



Escuela Técnica
Superior de Ingeniería
Informática

Práctica Básica de Amazon EC2

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Resumen

- Esta práctica te permitirá interactuar con el servicio Amazon EC2 para desplegar instancias de máquinas virtuales (basadas en Linux y en Windows).
- Aprenderás los principales conceptos de EC2
 - Tipo de instancia, grupo de seguridad, par de claves, AMI
- Te conectarás vía SSH (a instancias Linux) y Escritorio Remoto (a instancias Windows)
- Podrás aprovisionar capacidad de cómputo fácilmente mediante pago por uso.

Conexión a la AWS Management Console

- Conéctate a
 - <http://grycap-aws.signin.aws.amazon.com/console>
 - Usa las credenciales que el instructor te mandó.

Germán Moltó Martínez <gmolto@gmail.com>

Para: [Redacted]

[Curso Cloud] Bienvenida y claves de acceso

13 de marzo de 2014 07:34

[Ocultar detalles](#)

[Enviado - Gmail](#) 110



Hola Antonio,

¡Bienvenido/a al Curso Online de Cloud Computing con Amazon Web Services!.

Es para mi un placer poder ser tu instructor durante estas cuatro semanas. Espero que el curso satisfaga tus expectativas y cualquier sugerencia de mejora o crítica que quieras hacer será muy bien recibida para mejorar en próximas ediciones. Me tienes a tu disposición para ayudarte a sacar el máximo provecho del curso.

Mediante este correo te hago llegar las cuentas y claves necesarias para que puedas llevar a cabo las prácticas. Conforme avances en el material del curso entenderás para que sirve cada una de ellas.

- ID alumno: aluccloudXXX
- SSH Password
- AWS Management Console Password



Amazon Web Services Sign In

Please enter the AWS Identity & Access Management (IAM) User name and password assigned by your system administrator to sign in.

AWS Account: grycap-aws

User Name:

Password:

[Sign in using our secure server](#)

Please contact your system administrator if you have forgotten your user credentials.

[Sign in using AWS Account credentials](#)

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Conexión al Entorno de Prácticas

