

# Frikiminutos 2016 (enero–abril), serie B

## ETSIT – URJC

Jesús M. González Barahona, Gregorio Robles Martínez

<http://gsyc.es/~jgb> <http://gsyc.es/~grex/>  
GSyC, Universidad Rey Juan Carlos

9 de febrero de 2016





©2015-2016 Gregorio Robles, Jesús M. González Barahona.  
Algunos derechos reservados. Este artículo se distribuye bajo la licencia  
"Reconocimiento-CompartirIgual 3.0 España" de Creative Commons, disponible en  
<http://creativecommons.org/licenses/by-sa/3.0/es/deed.es>  
Este documento (o uno muy similar) está disponible en  
<http://cursosweb.github.io>

- 1 ¿Te está traicionando tu navegador?
- 2 Trabajo top
- 3 Viéndose con gente...
- 4 Servidor web en Producción
- 5 Contenedores por todas partes
- 6 Virtualizando, que es gerundio

# ¿Te está traicionando tu navegador?

# Panopticlick

The screenshot shows the Panopticlick homepage. At the top, there's a dark header bar with the EFF logo and the text "A RESEARCH PROJECT OF THE ELECTRONIC FRONTIER FOUNDATION". Below it is a large orange section containing the title "PANOPTICCLICK" in large, bold, white letters, followed by the subtitle "Is your browser safe against tracking?" in a smaller white font. A paragraph of text explains how online trackers can identify users even with privacy software. Below this is another paragraph about the service's purpose: analyzing browser protection against tracking. At the bottom of the orange section is an orange button with the text "TEST ME" in white. The background of the page has a subtle texture.

When you visit a website, online trackers and the site itself may be able to identify you – even if you've installed software to protect yourself. It's possible to configure your browser to thwart tracking, but many people don't know how.

Panopticlick will analyze how well your browser and add-ons protect you against online tracking techniques. We'll also see if your system is uniquely configured—and thus identifiable—even if you are using privacy-protective software.

**TEST ME**

<https://panopticclick.eff.org/>

- Comprobación de técnicas de tracking
- Basta con cargar el sitio con tu navegador
- Análisis de varias técnicas de tracking
- Especialmente interesante: fingerprinting

# Resultado del análisis

| Test  | Result   |
|---|--|
| Is your browser blocking tracking ads?  | ✗ no   |
| Is your browser blocking invisible trackers?                                      | ✗ no   |
| Does your browser unblock 3rd parties that promise to honor <b>Do Not Track</b> ? | ✗ no   |
| Does your browser protect from <b>fingerprinting</b> ?                            | ✗<br>your browser has a nearly-unique<br>fingerprint |

[Show full results for fingerprinting](#)

Note: because tracking techniques are complex, subtle, and constantly evolving, Panopticlick does not measure all forms of tracking and protection.

[Prueba con y sin la navegación privada de tu navegador]

Metodología: <https://panopticclick.eff.org/about>

# Fingerprinting

Your browser fingerprint **appears to be unique** among the 6,374,146 tested so far.

Currently, we estimate that your browser has a fingerprint that conveys **at least 22.6 bits of identifying information**.

The measurements we used to obtain this result are listed below. You can [read more about our methodology, statistical results, and some defenses against fingerprinting here](#).

| Browser Characteristic      | bits of identifying information | one in x browsers have this value | value   |
|-----------------------------|---------------------------------|-----------------------------------|---|
| Limited supercookie test    | 0.83                            | 1.77                              | DOM localStorage: Yes, DOM sessionStorage: Yes, IE userData: No   |
| Hash of canvas fingerprint  | N/A                             | N/A                               | fa773662a8ede348034cb3d397638ff   |
| Screen Size and Color Depth | 12.12                           | 4448.11                           | 1067x600x24   |
| Browser Plugin Details      | 21.6                            | 3187073.0                         | Plugin 0: Gnome Shell Integration; This plugin provides integration with Gnome Shell for live extension enabling and disabling. It can be used only by extensions.gnome.org; libgnome-shell-browser-plugin.so; (Gnome Shell Integration Dummy Content-Type; application/x-gnome-shell-integration; ). Plugin 1: Google Talk Plugin Video Renderer; Version: 5.41.0.0; libnpoid.so; (Google Talk Plugin Video Renderer; application/oid; o1d). Plugin 2: Google Talk Plugin; Version: 5.41.0.0; libnppgoogletalk.so; (Google Talk Plugin; application/googletalk; googletalk). Plugin 3: Shockwave Flash; Shockwave Flash 11.2 r202; libflashplayer.so; (Shockwave Flash; application/x-shockwave-flash; swf) (FutureSplash Player; application/futuresplash; spl). Plugin 4: bjininstallplugin; ; npbjninstallplugin_2.125.24.5.so; (Blue Jeans Installation Plugin; application/x-bjininstallplugin; version=2.125.24.5; ) (Blue Jeans Installation Plugin; application/x-bjininstallplugin; ). Plugin 5: bjnplugin; ; npbjnplugin_2.125.24.5.so; (Blue Jeans Video Plugin; application/x-bjnplugin; version=2.125.24.5; ) (Blue Jeans Video Support Plugin; application/x-bjnpluginslave; version=2.125.24.5; ) (Blue Jeans Diagnostic Plugin; application/x-bjnplugin; version=2.125.24.5; ) (Blue Jeans Diagnostic Plugin; application/x-bjnplugin; version=2.125.24.5; ) |

