft Windows Server 2008

Description: Microsoft Windows 2008 R1 SP2 Datacenter edition and 64-bit

architecture.

Number of Instances: 1

Availability Zone: us-east-1d

Instance Type: Large (m1.large)

Instance Class: On Demand Edit Instance Details

Monitoring: Disabled
Kernel ID: Use Default
RAM Disk ID: Use Default

User Data: Edit Advanced Details

Key Pair Name: RapidMinerDemo

Security Group(s): RapidMiner



Edit Firewall

Edit Key Pair

Edit AMI



Your instances are now launching.

Note: Your instances may take a few minutes to launch, depending on the software you are running.

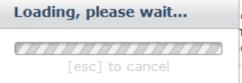
View your instances on the Instances page

Other EC2 Features

Volumes

EBS Volumes provide off-instance storage th independently of the life of an instance. Add storage device to an instance using the Elast (EBS) Volumes page.

> Go to the Volumes Page



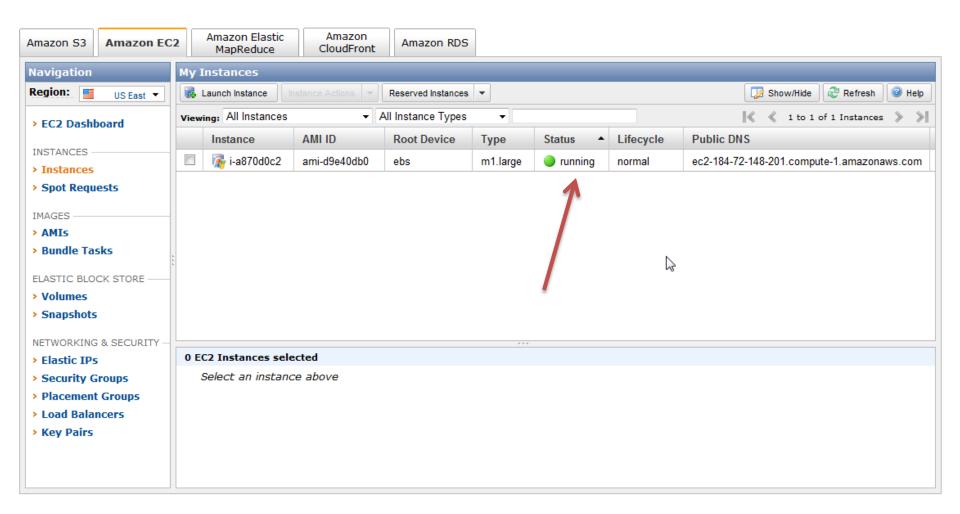
es allow you to remap a public IP address n your account. Elastic IPs also enable you d problems by quickly remapping your to a replacement instance.

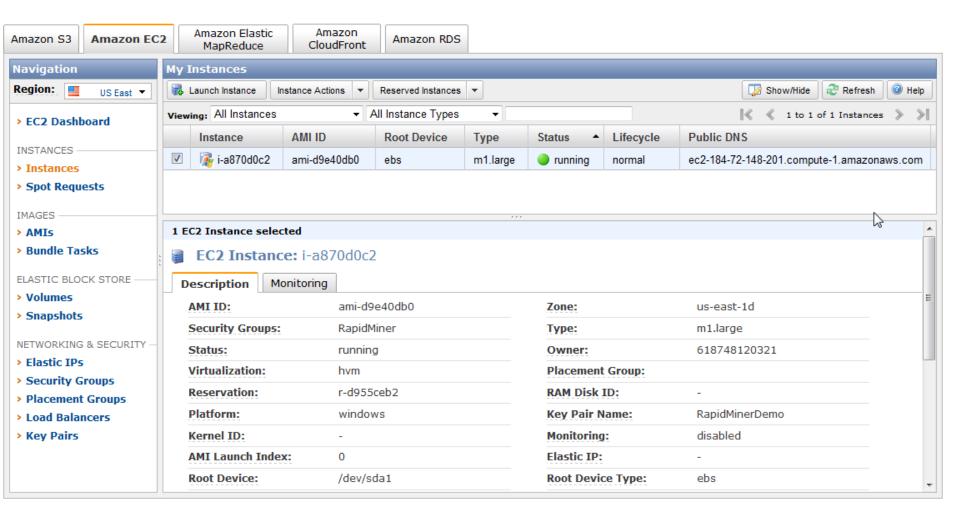
> Go to the Elastic IPs Page





- Now we are taken back to the "Instances" screen
- For a while, the status of the instance just created will be "Pending"
- Eventually, it will turn green and the status will be "Running"
- Click on the instance to get its details