- Desde Terminal en OS X y en GNU/Linux.
- Desde un cliente SSH en Windows
 - Putty
- Conectarse a `lab.cursocloudaws.net`
 - `aluccloudXXX / SSH password`

```
felis:~ gmolto$ ssh alucloud00@ip-10-178-198-185: -- ssh - 93x42
Welcome to Ubuntu 12.04.4 LTS (GNU/Linux 3.2.0-63-virtual x86_64)

 * Documentation:  https://help.ubuntu.com/

System information as of Mon Feb  9 15:47:10 UTC 2015


System load:   0.0                Processes:      78
Usage of / :   44.8% of 7.87GB    Users logged in: 2
Memory usage:  21%               IP address for eth0: 10.178.198.185
Swap usage:    0%

Graph this data and manage this system at:
https://landscape.canonical.com/

218 packages can be updated.
153 updates are security updates.

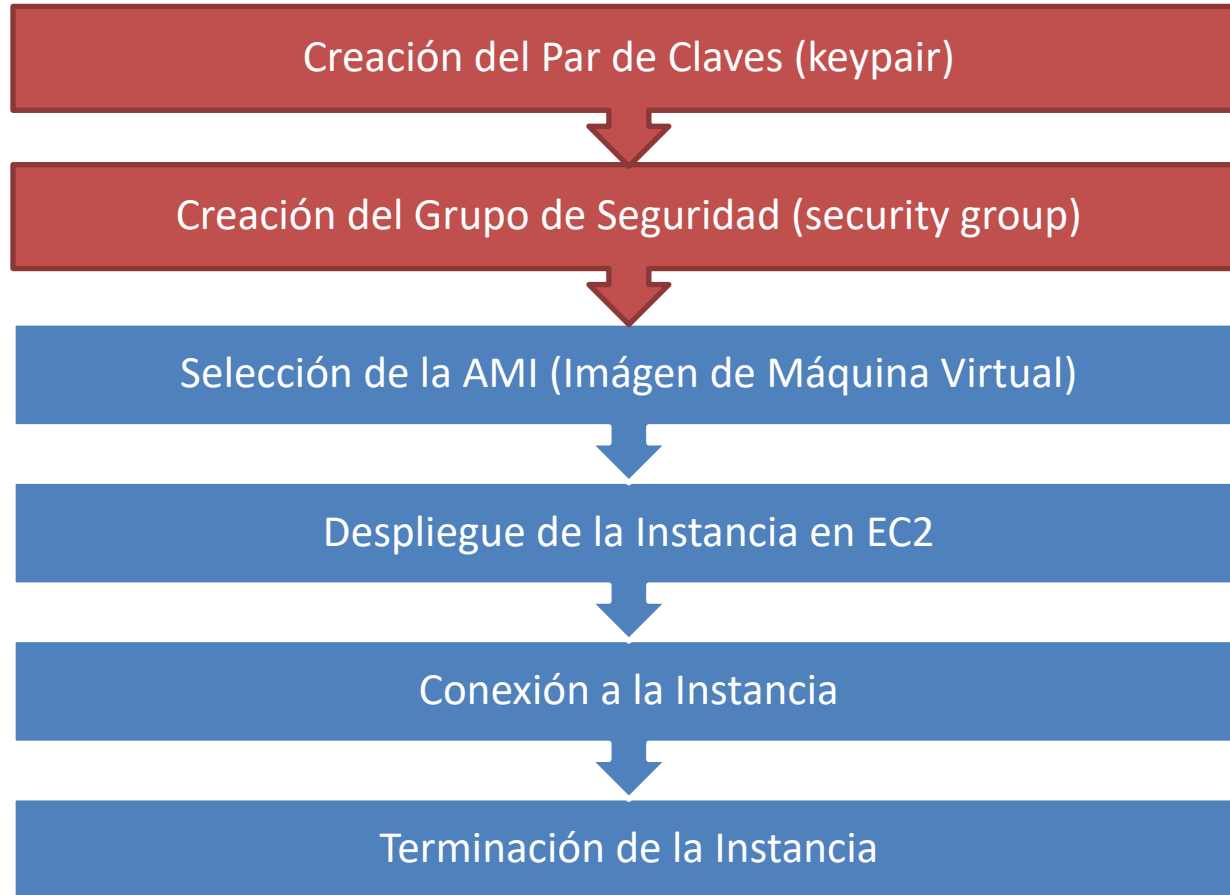
New release '14.04.1 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Get cloud support with Ubuntu Advantage Cloud Guest
http://www.ubuntu.com/business/services/cloud
*** /dev/xvda1 will be checked for errors at next reboot ***
```



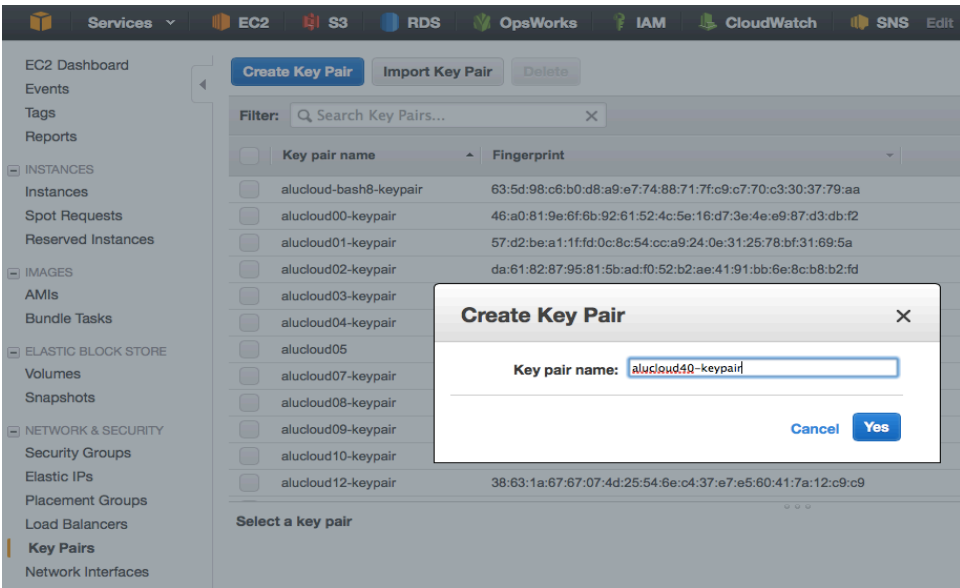
```
(c) Automatically configured by Germán Moltó - gmolto@dsc.upv.es
Last login: Mon Feb  9 15:20:17 2015 from felis.i3m.upv.es
alucloud00@ip-10-178-198-185:~$
```