# Trabajo top

# ¿Qué es un trabajo *bueno*?

- Un trabajo que te permita ser creativo
- Un trabajo donde trabajes con últimas tecnologías
- Un trabajo donde puedas ascender sin dejar de ser ingeniero
- Un trabajo donde te paguen bien (y otros beneficios)

Hay muchas empresas donde buscan este tipo de perfil: Google, Apple, Facebook, Microsoft, Yahoo!, Amazon...

# Salarios en las compañías top

| Rank | Company Name    | Sector                 | Average Salary |
|------|-----------------|------------------------|----------------|
| 1    | Twitter, Inc.   | Social Networking      | \$120,111.11   |
| 2    | Apple, Inc.     | Computers, Peripherals | \$113,319.21   |
| 3    | LinkedIn, Corp  | Social Networking      | \$111,720.00   |
| 4    | Cisco Systems   | Computer Networking    | \$107,998.32   |
| 5    | Qualcomm        | Wireless               | \$107,632.31   |
| 6    | IBM             | Information Technology | \$106,508.00   |
| 7    | Facebook, Inc.  | Social Networking      | \$105,167.62   |
| 8    | Google, Inc.    | Internet, Computers    | \$104,594.27   |
| 9    | Hewlett Packard | Computers              | \$104,379.00   |
| 10   | Oracle          | Computers              | \$104,058.03   |

<http://img59.imageshack.us/img59/802/toppaytech.png>

# ¿Qué te piden en estos trabajos?

- Estructuras de datos
- Algoritmia
- Experiencia en programación
- Redes de ordenadores
- Sistemas operativos

# Más lecturas

- Hay varios libros sobre este tema, algunos en la biblioteca:
  - Cracking the coding interview: 150 programming interview questions and solutions
  - The Google Interview
  - Elements of Programming Interviews: The Insiders' Guide
  - Top 10 coding interview problems asked in Google with solutions: Algorithmic Approach
  - Are You Smart Enough to Work at Google?: Fiendish Puzzles And Impossible Interview Questions From The World's Top Companies
  - Get a Job WITHOUT an Interview - Google & Beyond!: "We don't mind to lose a good applicant, but definitely not hire a bad applicant."
  - The Google Resume: How to Prepare for a Career and Land a Job at Apple, Microsoft, Google, or any Top Tech Company