Administrator Password

- It will take 10-20 more minutes for the system to generate the Administrator Password. Be patient.
- Right click the instance and click on "Get Administrator Password"
- For the first minutes, you'll get



Administrator Password

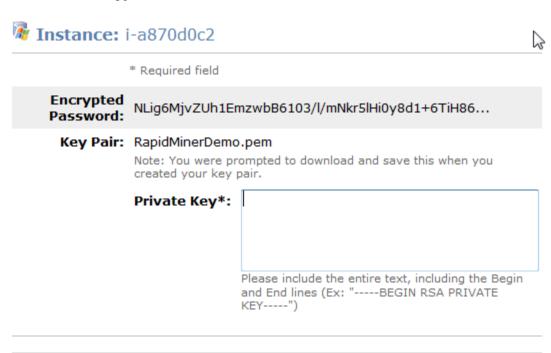
- After a while, the password will be ready
- Open the key-pair file you saved earlier on. Open it with a text editor an copy its contents to the box "Private Key"
- Include the entire text.
- Click "Decrypt Password"
- Now you'll be able to see the password. Write it down.
- Click "Close"

Retrieve Default Windows Administrator Password



To access this instance remotely (e.g., Remote Desktop Connection), you will need your Windows Administrator password. A default password was created when the instance was launched and is available encrypted in the system log.

To decrypt your password, you will need your key pair for this instance. Simply copy & paste the contents of your private key file into the text box below, then click **Decrypt Password**.



Decrypt Password



Password decrypted for instance i-a870d0c2



Password change recommended.

We recommend that you change your password to one you will remember and know privately.

Please note that passwords can persist through bundling phases and will not be retrievable through this tool. It is therefore important that you change your password to one that you will remember if you intend to bundle a new AMI from this instance.

You can connect remotely using this information:

Computer: ec2-184-72-148-201.compute-1.amazonaws.com

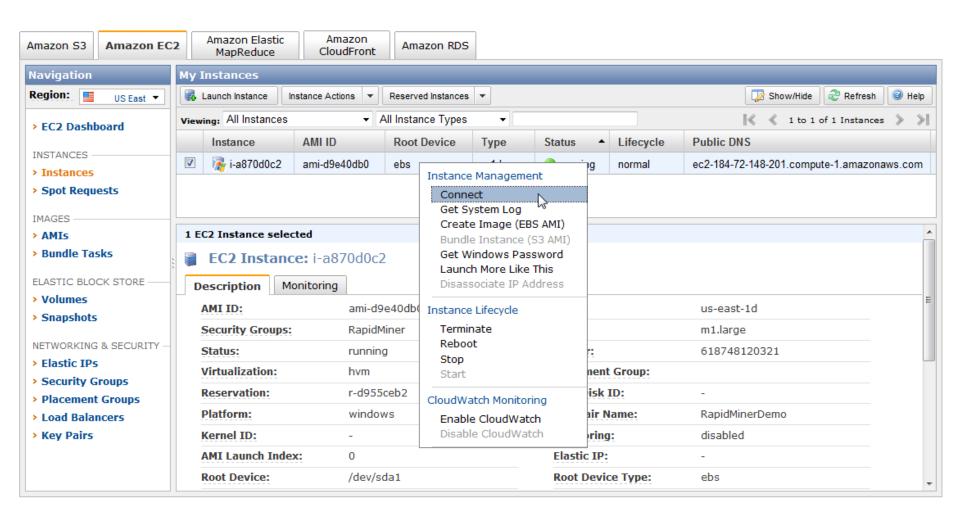
User: Administrator

Decrypted Password:



Connecting to the Server

- Now right click the instance again
- Select this time "Connect"
- Now you have 2 choices.
- 1) You can download a shortcut
- 2) You can follow the steps
- The first one is easier. I'll download the file to my desktop.



Instance: i-a870d0c2

Use Remote Desktop Connection software to connect to your instance. Remote Desktop Connection is pre-installed on most Windows operating systems.

