



Living Among the Clouds

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Agenda

- Using the cloud for small / startup projects
- Compare cloud computing options
- Breakout sessions
- Deploying to different cloud options



Not in Agenda

- Scaling / Load Balancing
- Performance Tuning
- Disaster Recovery
- Web server options
- Windows Servers :-)



What is “the cloud”?

- Virtual servers
- Servers as a commodity (i.e. on demand usage)
- Nobody knows where they are (like Spiderman)



Hosts of Hosts

- Amazon EC2
- Engine Yard Cloud
- Rackspace Cloud
- Heroku
- Other



Provisioning

- Moonshine
- Sprinkle
- Puppet
- Chef
- You



Amazon EC2

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Amazon EC2

- Run anything - many Linux flavors and Windows Server too
- Powerful machines
- Hourly rates
- Mount Drives and Backup to EBS



EC2 - Pricing

Standard Instances - US East

Size	RAM (GB)	ECU	Usage (per hour)	Monthly (approx.)
Small (32 bit)	1.7	1	\$0.085	\$61
Large (64 bit)	7.5	4	\$0.34	\$245
Extra Large	15	8	\$0.68	\$490



EC2 Reserved Instance

- Up-front fee, then reduced hourly rate
- Reduce *yearly* cost by about 50%

AWS Console

The screenshot displays the AWS Management Console interface. At the top, there's a navigation bar with the AWS logo, a search bar, and user information: "Welcome, Jason Derrett | Settings | Sign Out". Below this is a breadcrumb trail: "aws.amazon.com | AWS | Products | Developers | Community | Support | Account".

The main content area is titled "Amazon EC2 Console Dashboard". It features a left-hand navigation pane with a "Region" dropdown set to "US East". The navigation menu includes sections for "INSTANCES", "IMAGES", "ELASTIC BLOCK STORE", and "NETWORKING & SECURITY", each with expandable sub-items like "EC2 Dashboard", "Instances", "Spot Requests", "AMIs", "Bundle Tasks", "Volumes", "Snapshots", "Elastic IPs", "Security Groups", "Key Pairs", and "Load Balancers".

The central dashboard area is divided into several panels:

- Getting Started:** A yellow box with the text "To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 Instance." and a prominent "Launch Instance" button. A note below states: "Note: Your instances will launch in the US East (Virginia) region."
- Service Health:** A table showing the current status of Amazon EC2 in the US East - N. Virginia region. The status is "Service is operating normally".
- My Resources:** A summary of resources in the selected region: 0 Running Instances, 0 Elastic IPs, 0 EBS Volumes, 0 EBS Snapshots, 1 Key Pair, and 3 Security Groups. There is a "Refresh" button.
- Related Links:** A list of links including Documentation, All EC2 Resources, Forums, Feedback, and Report an Issue.



Engine Yard Cloud

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Engine Yard Cloud

- Built on Amazon EC2 with small premium
- Whole stack comes out of the box!
- Manages gems and packages!
- Auto deploy from source (git)
- No multi user access!! (share a login!)



Engine Yard Cloud

EY Cloud Pricing

Size	RAM (GB)	ECU	Usage (per hour)	Monthly (@720hrs)	w/bandwidth (guess)
Small (32 bit)	1.7	1	\$0.11	\$79	\$85
High CPU (32 bit)	1.7	5	\$0.20	\$144	\$155
Large (64 bit)	7.5	4	\$0.42	\$302	\$325
Extra Large	15	8	\$0.78	\$562	\$604

* Pay for storage, data to S3/EBS, and bandwidth (estimated at 7.5%)



Engine Yard Cloud

- Bring servers up/down at will (save \$\$)
- Automatic snapshot / backup / restore
- Monitoring / Alerts
- Deploy hooks in github
- Good support



EY Dashboard

Engine Yard Cloud™

Jim Mulholland

[Community Forum](#)

[Logout](#)

Dashboard

SERVER MANAGEMENT

Dashboard

[Instances](#)

[Applications](#)

[SSH Keys](#)

[SSL Certificates](#)

[IP Addresses](#)

[Usage Graphs](#)

[Database Backups](#)

[Extras](#)

[Quick Start](#)

Environments

[+ Create New Environment](#)

RedDirt

[Deploy](#)

[Terminate](#)

[Take Snapshot](#)

[Crontab](#)

[Clone](#)



Instances

[Alerts](#)

[Applications](#)

[Deploy Logs](#)

[Monitored URL](#)

[SSL](#)

Application (i-37a9e05c)

Small

[[SSH](#) | [HTTP](#)]

server fully configured and ready - 14 hours ago

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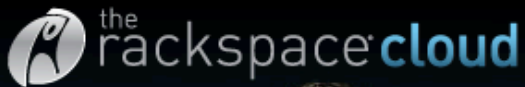


Rackspace Cloud

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Rackspace Cloud



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Welcome to The Rackspace Cloud

We're not just passionate about the Cloud. We're fanatics about it!