Despliegue de Instancias en AWS



Creación del Par de Claves

- El par de claves permite la conexión a las instancias Linux mediante SSH sin necesidad de especificar la contraseña.



```
-----BEGIN RSA PRIVATE KEY-----
MIIEpQIBAACAQEAyX5Pldyk4DNWY/QUsk80XNiSo7WjjiVjcnZl82cM3K0UqIDB0MUjxyK/1Xo
JL0yhsbL/8ICmywdBh0fKzB5/bGsuyRe34FwzjeT0PuucqL648IgJE2q+wfV1uG1j1Ho3mtwKVAE
kT+05T1sc0T+DmuVD5H2a3P9qj583vhauA2zBMvUc6iZpSA10GCdXsYgZfEzLbR04AytfgVeqU0
UJu2++isVxsaLTmMrF+mftPqRqVrrmWirAy6LiaRmsSTVXynkeF4JdIkx3ln9Uc7vMIne//uWvC2L
Ya/NKpL4G9Ivx30FE4d04Liz4Dk34Ga7f5ZS++GVkuiEpWmJ8ocL9wIDAQABAoIBAQCZ6F0KpWi2
j6RQmEM6nrQ1CuaLdgiPXAAt+iuNUXukrJDWYvgAs8H2auFLHhNRlSEbTRD7/LgeF1BbyLNo3AwPd
zs4B/Vx65v4Q9aH64vxc16X4nnh2qff/PiZ+YqHbPfred/FFD0J5If1pDnNm1M8DJf0tMLZGERg
v5U17HHp9vSJPzBBHurrpv7rfQxk3GvkYN0ca/KDmJ6U0x5VwsEdDsyYBH/uLMD26FwVKy8bhFNS
yM40NHezY+0cFxnRx+zGpKRXIb8oZpAZ39eE6hknLdmobmuybWwErBz7aYtB5Rh4ytdaVhuFKXJE
WG2AkavcYMuV3ggL8bq3D1QZztUJAoGBAPmZLcQYCVg8DErf5xAC+q/JU7eUnSx2m3SHWNX29Th
b9wbj6sLkeEMTKpa0Rf0tck+RHk4vBW9X+tYUGM3PK7M01YPr7/j0sQtQgZ8puotskijHeo7T6DM
hXiPpziJ6cw+/w7whNoTIkVrnN2zDHj9fJy/jK1BRh6ISjImg23FAoGBANBT89WjvCwplKnU0twb
oo2A+uUNHbPdai/wxkbRJTtrbpbRHTjPdpF5iAsLwK9KJnhf+XF2ZCMFrt+oUp2DsP8KGrG5CLK
VblgKJ5SjL+8mGoEd0Eu6b5u/ve4UkAFQx+x3iBMQKZtHjVVeCKVdLZ5RZNVtZ0Ph/C1+g/AKcQL
AoGBAPTwwTs0iBtLRLJMSNh9h7yZK+IeIzyuTRLHfIPF7pLXLY4f5mxUaAo63Gq3Ewr4zRS0ip
oZhrDm20/MNOi0rGMAT2rwUNMVduVupTZIYjxPWQ09u5RwS7kURmXambLmNbgSALOAZVMYhtfjP
rK7TvmWrKwghhamTAJVEVHgtAoGAR4+PAQPrzUqjPPN00y2C+PiFNoj62v4Dq9QZR9ov37fzheU3
dfxNzkrrh9Po33x6TA8i+XL9JrM1yQZWN8fX7vHaxq4T02Md2aucNDNVuY6507HX8QPFmcw3Np25
VqR4Gj5pAikvS/vPKJ3UenK3YLqz0FRA3UaTSU1cJ0hx2ECgYEAxGRRnIFJh7swCZiHdAd12HiF
TbdLsh1HcGAR2Asdr43oR6MIo6CQ97gSwmJygcisU5ETLdIH+4a6H72/3pq4G0i4u/LB0xuoGw
9hX4Nqqm1/gAQ3E10R/ENXwzomG/Co8geoiGqynQ7+r1o+0t4dtioslpMNZE1pfzHD1MgM=
-----END RSA PRIVATE KEY-----
```