To access your instance using Remote Desktop Connection you can follow one of these two options:

OPTION 1: Shortcut File

Click the link below to download the Remote Desktop config file which you can either open to connect to your instance or save to your desktop as shortcut.



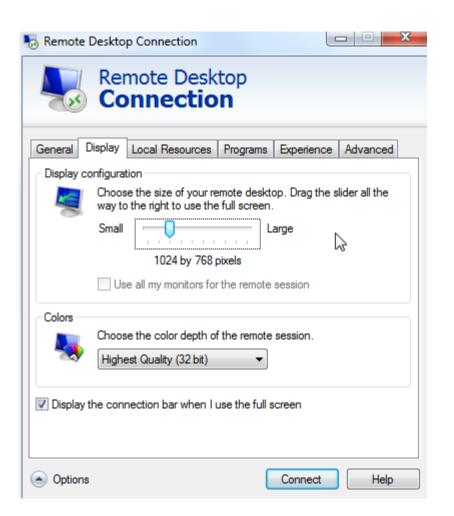
OPTION 2: Step-by-Step Instructions

- 1. Open the Remote Desktop Connection client.
 - a. On Windows XP, go to Start -> All Programs -> Accessories
 -> Communications -> Remote Desktop Connection.
 - b. On Windows Vista, go to Start -> All Programs -> Accessories -> Remote Desktop Connection.
- 2. Connect to your instance using instance's public DNS [ec2-184-72-148-201.compute-1.amazonaws.com].

Note: To access this instance remotely, you will need your Windows Administrator password. A default password was created when the instance was launched and is available encrypted in the system log. You can access and decrypt this password by using the "Get Default Administrator Password" tool, which is available via right-click or under the "More Actions" button.

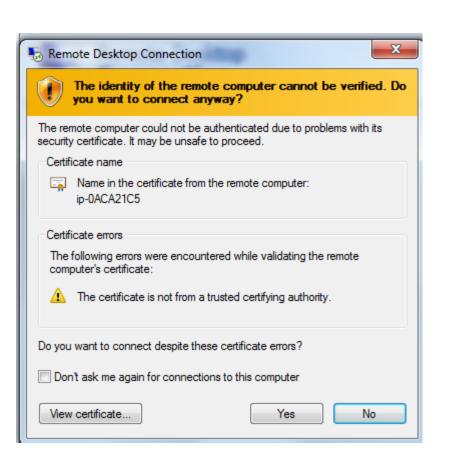


- Now you can right click on this shortcut
- Select "Edit"
- Click "Options" if don't see any
- Change the settings as you wish
- I myself change the display settings to less than full screen
- In Local Resources I add folders from my local machine
- When you are happy with your setting, click "Connect"
- You'll be asked for your Administrator Password.
- Enter it





- Now I get a warning which I ignore
- I connect despite the warning, clicking YES



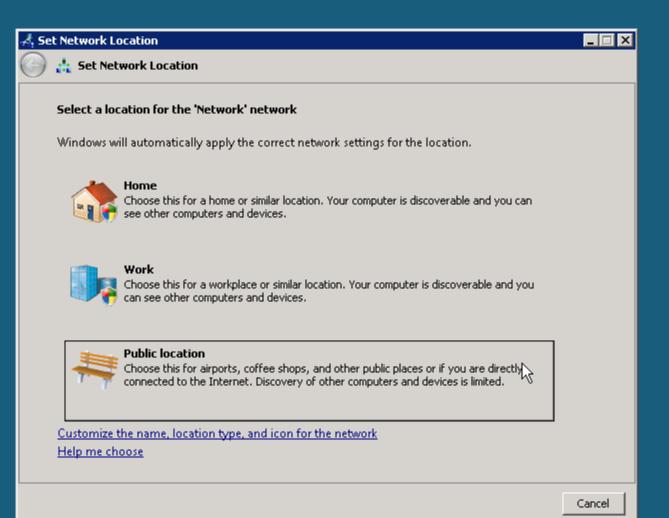
Preparing your desktop...



