

Lab: Getting Started with Boto

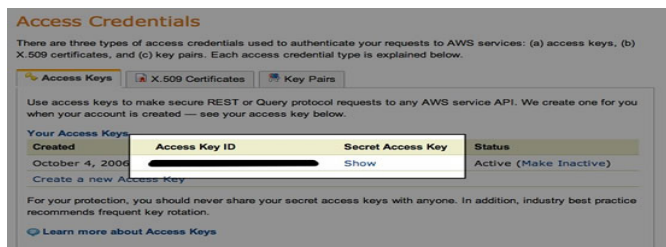
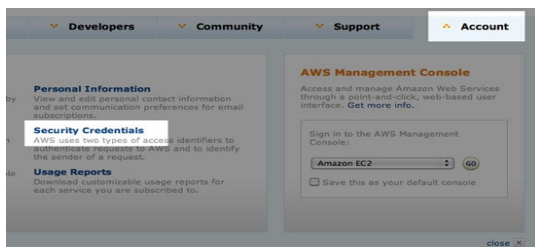
Lab. Getting Started with Boto

Boto is “an integrated interface to current and future infrastructural services offered by Amazon Web Services”. It enables you to get connected to AWS using Python and send requests to it. To install Boto in windows, first you will need to download the zipped package of Boto at: <https://github.com/boto/boto/downloads/> and install it on your computer. A detailed documentation for Boto can be found at: <http://boto.readthedocs.org/>.

1. Working with S3

a) Creating a connection to S3

In order to get connected to S3, you'll need to set your Access Key ID and Secret Access Key, which you can create or delete in the “Security Credentials” page.



```
if not boto.config.has_section('Credentials'):
    boto.config.add_section('Credentials')
```

```
# Set the keys
```

```
boto.config.set('Credentials', 'aws_access_key_id', 'your access key id')
boto.config.set('Credentials', 'aws_secret_access_key', 'your secret access key')
```

```
# Connect to S3
```

```
s3=boto.connect_s3()
```

b) Creating a bucket

Bucket is a container used to store key/value pairs in S3. You can choose to create one bucket for all of your data or to create separate buckets for different types of data. The name of a bucket needs to be unique. For example, you can name a bucket by including a prefix of your access key:

```
mybucket=s3.create_bucket('YOUR_AWS_ACCESS_KEY_myBucket')
```

Once a bucket is created, you can access it or list all the buckets.

```
mybucket = s3.get_bucket('YOUR_AWS_ACCESS_KEY_myBucket')
```

c) Storing data in S3

Before you can store your data, a unique key needs to be created first and used to keep track of your data stored in S3.

```
# Create a new key
```

```
key = mybucket.new_key('examples/first_file.csv')
```

```
# Set contents for the key
```

```
key.set_contents_from_filename('D:\\aws\\first_file.csv')
```

```
# Set accessibility
```

```
key.set_acl('public-read')
```

d) Downloading and copying data

The data stored in S3 can be downloaded or copied from one bucket to another

```
# Download file
Key=s3.get_bucket(YOUR_AWS_ACCESS_KEY_myBucket').get_key('examples/first_file.csv')
key.get_contents_to_filename('/myfile.csv')
```

```
# Copy file
new_key = key.copy('YOUR_AWS_ACCESS_KEY_myBucket2', 'examples2/second_file.csv')
```

2. Working with EC2

Creating a connection to EC2

Before getting connected to EC2, you need to make sure your credential information is set properly. Please refer to 1.a) for more information.

a) Launching instances

An instance can now be launched as follows. You can either build your own image with ami-image-id or go with a prebuilt one, which will launch an instance in the specified region with the default parameters.

```
ec2.run_instances (
    '<ami-image-id>',
    key_name='ec2-sample-key',
    instance_type='c1.xlarge',
    security_groups=['your-security-group-here'])
```

A key pair can then be created if you do not have one.

```
key_pair = ec2.create_key_pair('ec2-sample-key')
key_pair.save('/Users/xxx/.ssh')
```

b) Stopping Instances and Terminating Instances

You can stop or even terminate specified instances if you would need to.

```
ec2.stop_instances (instance_ids=['instance-id-1','instance-id-2', ...])
ec2.terminate_instances (instance_ids=['instance-id-1','instance-id-2', ...])
```

c) Monitoring Instances

It is often needed to know which instances are currently running or not by accessing a specific reservation and its associated instances.

```
reservations = conn.get_all_reservations()
instances = reservations[0].instances
```

To get more detailed information about an instance, you can run the following lines :

```
inst = instances[0]
inst.instance_type # returns u'c1.xlarge' for example
inst.placement # returns u'us-west-2' for example
```

References

Getting started with AWS and Python

<https://aws.amazon.com/articles/3998> .

Getting started with Amazon S3 <http://aws.amazon.com/s3/getting-started/> .

Getting started with Amazon EC2 http://docs.aws.amazon.com/AWSEC2/latest/WindowsGuide/EC2Win_GetStarted.html .

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Resources Needed	
Work Mode	
Relation to Project	
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