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Rackspace Cloud

- Many Linux flavors, Windows Beta
- 64 bit (even for small instances, woo-hoo!)
- Easy to scale up/down or clone
- Good pricing - pay for bandwidth
- If hardware fails, they respond



Rackspace Cloud

- Hack your own stack
- Initially - Backups tied to instance - watch out when you kill one
- Soon?? can use Cloud Files as images



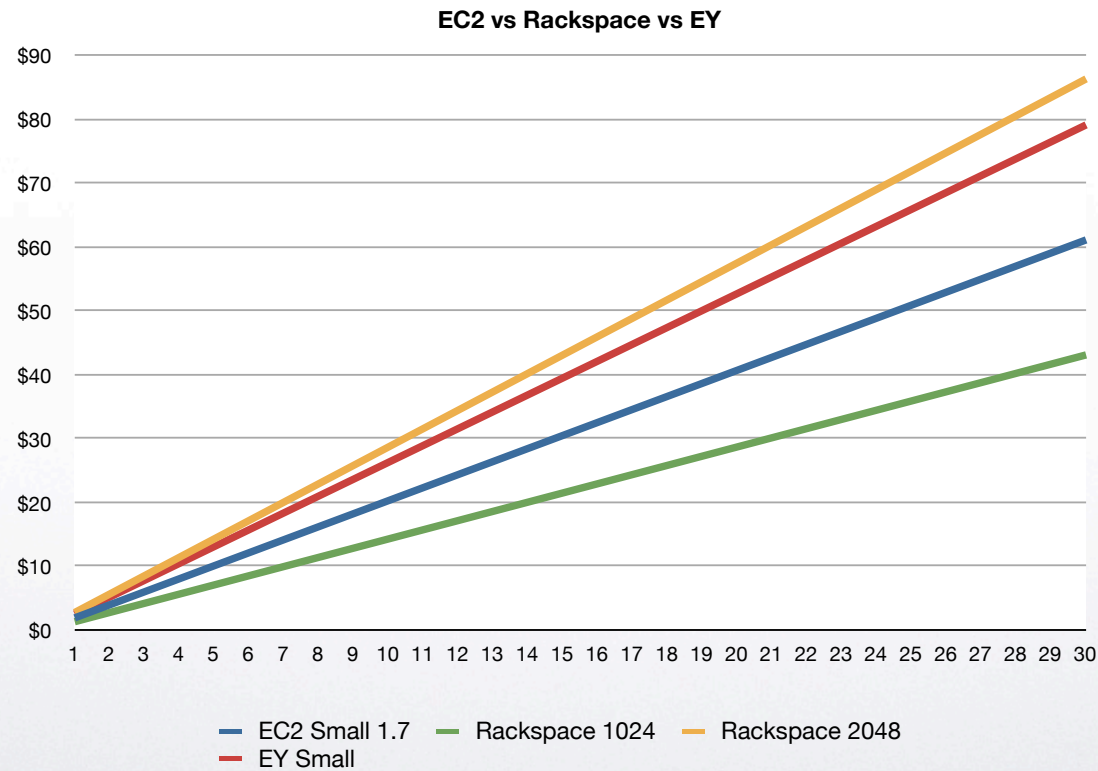
Rackspace Cloud

RAM	Disk(GB)	Hourly	Monthly@730hrs
256	10	\$0.015	\$11
512	20	\$0.03	\$22
1024	40	\$0.06	\$44
2048	80	\$0.12	\$88
...
15872	620	\$0.96	\$701

*CPU scales “accordingly” and can spike for free



EC2 vs Rackspace vs EY (monthly)





Heroku

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Heroku

- Built on Amazon EC2
- Don't really have to worry about servers
- Easy to deploy Rack apps
- Scale up at will (Dynos!)
- Deploy with “git push heroku master”



[How it Works](#) | [Pricing](#) | [Add-ons](#) | [Docs](#) | [Support](#)

create	instant deployment
deploy	pure git workflow
work	complete API

Everything apps need and more, all manageable by API:

```
$ heroku sharing:add fugu@sushi.com
$ heroku domains:add sushi.com
$ heroku rake db:migrate
$ heroku db:push
$ heroku addons:add memcached
```

rock-solid ruby platform

Fast, frictionless, and maintenance free.
Deploy and scale with confidence.

60,210

apps running right now

It's free to get started and sign up is instant.
Deploy your first app within minutes.

[Sign Up](#) ▶



Add-ons

build powerful apps easily
Extend Heroku, add features,
and connect services instantly.
Everything in one place.

Gartner Cool Vendor

Heroku recognized
Gartner names Heroku as a
Cool Vendor in Cloud
Computing.



shopify

powered by Heroku
Shopify.com depends on
continuous, reliable, secure
service with no headaches.



customer focus
Best Buy uses Heroku to
connected with their cust
and generate ideas



Heroku

- Many “ala carte” addons (Domains, DNS, SSL, Websolr, Exceptional, etc)
- Postgresql, MongoDB beta
- DB push/pull using taps (awesome)
- Remote logs/console/rake (not awesome)



Heroku

- READ ONLY FILESYSTEM. This means you have to behave accordingly - usually a good thing
- Promotes scaling up easily
- Can't generate CSS files in the "usual" places - put into source control or use tmp
- Assets should not be on the app server anyway. Put them on S3 instead...etc



Heroku Pricing

Database

Shared Cluster

Shared DBs offer highest peak performance. Cost-effective, but performance is variable.