# Viéndose con gente...

# Meetup

WEDNESDAY, FEBRUARY 3

6:30 PM

Madrid BIM Group

## Dynamo y sus aplicaciones en BIM

13 Members going

7:00 PM

PHPMad

## iTutorial de PHP, acabado! ¿Y ahora que?

94 Members going **6 spots left!**

7:00 PM

Madrid Drones Meetup

## Reunión del grupo + taller de cambio de firmware en los microdrones

4 Drone Lovers going

7:00 PM

NSCoder Night Madrid

## NSPresenters

40 NSCoders going

<http://meetup.com>

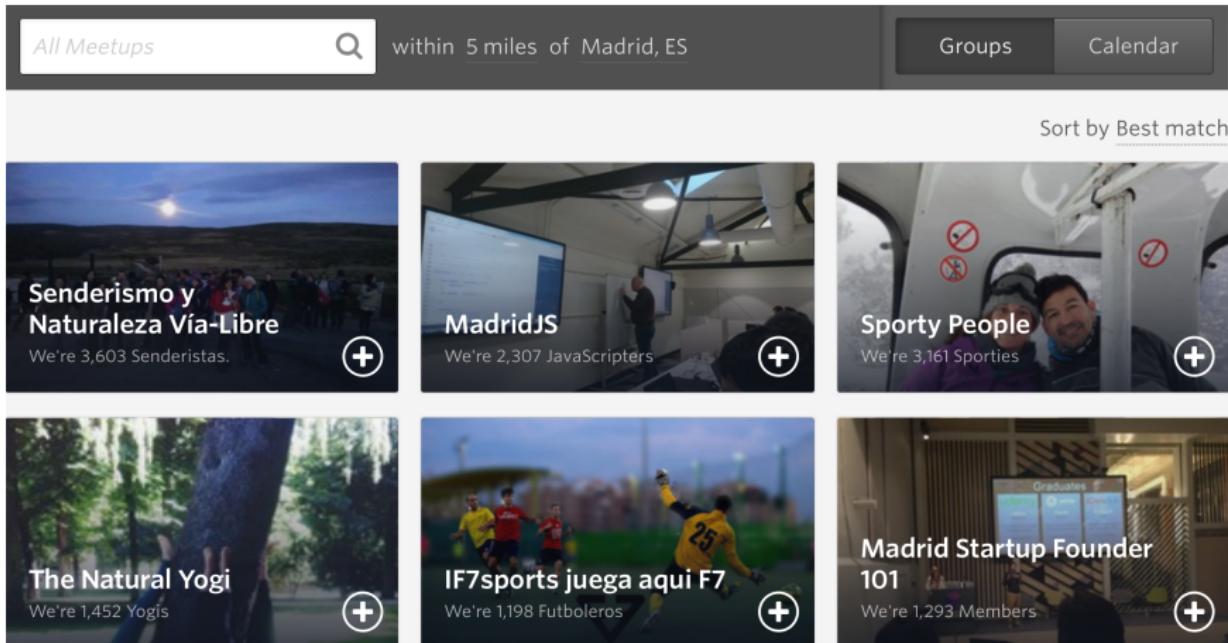


- Información sobre reuniones cercanas
- Mucho contenido técnico
- Y mucho que no

# Grupos

All Meetups  within 5 miles of Madrid, ES Groups Calendar

Sort by Best match



The screenshot shows a grid of six group cards. Each card includes a thumbnail image, the group's name, its member count, and a 'Join' button.

- Senderismo y Naturaleza Vía-Libre**  
We're 3,603 Senderistas. 
- MadridJS**  
We're 2,307 JavaScripters 
- Sporty People**  
We're 3,161 Sporties 
- The Natural Yogi**  
We're 1,452 Yogis 
- IF7sports juega aquí F7**  
We're 1,198 Futboleros 
- Madrid Startup Founder 101**  
We're 1,293 Members 

# Reuniones

**MADRID • JS**

**Madrid, Spain**  
Founded Aug 6, 2011

[About us...](#)  
[+ Invite friends](#)

JavaScripers 2,308  
Group reviews 61  
Upcoming Meetups 2  
Past Meetups 60  
Our calendar

# Keep it simple, use React

[Export](#) [Tell a friend](#) [Share](#)

**Thursday, February 11, 2016**  
7:00 PM

**Impact Hub Next**  
C / Alameda, 22, Madrid ([map](#))

Este febrero tendremos **no una charla especial, sino dos**. En este caso vamos a aprovechar la visita de Javi Jiménez desde Tailandia: nos va a contar su experiencia haciendo proyectos grandes con React.

**Keep it simple, use React**

Actualmente React está siendo utilizado por organizaciones como Khan Academy, Netflix, Yahoo, Airbnb, Doist, Facebook, Instagram, Sony, Atlassian y muchas otras. Esto demuestra el

**Are you going?**

[Yes](#) [No](#)