Grupos de Seguridad

- El grupo de seguridad (SG) permite especificar una configuración de puertos abiertos en las instancias desplegadas con dicho SG.
- Ejemplos típicos:
 - Puerto 80:
Servidor web.
 - Puerto 22:
Servidor SSH

The screenshot shows the 'Create Security Group' interface in the AWS Management Console. It includes fields for the security group name, description, and VPC. Below these, there is a section for 'Security group rules' with a table of inbound rules. The table has columns for Type, Protocol, Port Range, and Source. Two rules are listed: one for port 80 (HTTP) and one for port 22 (SSH), both allowing traffic from anywhere (0.0.0.0/0). At the bottom right, there are 'Cancel' and 'Create' buttons.

Create Security Group

Security group name *i* gs-aws-00

Description *i* GS del alumno 00

VPC *i* No VPC

Security group rules:

Inbound

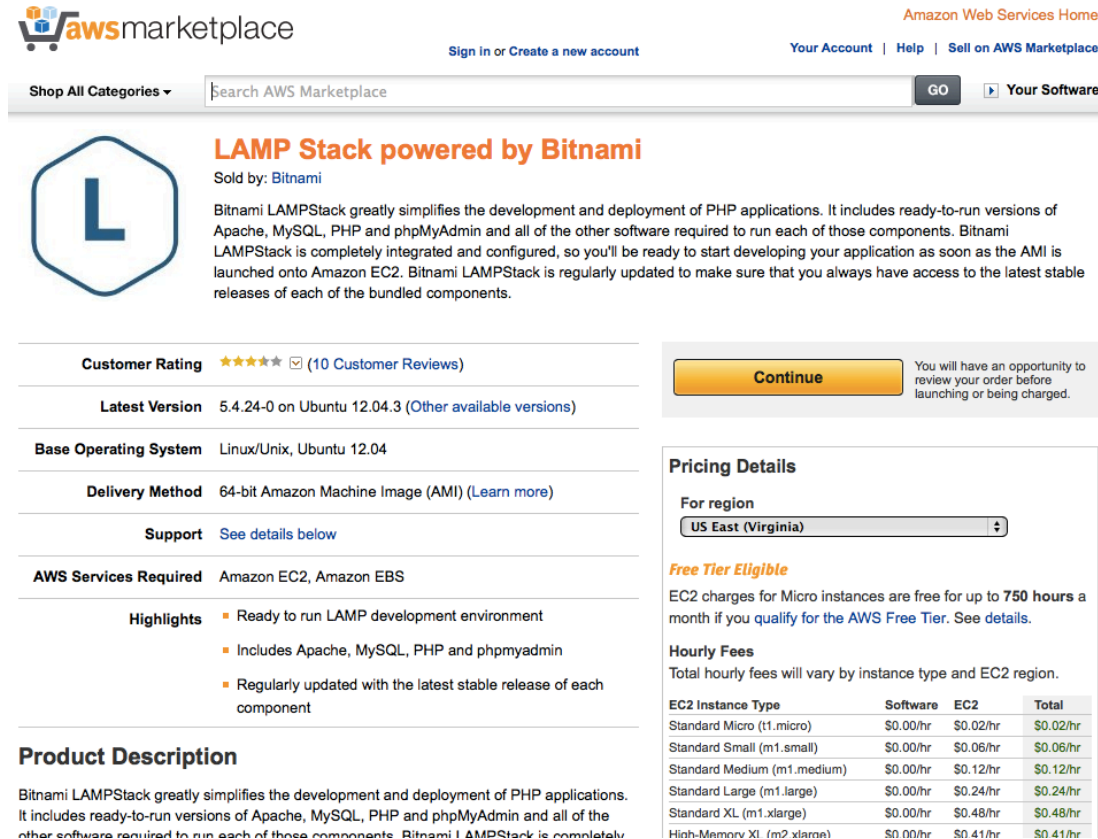
Type <i>i</i>	Protocol <i>i</i>	Port Range <i>i</i>	Source <i>i</i>
Custom TCP Rule <i>+</i>	TCP	80	Anywhere <i>+</i> 0.0.0.0/0 <i>×</i>
Custom TCP Rule <i>+</i>	TCP	22	Anywhere <i>+</i> 0.0.0.0/0 <i>×</i>

