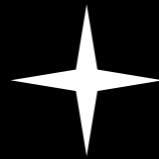


Deploying Auto-Scalable Infrastructure Workshop



ThoughtWorks®



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Download this

- <http://bit.ly/tw-as-type>

Today's Goals

- Create RDS instance
- Deploy using user-data and Puppet
- Create load balancer
- Create auto-scaling group
- Automate with CloudFormation

Security Credentials



aws.amazon.com

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Your Account

> **Account Activity**

View current charges and account activity, itemized by service and by usage type. Previous months' billing statements are also available.

> **Usage Reports**

Download usage reports for each service you are subscribed to. Reports can be customized by specifying usage types, timeframe, service operations, and more.

> **Security Credentials**

Amazon Web Services uses access identifiers to authenticate requests to AWS and to identify the sender of a request. Three types of identifiers are available: (1) AWS Access Key Identifiers, (2) X.509 Certificates, and (3) Key pairs

> **Personal Information**

View and edit personal contact information, such as address and phone number. Set communication preferences for email subscriptions.


Access Credentials

Access Credentials

There are three types of access credentials used to authenticate your requests to AWS services: (a) access keys, (b) X.509 certificates, and (c) key pairs. Each access credential type is explained below.

 **Access Keys**

 X.509 Certificates

 Key Pairs

Use access keys to make secure REST or Query protocol requests to any AWS service API. We create one for you when your account is created — see your access key below.

Your Access Keys

Created	Access Key ID	Secret Access Key	Status
March 10, 2011	AKIAJPPZLZ6XKTL3LTAQ	Show	Active (Make Inactive)

[Create a new Access Key](#)

[View Your Deleted Access Keys](#)

For your protection, you should never share your secret access keys with anyone. In addition, industry best practice recommends frequent key rotation.

 [Learn more about Access Keys](#)

X.509 Certificates

Access Credentials

There are three types of access credentials used to authenticate your requests to AWS services: (a) access keys, (b) X.509 certificates, and (c) key pairs. Each access credential type is explained below.

[Access Keys](#) **X.509 Certificates** [Key Pairs](#)

Use X.509 certificates to make secure SOAP protocol requests to AWS service APIs.

Exceptions: Amazon S3 and Amazon Mechanical Turk instead require your [Access Keys](#) for SOAP requests.

Created	X.509 Certificate	Status
November 7, 2010	cert-4DAAOQFUSWD22BSD53QFUZ6LQOXYHRUK.pem (Download)	Active (Make Inactive)

[Create a new Certificate](#) | [Upload Your Own Certificate](#)

[View Your Deleted Certificates](#)

For your protection, AWS doesn't ask for your private key or retain it on file. You should also never share your private key with anyone. In addition, industry best practice recommends frequent certificate rotation.

[Learn more about X.509 Certificates](#)

Create Certificate

X509 Certificate Created

You have successfully created a new X.509 Certificate.

Please download your Private Key file now. You must download your Private Key file (pk-), by clicking the link below before you navigate away from this page. AWS does not store your private key information. You will not be able to download the Private Key file at any other time. If you do not download the Private Key file now, you will have to create a new certificate and private key.

[Download Private Key File](#)

IMPORTANT: You should store your Private Key file in a secure location. If you lose your Private Key file you will need to create a new certificate to use with your account. AWS does not store Private Key Information.

Your Private Key is secret, and should be known only by you. You should never include your Private Key information in a requests to AWS, except encrypted as a signature. You should also never e-mail your Private Key file to anyone. It is important to keep your Private Key confidential to protect your account.

Please download your certificate file. You can download your certificate file now using the link below, or at your convenience from the Security Credentials page.

[Download X.509 Certificate](#)

[Close](#)

Get Account ID

Account Identifiers

AWS uses two types of account identifiers — canonical user ID and AWS account ID. These account identifiers are used to share resources between accounts.

The canonical user ID can be used exclusively for Amazon S3 resources such as buckets or files.

The AWS account ID can be used for all AWS service resources except Amazon S3. These resources include Amazon EC2 AMIs, Amazon EBS snapshots, Amazon SQS queues, etc.