- You are asked now to select a location for your network
- I select HOME

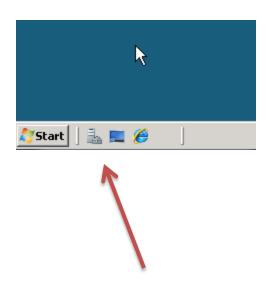




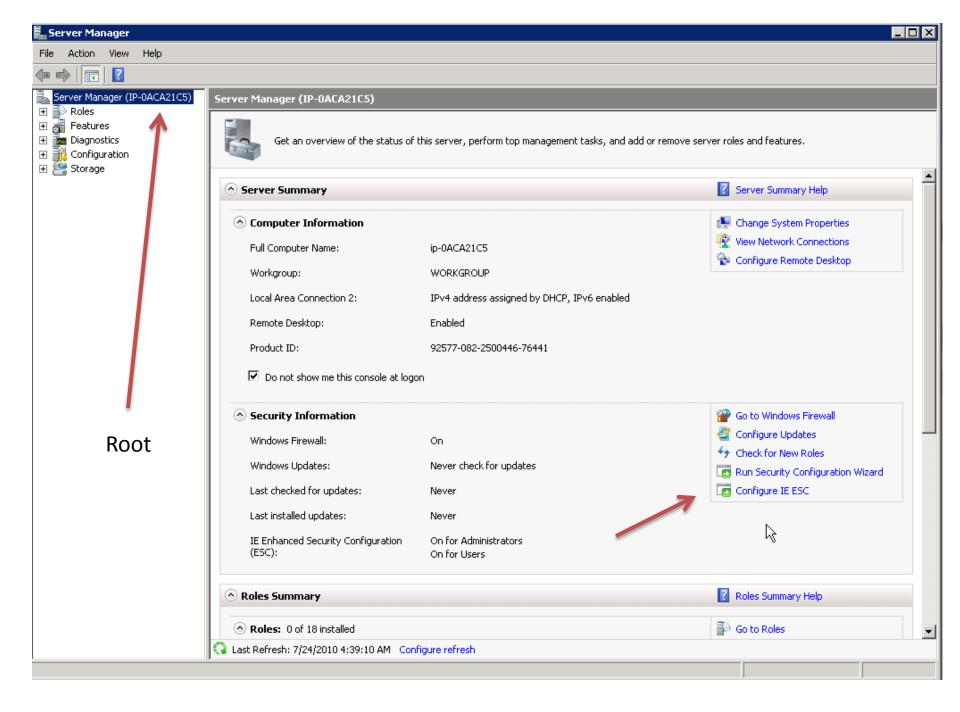


- Guess what, boys & girls?
- We have a Windows machine in the cloud!
- Before you open the Internet Explorer, you have to be aware that the security has been set to "INSANELY HIGH"
- To download JAVA and RapidMiner, you might want to turn it off temporarily

 Click on the Server Manager (Bottom Right Corner –next to Start Button)



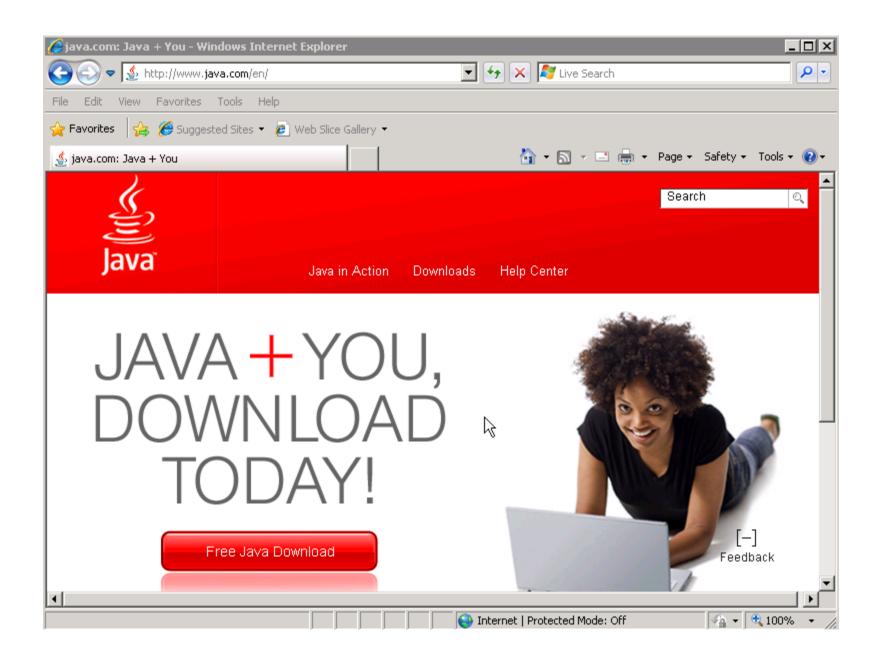
- Click on the Root of the Server manager
- Click on the link "Configure IE Esc"
- Turn it off for the administrator (you) of the server