Add Rule

Cancel Create

Selección del AMI

- Usará el AWS Marketplace para elegir AMIs.
 - LAMP Stack



The screenshot shows the AWS Marketplace interface for the 'LAMP Stack powered by Bitnami'. The page includes a header with the AWS Marketplace logo, navigation links, and a search bar. The main content area features a large 'L' icon, the product title, and a detailed description. A table on the left lists key specifications like Customer Rating, Latest Version, Base Operating System, Delivery Method, Support, and AWS Services Required. A 'Continue' button is prominently displayed. On the right, the 'Pricing Details' section shows the selected region (US East (Virginia)) and a table of hourly fees for various EC2 instance types.

Amazon Web Services Home
Sign in or Create a new account
Your Account | Help | Sell on AWS Marketplace

Shop All Categories ▾ Search AWS Marketplace GO ▶ Your Software

LAMP Stack powered by Bitnami

Sold by: Bitnami

Bitnami LAMPStack greatly simplifies the development and deployment of PHP applications. It includes ready-to-run versions of Apache, MySQL, PHP and phpMyAdmin and all of the other software required to run each of those components. Bitnami LAMPStack is completely integrated and configured, so you'll be ready to start developing your application as soon as the AMI is launched onto Amazon EC2. Bitnami LAMPStack is regularly updated to make sure that you always have access to the latest stable releases of each of the bundled components.

Customer Rating	★★★★★ (10 Customer Reviews)
Latest Version	5.4.24-0 on Ubuntu 12.04.3 (Other available versions)
Base Operating System	Linux/Unix, Ubuntu 12.04
Delivery Method	64-bit Amazon Machine Image (AMI) (Learn more)
Support	See details below
AWS Services Required	Amazon EC2, Amazon EBS

Highlights

- Ready to run LAMP development environment
- Includes Apache, MySQL, PHP and phpmyadmin
- Regularly updated with the latest stable release of each component

Product Description

Bitnami LAMPStack greatly simplifies the development and deployment of PHP applications. It includes ready-to-run versions of Apache, MySQL, PHP and phpMyAdmin and all of the other software required to run each of those components. Bitnami LAMPStack is completely

Continue You will have an opportunity to review your order before launching or being charged.

Pricing Details

For region
US East (Virginia)

Free Tier Eligible
EC2 charges for Micro instances are free for up to 750 hours a month if you qualify for the AWS Free Tier. See details.

Hourly Fees
Total hourly fees will vary by instance type and EC2 region.

EC2 Instance Type	Software	EC2	Total
Standard Micro (t1.micro)	\$0.00/hr	\$0.02/hr	\$0.02/hr
Standard Small (m1.small)	\$0.00/hr	\$0.06/hr	\$0.06/hr
Standard Medium (m1.medium)	\$0.00/hr	\$0.12/hr	\$0.12/hr
Standard Large (m1.large)	\$0.00/hr	\$0.24/hr	\$0.24/hr
Standard XL (m1.xlarge)	\$0.00/hr	\$0.48/hr	\$0.48/hr
High-Memory XL (m2.xlarge)	\$0.00/hr	\$0.41/hr	\$0.41/hr

Despliegue de Instancias en EC2

- Desplegarás instancias de AMIs con EC2.
 - En una región
 - De un tipo de instancia.
 - Con un grupo de seguridad
 - Ligadas a un par de claves.

An instance of this software is now deploying on EC2.

- If you would like to check the progress of this deployment, go to the [AWS Management Console](#)
- The software will be ready in 2-3 minutes.