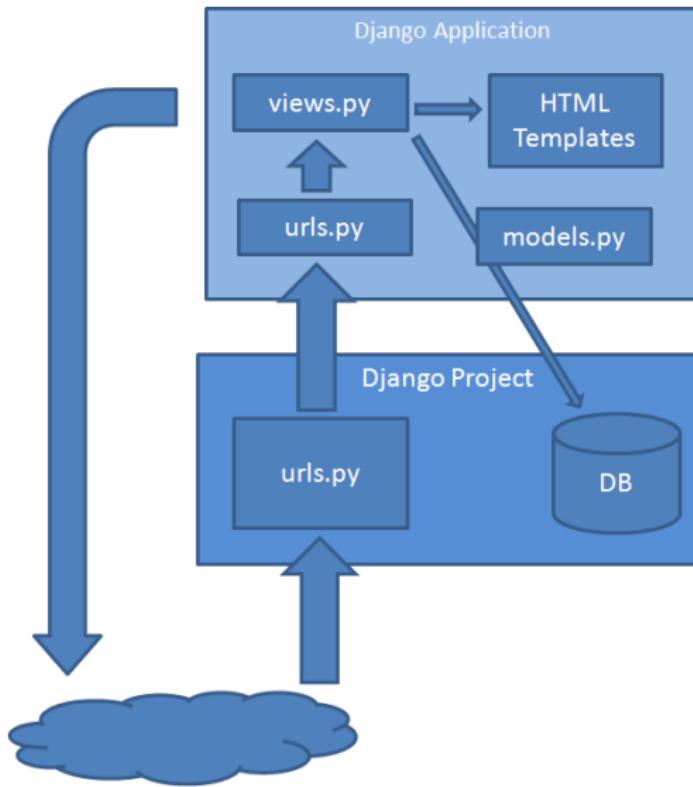
**277 going**

**soyjavi**  
EVENT HOST  
A self-taught human, in love with creating new stuff.

**Manuel Juan Fosela**  
CO-ORGANIZER  
EVENT HOST  
Programador web o eufemísticamente Ingeniero de Software de Internet XD

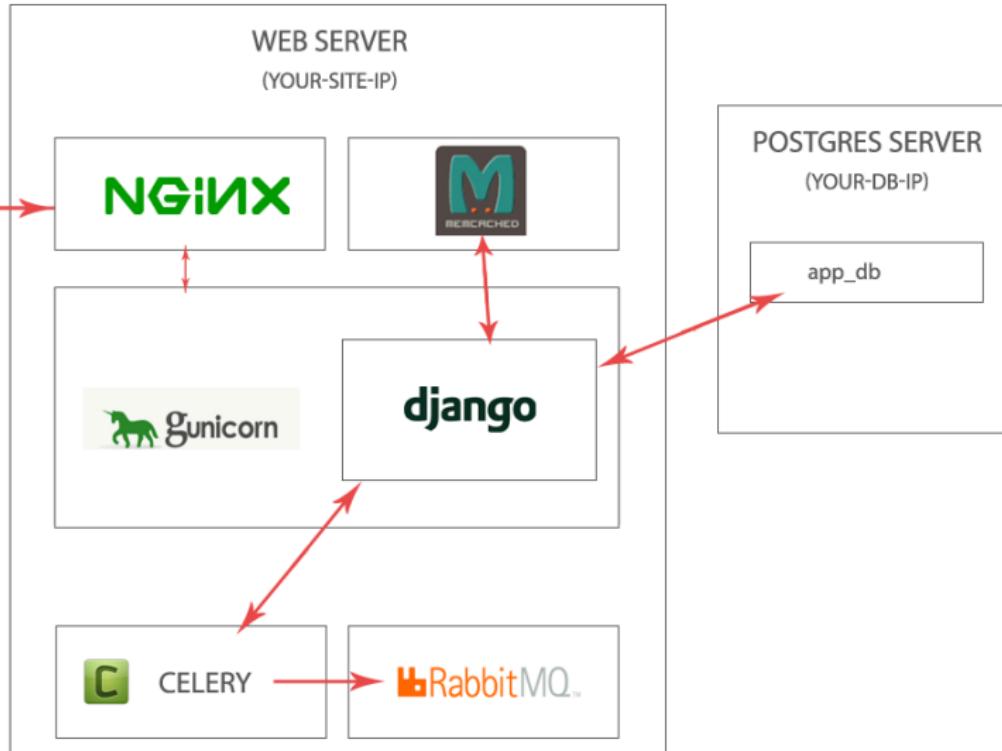
# Servidor web en Producción

# Lo que enseñamos en clase



- Mono-hilo
- Mono-tarea
- Caché básico
- Base de datos limitada (sqlite)
- Pensado para páginas dinámicas
- Sin planificación
- No tiempo real

