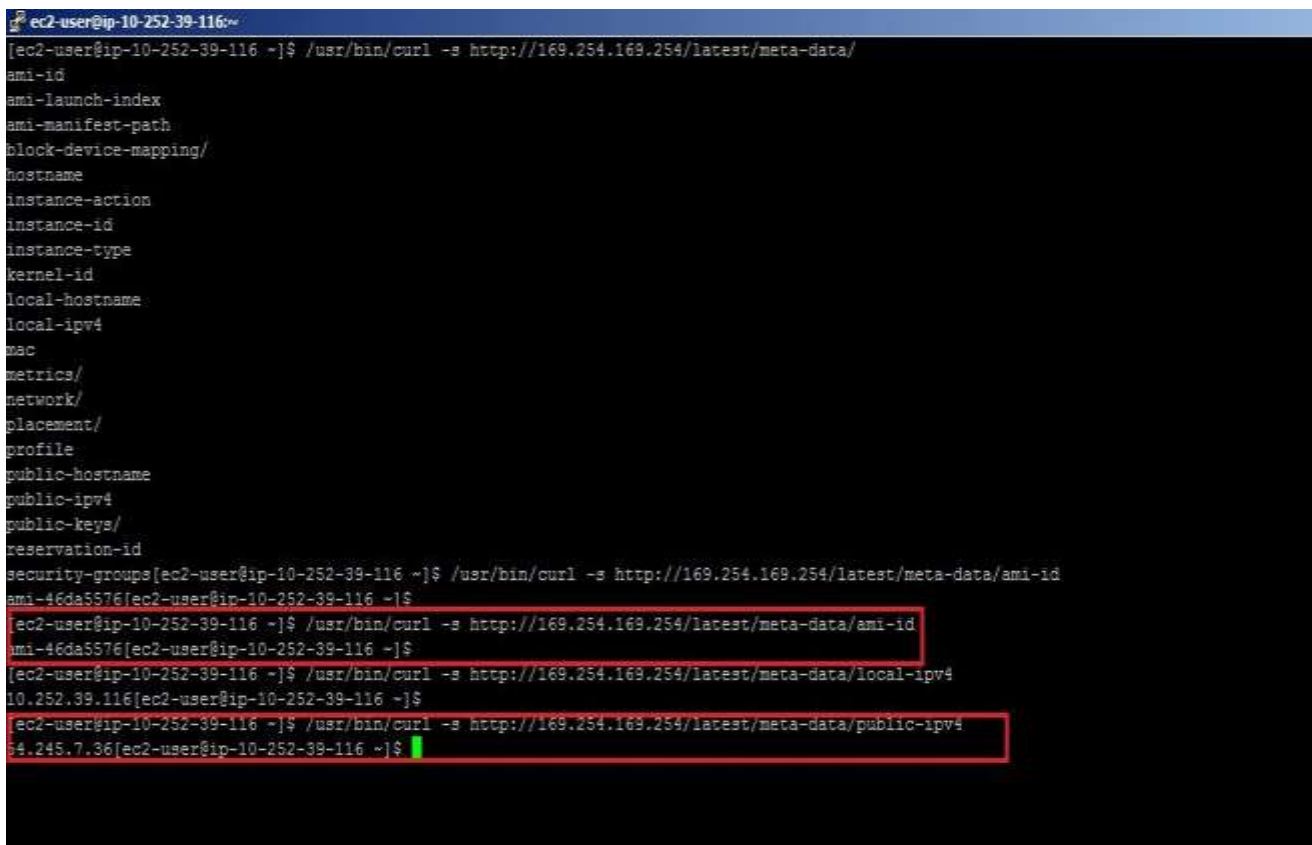


How to access the Instance metadata:

1. Enter your AWS account Console, launch a linux instance and connect to it.
2. To get the Instance metadata run: **GET <http://169.254.169.254/latest/meta-data/>**
3. Run the Linux command **/usr/bin/curl -s <http://169.254.169.254/latest/meta-data/>**
4. It will list the available metadata. If you want specific metadata like ami-id, public-ip or local ip run commands as shown in below image.