Blossom **FREE**

5MB database max
Free database for development



Koi **\$15**

20GB database max
Fast but variable performance

[Read about our recent database pricing changes.](#)

Dedicated

Dedicated DBs offer dedicated compute units for predictable performance.



Ronin **\$200**

1 compute unit
2TB database max



Fugu **\$400**

5 compute units
2TB database max



Zilla **\$1600**

20 compute units
2TB database max

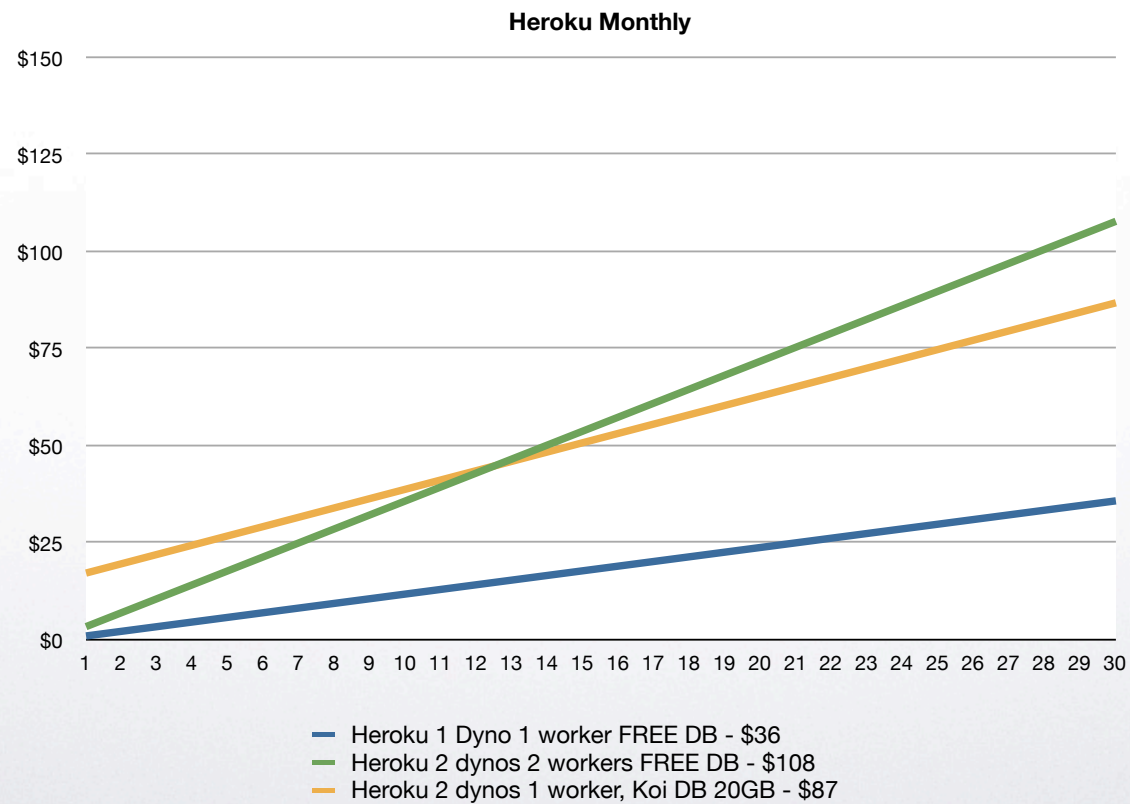


Heroku Pricing

- Monthly charges - based on DB size
- Add ons prorated monthly
- Dynos by the hour
- Workers by the hour



Heroku Pricing





Deploy!

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Demo repositories

- http://github.com/squeeejee/reddirt_rails_demo
- <http://reddirtrails.herokuapp.com/>
- <http://github.com/squeeejee/reddirtsinatra>
- <http://reddirtsinatra.herokuapp.com/>



Engine Yard Quickstart

- Sign up
- Create environment
- Set up SSH keys
- Create application (from github)
- Set up deploy keys
- Set up gems/packages
- Launch instance
- <http://yourinstanceip>
- Bask in glory



EY commit hook

- http://github.com/squeejee/reddirt_rails_demo
- `git commit -m"[deploy RedDirt] Testing deployment from git push"`



Rackspace Quickstart

- Get an account
- Launch an instance
- Build your stack (ouch)
- Deploy with
Moonshine, Capistrano,
etc
- Set up DNS, etc
- Bask in glory



Heroku Quickstart

- <http://docs.heroku.com/quickstart>
- Sign up <http://api.heroku.com/signup>
- `gem install heroku`
- Create your app
- `git init / git first commit, etc`
- `“heroku create <name>”`
- `git push heroku master`
- Bask in glory



Decisions, Decisions

- Quick and dirty?
- Total control
- Lowest cost?
- Easiest to scale?
- Support?
- Storage / CPU / Memory



Questions?

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Thank You

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