

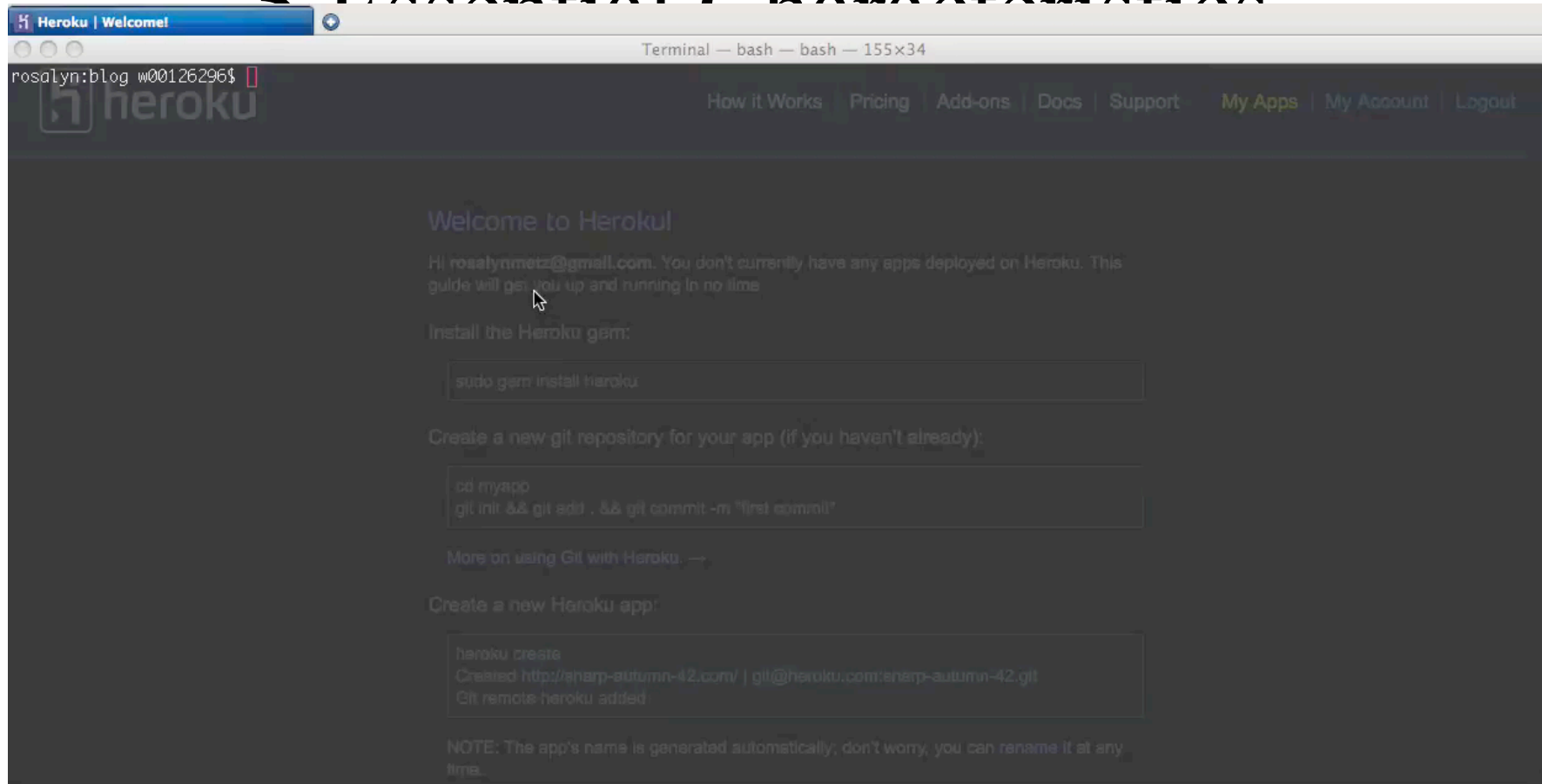
DEFINING THE CLOUD: 5 CHARACTERISTICS

5 Essential Characteristics

5 Essential Characteristics

- *On-demand self-service*
 - A consumer can unilaterally provision computing capabilities, such as server time and network storage, as needed automatically without requiring human interaction with each service provider.

5. Essential Characteristics



The screenshot shows a web browser window with the Heroku logo and navigation links. The main content area displays a welcome message and instructions for getting started with Heroku. The instructions include installing the Heroku gem, creating a new git repository, and creating a new Heroku app. A note at the bottom states that the app's name is generated automatically and can be renamed at any time.