# Un servidor web en producción



# Tecnologías

- Django: Framework web
- Nginx: Servidor web con balanceo de carga (<http://nginx.org/>)
- Memcached: Caché (<http://memcached.org/>)
- gunicorn: Servidor HTTP (<http://gunicorn.org/>)
- Celery: Tiempo real y planificación de tareas  
(<http://www.celeryproject.org/>)
- RabbitMQ: Mensajería (<https://www.rabbitmq.com/>)
- PostgreSQL: Base de datos (<http://www.postgresql.org/>)

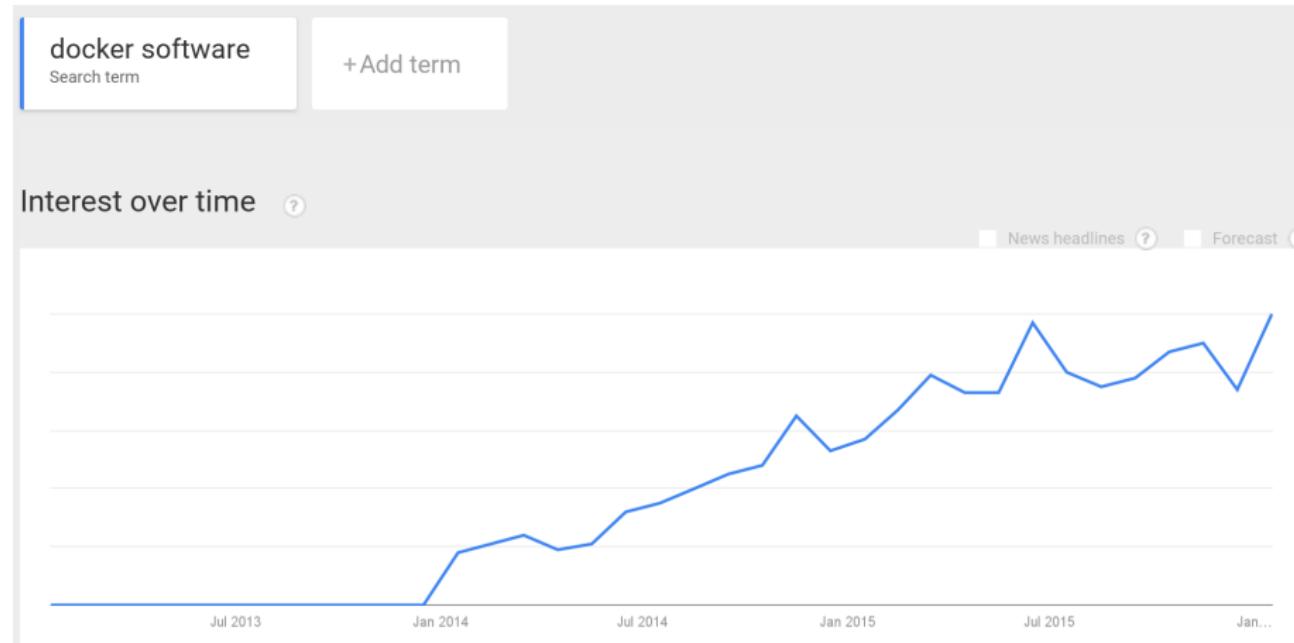
# Contenedores por todas partes



# Contenedores software

- Virtualización sobre sistema operativo
- Evolución de la idea de chroot
- Aislamiento (disco, memoria)
- Gestión de recursos
- Más ligero que máquinas virtuales completas
- Mismo kernel que host
- Docker, LXC, LXD, FreeBSD Jail...

# Docker (search trend)



# Docker



<http://docker.com>

<http://hub.docker.com/>

- Automatización del despliegue de aplicaciones en contenedores software
- Montado sobre cgroups (gestión de recursos), namespaces (separación de recursos), sistema de ficheros con unión

# Referencias y enlaces

Luke Price, "Containers, Port of Rotterdam", CC-by 2.0

<https://www.flickr.com/photos/lukeprice88/9703431992>

# Virtualizando, que es gerundio

# Máquina virtual

*Máquina virtual:*

*"Entorno de sistema operativo  
o aplicación  
que se instala sobre software  
que imita un hardware dedicado.*