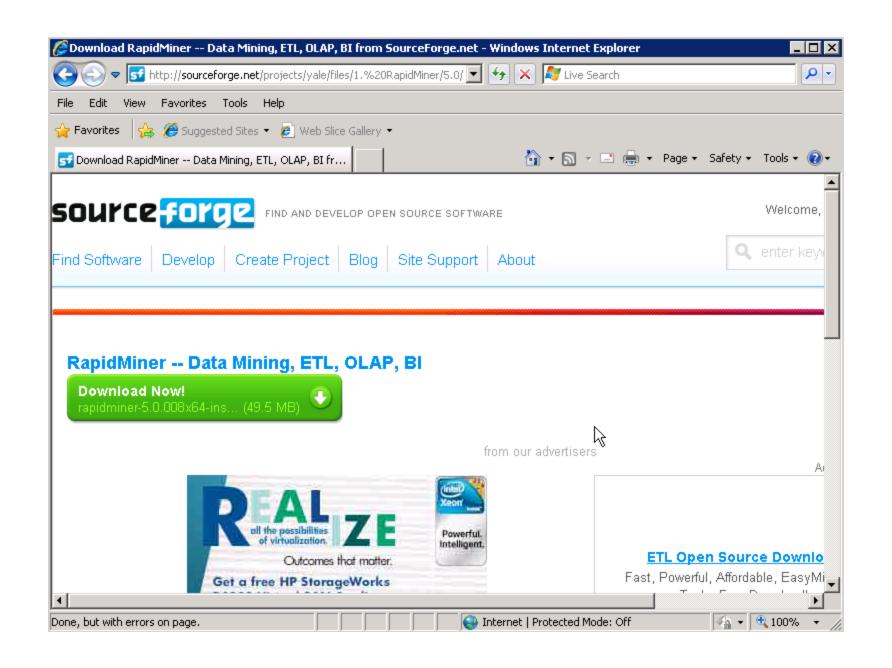
Download & Install Java

- Open the Internet Explorer
- Go to :
- http://www.java.com
- Click on "Free Java Download"
- Follow the steps.

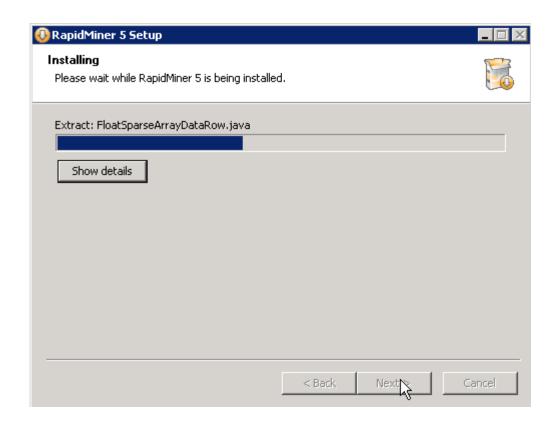


Download & Install RapidMiner

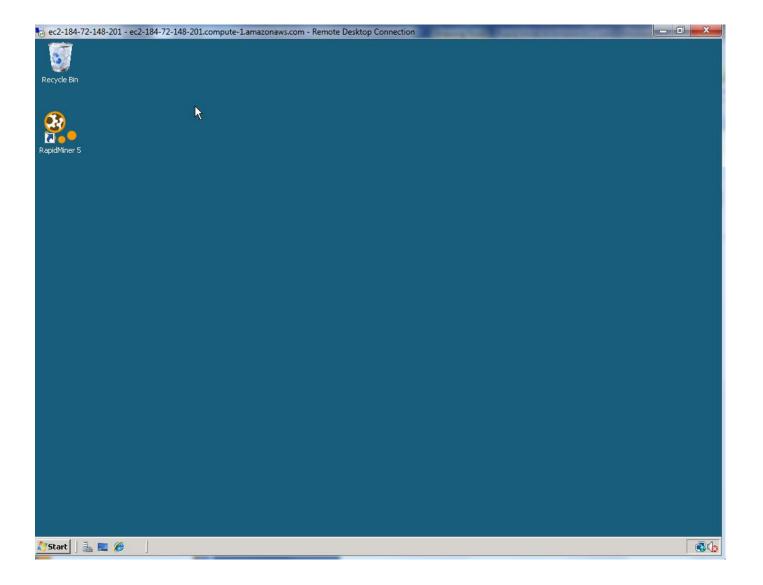
- Download the 64-bit version of RM 5.0 from:
- http://downloads.sourceforge.net/project/yal e/1.%20RapidMiner/5.0/rapidminer-5.0.008x64-install.exe?ts=1279943107