Usage Instructions

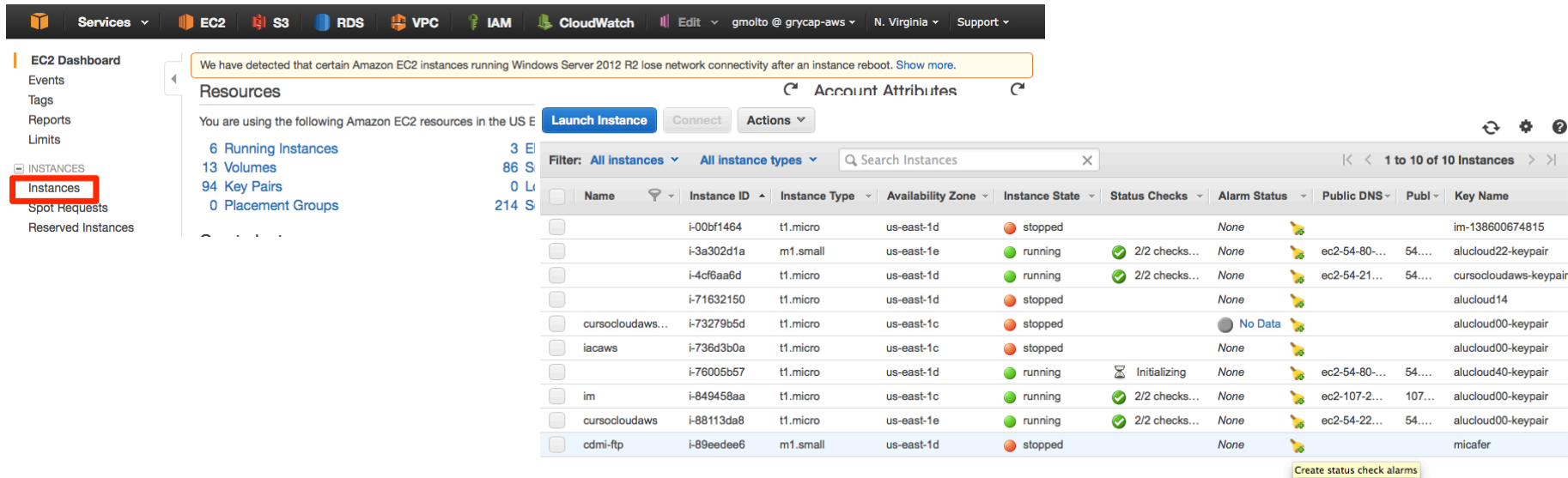
Once the instance is running, you can connect to your using your Amazon private key and the 'bitnami' login via SSH. You can find all the Stack components like Apache, MySQL, etc and the required dependencies in the '/opt/bitnami' folder.

Software Installation Details

Product	LAMP Stack powered by Bitnami
Version	5.4.24-0 on Ubuntu 12.04.3, released 01/30/2014
Region	US East (Virginia)
EC2 Instance Type	Standard Micro (t1.micro)
Instance ID	Visit the AWS Management Console to see the instance ID
Security Group	gs-aws-40
Key Pair	alucoud40-keypair

Monitorizar el Ciclo de Vida de las Instancias

- Utilizarás la consola de administración de EC2 para monitorizar y gestionar el ciclo de vida de las instancias.