Heroku | Welcome

Terminal — bash — bash — 155x34

rosalyn:blog w00126296\$

How it Works | Pricing | Add-ons | Docs | Support | **My Apps** | My Account | Logout

Welcome to Heroku!

Hi rosalynmetz@gmail.com. You don't currently have any apps deployed on Heroku. This guide will get you up and running in no time.

Install the Heroku gem:

```
sudo gem install heroku
```

Create a new git repository for your app (if you haven't already):

```
cd myapp  
git init && git add . && git commit -m "first commit"
```

More on using Git with Heroku. →

Create a new Heroku app:

```
heroku create  
Created http://sharp-autumn-42.com/ | git@heroku.com:sharp-autumn-42.git  
Git remote heroku added
```

NOTE: The app's name is generated automatically; don't worry, you can rename it at any time.

5 Essential Characteristics

- *On-demand self-service*
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- *Broad network access*
 - Capabilities are available over the network and accessed through standard mechanisms that promote use by heterogeneous thin or thick client platforms (e.g., mobile phones, tablets, laptops, and workstations).

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- *Resource pooling*
 - The provider's computing resources are pooled to serve multiple consumers. Resources can be dynamically assigned and reassigned according to customer demand. Customer generally may not care where the resources are physically located but should be aware of risks if they are located offshore

5 Essential Characteristics

- *On-demand self-service*

Amazon EC2

Amazon Elastic MapReduce

Amazon CloudFront

Navigation

Region: US East

> EC2 Dashboard

INSTANCES

> Instances

> Spot Requests

IMAGES

> AMIs

> Bundle Tasks

ELASTIC BLOCK STORE

> Volumes

> Snapshots

NETWORKING & SECURITY

> Elastic IPs

> Security Groups

> Key Pairs

> Load Balancers

Amazon EC2 Console Dashboard

Getting Started

To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.

Launch Instance

Note: Your instances will launch in the US East (Virginia) region.

Service Health

Current Status	Details
Amazon EC2 (US East - N. Virginia)	Service is operating normally

> View complete service health details

My Resources

You are using the following Amazon EC2 resources in the US East (Virginia) region:

0 Running Instances

0 Elastic IPs

0 EBS Volumes

1 EBS Snapshot

2 Key Pairs

2 Security Groups

0 Load Balancers

Refresh

Related Links

> Documentation

> All EC2 Resources

> Forums

> Feedback

> Report an Issue

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- *Rapid elasticity*
 - Capabilities can be expanded or released automatically (i.e., more cpu power, or ability to handle additional users) to the customer this appears seamless, limitless, and responsive to their changing requirements

ELASTIC DEMAND

**ELASTICITY
OF DEMAND**

=

**% CHANGE
IN QUANTITY**

**% CHANGE
IN PRICE**

EXAMPLE:

Because there are so many housing options, it is easy for people to not have to pay more than they want to.



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- *Measured service/Pay-as-you-go*
 - Customers are charged for the services they use and then amounts. There is a metering concept where customer resource usage can be monitored, controlled, and reported, providing transparency for both the provider and consumer of the utilized service

Measured Service



Characteristics

computing capabilities, such as server time and network requiring human interaction with each service

- *Broad network access*

- Capabilities promote laptops, etc.

- *Resource*

- The provider dynamically not care where located

- *Rapid elastic*

- Capabilities handle changing

- *Measured service*

- Customers customer provider



[Sign in to the AWS Management Console](#) | [Create an AWS Account](#)

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Account

- [Account Activity](#)
- [Usage Reports](#)
- [Security Credentials](#)
- [Personal Information](#)
- [Payment Method](#)
- [Consolidated Billing](#)
- [AWS Management Console](#)
- [DevPay](#)

Account Activity

[View Previous Statement](#) | [View Current Statement](#)

Welcome, Rosalyn Metz | [Sign Out](#)

Account Number 5777-1284-4344

Billing Statement: March 1, 2010

The billing cycle for this report is February 1 - February 28, 2010 .

Expand All Services Collapse All Services		Printer Friendly Version
		Totals
+ Amazon Elastic Compute Cloud		
View/Edit Service		
Download Usage Report »		3.81
+ Amazon Simple Storage Service		
View/Edit Service		
Download Usage Report »		0.01
Amazon Virtual Private Cloud		
View/Edit Service		
Download Usage Report »		0.00
Taxes		0.00
Total Charges due on March 1, 2010		\$3.82

Measured Service



Characteristics

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- *Low/No Maintenance*



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View/Edit Service		
Download Usage Report »		0.01
Amazon Virtual Private Cloud		
View/Edit Service		
Download Usage Report »		0.00
Taxes		0.00
Total Charges due on March 1, 2010		\$3.82