AWS Account ID: 4791-0720-0387

Canonical User ID: [View canonical user ID](#)

[Learn more about Account Identifiers](#)

Copy certificate files

- `scp cert-* .pem`
`ec2-user@machine: .ec2/ec2-cert.pem`
- `scp pk-* .pem`
`ec2-user@machine: .ec2/ec2-pk.pem`

SSH to the machine

- `ssh ec2-user@<hostname>`

Access & Secret Keys

- Open `~/ .ec2/aws .credentials`
- Set your AWS Access Key
- Set your AWS Secret Key

Verify everything works

- `ec2-describe-images -o amazon`

RDS Security Group

- `rds-create-db-security-group lab
-d 'RDS group for lab'`

Create RDS Instance

- `rds-create-db-instance lab-db`
 - `-a lab -s 5`
 - `-c db.m1.small`
 - `-e MySQL`
 - `-u awslab`
 - `-p awspass`
 - `--db-name lab`

EC2 Security Group

- `ec2-add-group lab
-d 'Web group for the lab'`

Open Web Ports

- `ec2-authorize lab`
`-p 8888 -s '0.0.0.0/0'`

Open DB Ports

- `rds-authorize-db-security-group-ingress lab`
-g lab
-o <Account Number No Dashes>

Create Load Balancer

- `elb-create-lb lab-lb
-l "lb-port=80,instance-
port=8888,protocol=http"
-z us-east-1a,us-east-1b`

Health Check Config

- `elb-configure-healthcheck`
`lab-lb`
`--target`
`"HTTP:8888/wp-admin/install.php"`
`--interval 5`
`--timeout 3`
`--unhealthy-threshold 2`
`--healthy-threshold 2`

Wait for RDS creation

- `rds-describe-db-instances`

User Data File

- `lab:aws1ab:awspass:3306:<RDS-Endpoint>:8888:<ELB-DNS-Name>`

Launch EC2 Instance

- `ec2-run-instances ami-f417e49d`
 `-f </user/data/file>`
 `-g lab`

Add Instance to LB

- `elb-register-instances-with-lb`
`lab-lb`
`--instances i-6693d009`

Auto Scaling Config

- `as-create-launch-config lab-1c`
 - `-i ami-f417e49d`
 - `-t m1.small`
 - `--group lab`
 - `--user-data-file </user/data/file>`

Auto Scaling Group

- `as-create-auto-scaling-group`
`lab-group`
`-l lab-1c`
`-z us-east-1a,us-east-1b`
`--min-size 2`
`--max-size 2`

Let's try again with CF

- CloudFormation allows you to accomplish everything we have done so far with a single API call or console interaction

Delete AutoScaling

- `as-update-auto-scaling-group
lab-group
--min-size 0
--max-size 0`
- `# wait for a while to drain`
- `as-delete-auto-scaling-group
lab-group`

Stop Everything Else

- Shut down any EC2 nodes
- Terminate RDS instance
- Delete Elastic Load Balancer

Cloud Formation

AWS Elastic Beanstalk Amazon S3 Amazon EC2 Amazon VPC Amazon CloudWatch Amazon Elastic MapReduce Amazon CloudFront AWS CloudFormation Amazon RDS Amazon SNS

Stacks

Region: US East (Virginia)

Viewing: All Stacks 1 to 1 of 1 Items

	Stack Name	Created	Status	Description
<input type="checkbox"/>	wordpress	2011-04-20T07:00:51Z	CREATE_COMPLETE	WordPress is web software you can use to create a beautiful

0 Stacks selected

Select a stack above

Create a stack

Create Stack Cancel X

SELECT TEMPLATE SPECIFY PARAMETERS REVIEW

AWS CloudFormation gives you an easier way to create a collection of related AWS resources (a stack) by describing your requirements in a template. To create a stack, fill in the name for your stack and select a template. You may choose one of the sample templates to get started quickly, or one of your own templates stored in S3 or on your local hard drive.

Stack Name:

Stack Template Source:

Use a sample template

Upload a Template File

Provide a Template URL

Show Advanced Options

Continue ▶

Wait for stack

- Wait for the stack to come up
- Load balancer url under Outputs

Delete Stack

- Another single API call or console interaction