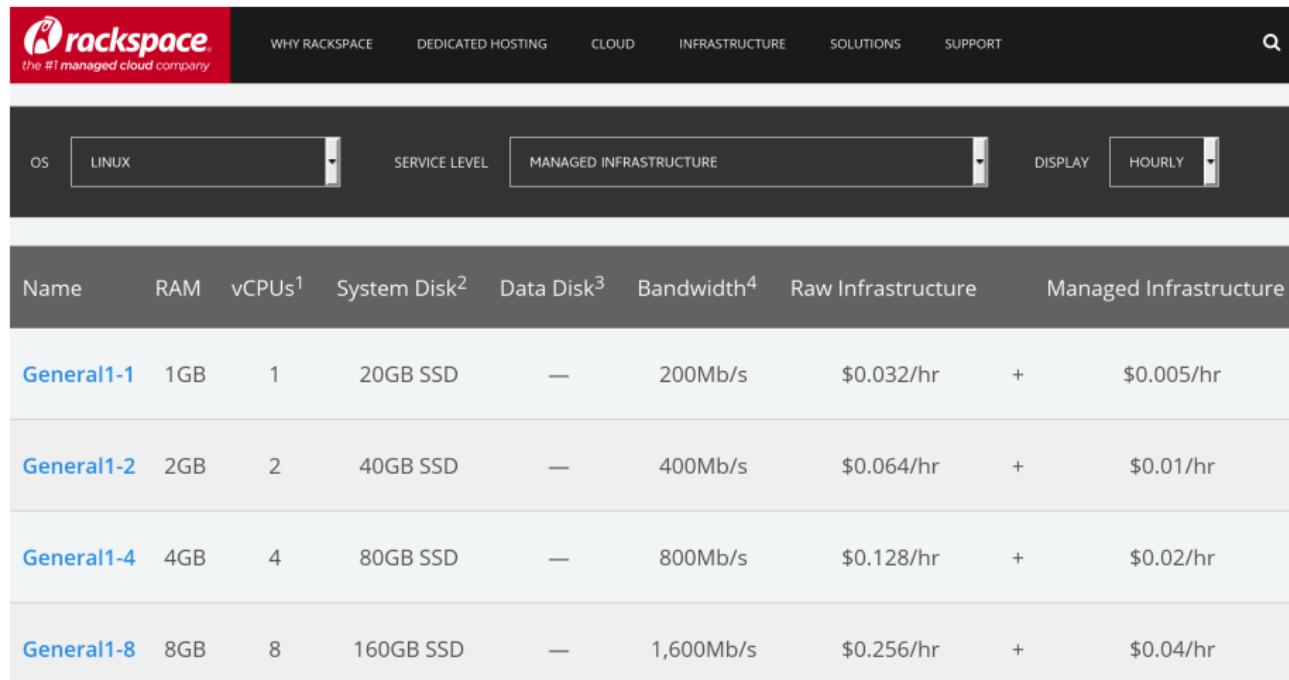
*Hipervisor:*

*comparte y gestiona el hardware  
aisla cada entorno*

# Algunos sistemas usados en virtualización

- QEMU: máquina virtual, emula varias arquitecturas hardware
- Xen: hipervisor con arquitectura microkernel
- KVM: extiende Linux con funciones de hipervisor
- VirtualBox: hipervisor para x86

# Una oferta cualquiera...



The screenshot shows the Rackspace website's server configuration interface. At the top, there's a navigation bar with links for WHY RACKSPACE, DEDICATED HOSTING, CLOUD, INFRASTRUCTURE, SOLUTIONS, and SUPPORT, along with a search icon. Below the navigation is a filter section with dropdown menus for OS (set to LINUX), SERVICE LEVEL (set to MANAGED INFRASTRUCTURE), DISPLAY (set to HOURLY), and a currency dropdown. The main table lists four server options:

| Name              | RAM | vCPUs <sup>1</sup> | System Disk <sup>2</sup> | Data Disk <sup>3</sup> | Bandwidth <sup>4</sup> | Raw Infrastructure | Managed Infrastructure |
|-------------------|-----|--------------------|--------------------------|------------------------|------------------------|--------------------|------------------------|
| <b>General1-1</b> | 1GB | 1                  | 20GB SSD                 | —                      | 200Mb/s                | \$0.032/hr         | + \$0.005/hr           |
| <b>General1-2</b> | 2GB | 2                  | 40GB SSD                 | —                      | 400Mb/s                | \$0.064/hr         | + \$0.01/hr            |
| <b>General1-4</b> | 4GB | 4                  | 80GB SSD                 | —                      | 800Mb/s                | \$0.128/hr         | + \$0.02/hr            |
| <b>General1-8</b> | 8GB | 8                  | 160GB SSD                | —                      | 1,600Mb/s              | \$0.256/hr         | + \$0.04/hr            |