A terminal window screenshot showing the process of accessing AWS instance metadata. The prompt is 'ec2-user@ip-10-252-39-116:~'. The first command is '/usr/bin/curl -s http://169.254.169.254/latest/meta-data/'. The output lists various metadata paths: ami-id, ami-launch-index, ami-manifest-path, block-device-mapping/, hostname, instance-action, instance-id, instance-type, kernel-id, local-hostname, local-ipv4, mac, metrics/, network/, placement/, profile, public-hostname, public-ipv4, public-keys/, reservation-id, and security-groups. The second command is '/usr/bin/curl -s http://169.254.169.254/latest/meta-data/ami-id', which returns 'ami-46da5576'. The third command is '/usr/bin/curl -s http://169.254.169.254/latest/meta-data/local-ipv4', which returns '10.252.39.116'. The fourth command is '/usr/bin/curl -s http://169.254.169.254/latest/meta-data/public-ipv4', which returns '54.245.7.36'. The last three commands and their outputs are highlighted with red boxes.

```
ec2-user@ip-10-252-39-116:~$ /usr/bin/curl -s http://169.254.169.254/latest/meta-data/
ami-id
ami-launch-index
ami-manifest-path
block-device-mapping/
hostname
instance-action
instance-id
instance-type
kernel-id
local-hostname
local-ipv4
mac
metrics/
network/
placement/
profile
public-hostname
public-ipv4
public-keys/
reservation-id
security-groups[ec2-user@ip-10-252-39-116 ~]$ /usr/bin/curl -s http://169.254.169.254/latest/meta-data/ami-id
ami-46da5576[ec2-user@ip-10-252-39-116 ~]$ /usr/bin/curl -s http://169.254.169.254/latest/meta-data/ami-id
ami-46da5576[ec2-user@ip-10-252-39-116 ~]$ /usr/bin/curl -s http://169.254.169.254/latest/meta-data/local-ipv4
10.252.39.116[ec2-user@ip-10-252-39-116 ~]$ /usr/bin/curl -s http://169.254.169.254/latest/meta-data/public-ipv4
54.245.7.36[ec2-user@ip-10-252-39-116 ~]$
```

5. A few more samples like get availability zone (here us-west-2b), instance-type (here micro), mac, security group, public host name of running instance is shown below.