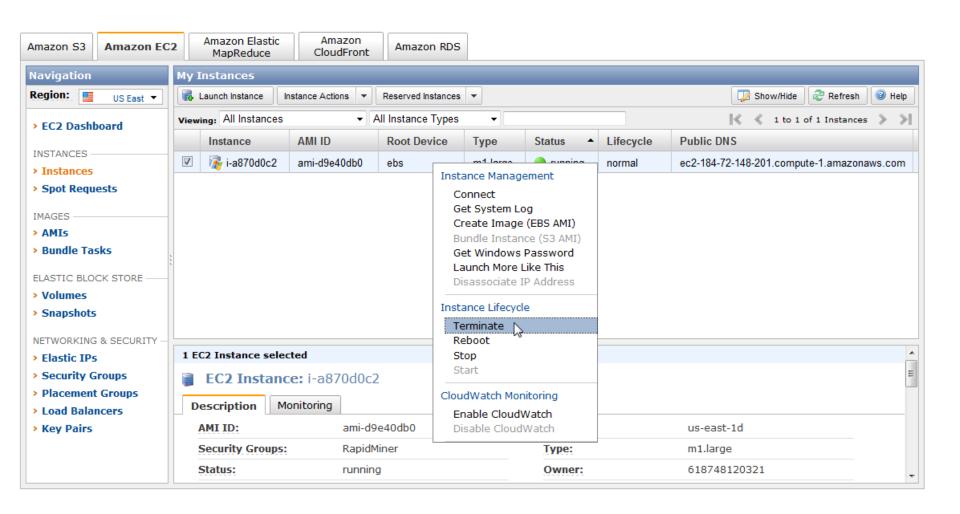


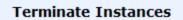
That's all folks!



Terminate your instance

- After you are done, DON'T FORGET TO TERMINATE your instance
- You will be billed whether you use or not
- So let's go back to the Control Panel in Amazon
- Select the instance we created earlier
- Right click it and select "Terminate"





Cancel X

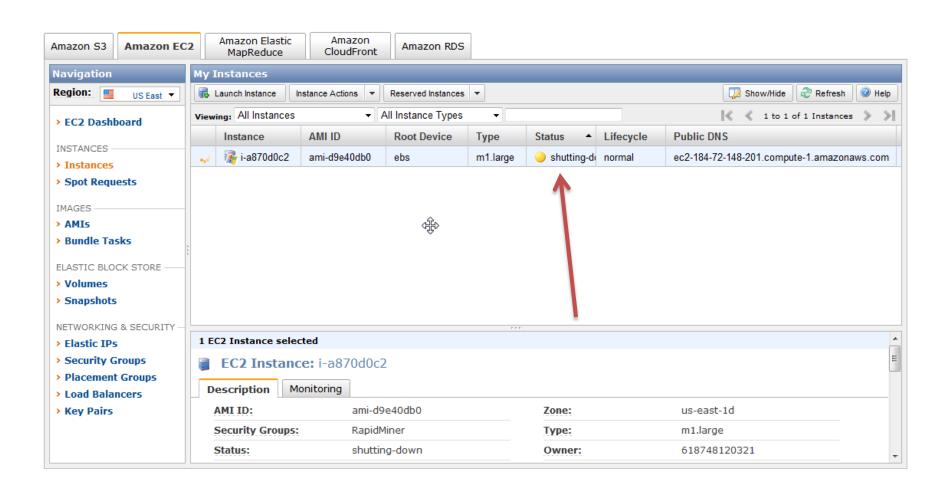
Are you sure you want to terminate this instance?

i-a870d0c2



Close Yes, Terminate





Now we are done.