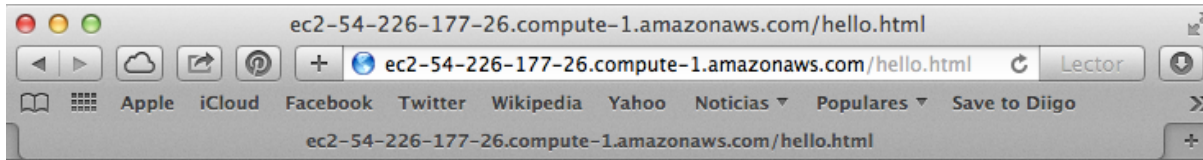


The screenshot displays the Amazon EC2 console interface. At the top, there's a navigation bar with various AWS services like EC2, S3, RDS, VPC, IAM, and CloudWatch. Below this, the left sidebar shows the 'EC2 Dashboard' with options like Events, Tags, Reports, Limits, and a highlighted 'INSTANCES' section. The main content area shows a notification about network connectivity for Windows Server 2012 R2 instances, followed by a 'Resources' section indicating 6 running instances. The primary focus is a table of EC2 instances with columns for Name, Instance ID, Instance Type, Availability Zone, Instance State, Status Checks, Alarm Status, Public DNS, and Key Name. The table lists several instances, including 'i-00bf1464' (stopped), 'i-3a302d1a' (running), 'i-4cf6aa6d' (running), 'i-71632150' (stopped), 'i-73279b5d' (stopped), 'i-736d3b0a' (stopped), 'i-76005b57' (running), 'i-849458aa' (running), 'i-88113da8' (running), and 'i-89eedee6' (stopped). A 'Create status check alarms' button is visible at the bottom right.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS	Publ	Key Name
	i-00bf1464	t1.micro	us-east-1d	stopped		None			im-138600674815
	i-3a302d1a	m1.small	us-east-1e	running	2/2 checks...	None	ec2-54-80-...	54...	alucoud22-keypair
	i-4cf6aa6d	t1.micro	us-east-1d	running	2/2 checks...	None	ec2-54-21...	54...	cursocloudaws-keypair
	i-71632150	t1.micro	us-east-1d	stopped		None			alucoud14
cursocloudaws...	i-73279b5d	t1.micro	us-east-1c	stopped		No Data			alucoud00-keypair
iacaws	i-736d3b0a	t1.micro	us-east-1c	stopped		None			alucoud00-keypair
	i-76005b57	t1.micro	us-east-1d	running	Initializing	None	ec2-54-80-...	54...	alucoud40-keypair
im	i-849458aa	t1.micro	us-east-1c	running	2/2 checks...	None	ec2-107-2...	107...	alucoud00-keypair
cursocloudaws	i-88113da8	t1.micro	us-east-1e	running	2/2 checks...	None	ec2-54-22...	54...	alucoud00-keypair
cdmi-ftp	i-89eedee6	m1.small	us-east-1d	stopped		None			micafer

Acceso a las Instancias (Linux)

- Te conectarás por SSH y desplegarás un servidor web Apache en una instancia Linux como prueba de concepto.



Hello from the Cloud

- Verás la funcionalidad de las instancias desplegadas en AMIs basadas en EBS
 - Pueden detenerse y volver a ser iniciadas.

Acceso a las Instancias (Windows)

- Obtendrás las credenciales de Administrador
- Te conectarás por Escritorio Remoto

The screenshot displays the AWS Marketplace interface. At the top, the 'aws marketplace' logo is visible, along with a user greeting 'Hello, alucloud00@gryc....' and a '(Sign out)' link. Navigation links for 'Your Account', 'Help', and 'Sell on AWS Marketplace' are present. A search bar and a 'Shop All Categories' dropdown are located below the header.

The main product listing is for 'Microsoft Windows Server 2008 R2 Base', sold by 'Amazon Web Services'. The description states: 'Amazon EC2 running Microsoft Windows Server is a fast and dependable environment for deploying applications using the Microsoft Web Platform. Amazon EC2 enables you to run any compatible Windows-based solution on AWS' high-performance, reliable, cost-effective, cloud computing platform. Common Windows use cases include Enterprise Windows-based application hosting, website and web-service hosting, data processing, media transcoding, distributed testing, ASP.NET application hosting, and any other application requiring Windows software.'

A modal window titled 'Retrieve Default Windows Administrator Password' is open. It provides instructions on how to access the instance remotely using a default password. It mentions that the password is encrypted and can be decrypted using a key pair. The modal includes a 'Continue' button and a 'Decrypt Password' button.

Below the modal, a table titled 'Instance Details' shows pricing information for various instance types. The table has two columns: 'Instance Type' and 'Total Cost'.

Instance Type	Total Cost
t2.micro	\$0.018/hr
t2.xlarge	\$0.036/hr
t2.2xlarge	\$0.072/hr
t2.xlarge	\$0.02/hr
t2.xlarge	\$0.075/hr
t2.xlarge	\$0.149/hr

Conclusiones

- En esta práctica utilizarás la funcionalidad básica del servicio Amazon EC2 para aprovisionar instancias de cómputo basadas en Linux y en Windows.
- Gestionarás su ciclo de vida y aprenderás el mecanismo de acceso a las misma.
- Aprenderás los principales conceptos ligados a Amazon EC2.