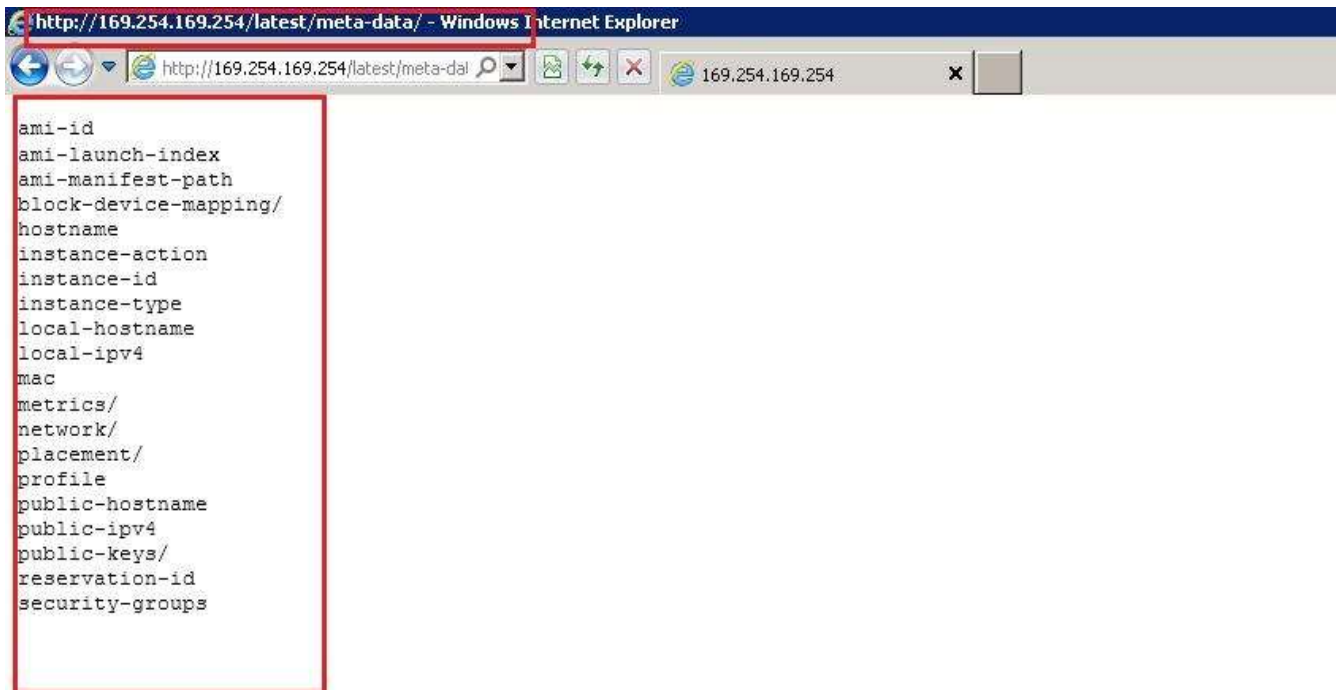
```
ec2-user@ip-10-252-39-116:~  
[ec2-user@ip-10-252-39-116 ~]$ /usr/bin/curl -s http://169.254.169.254/latest/meta-data/placement/availability-zone  
us-west-2b[ec2-user@ip-10-252-39-116 ~]$  
[ec2-user@ip-10-252-39-116 ~]$ /usr/bin/curl -s http://169.254.169.254/latest/meta-data/instance-type  
t1.micro[ec2-user@ip-10-252-39-116 ~]$  
[ec2-user@ip-10-252-39-116 ~]$ /usr/bin/curl -s http://169.254.169.254/latest/meta-data/mac  
22:00:0A:FC:27:74[ec2-user@ip-10-252-39-116 ~]$  
[ec2-user@ip-10-252-39-116 ~]$ /usr/bin/curl -s http://169.254.169.254/latest/meta-data/security-groups  
quick-start-2[ec2-user@ip-10-252-39-116 ~]$  
[ec2-user@ip-10-252-39-116 ~]$ /usr/bin/curl -s http://169.254.169.254/latest/meta-data/public-hostname  
ec2-54-245-7-36.us-west-2.compute.amazonaws.com[ec2-user@ip-10-252-39-116 ~]$
```

6. You can also run command `wget` instead of `curl` to get the instance metadata. Run command `wget -q -O - http://169.254.169.254/latest/meta-data/`.

7. For example if you want to get `ami-id` using `wget`, run command `wget -q -O - http://169.254.169.254/latest/meta-data/ami-id` to get AMI id.

```
ec2-user@ip-10-252-59-53:~  
[ec2-user@ip-10-252-59-53 ~]$ wget -q -O - http://169.254.169.254/latest/meta-data/  
ami-id  
ami-launch-index  
ami-manifest-path  
block-device-mapping/  
hostname  
instance-action  
instance-id  
instance-type  
kernel-id  
local-hostname  
local-ipv4  
mac  
metrics/  
network/  
placement/  
profile  
public-hostname  
public-ipv4  
public-keys/  
reservation-id  
security-groups[ec2-user@ip-10-252-59-53 ~]$ wget -q -O - http://169.254.169.254/latest/meta-data/ami-id  
ami-46da5576[ec2-user@ip-10-252-59-53 ~]$
```

8. If you are in windows, you can run the command as SOAP call in browser or call from the AWS SDK / API.
9. If you type in the browser <http://169.254.169.254/latest/meta-data/> , it will return all the instance metadata.



10. Now if you want to query particular data send in the URL that metadata. E.g. If you want to know local IP of instance, type in the browser <http://169.254.169.254/latest/meta-data/local-ipv4>.



How to add your own metadata to an instance and get it from instance -

12. When you launch an instance, it asks to provide the metadata.

13. If it is an EBS backed instance, you can stop the instance and provide the metadata.

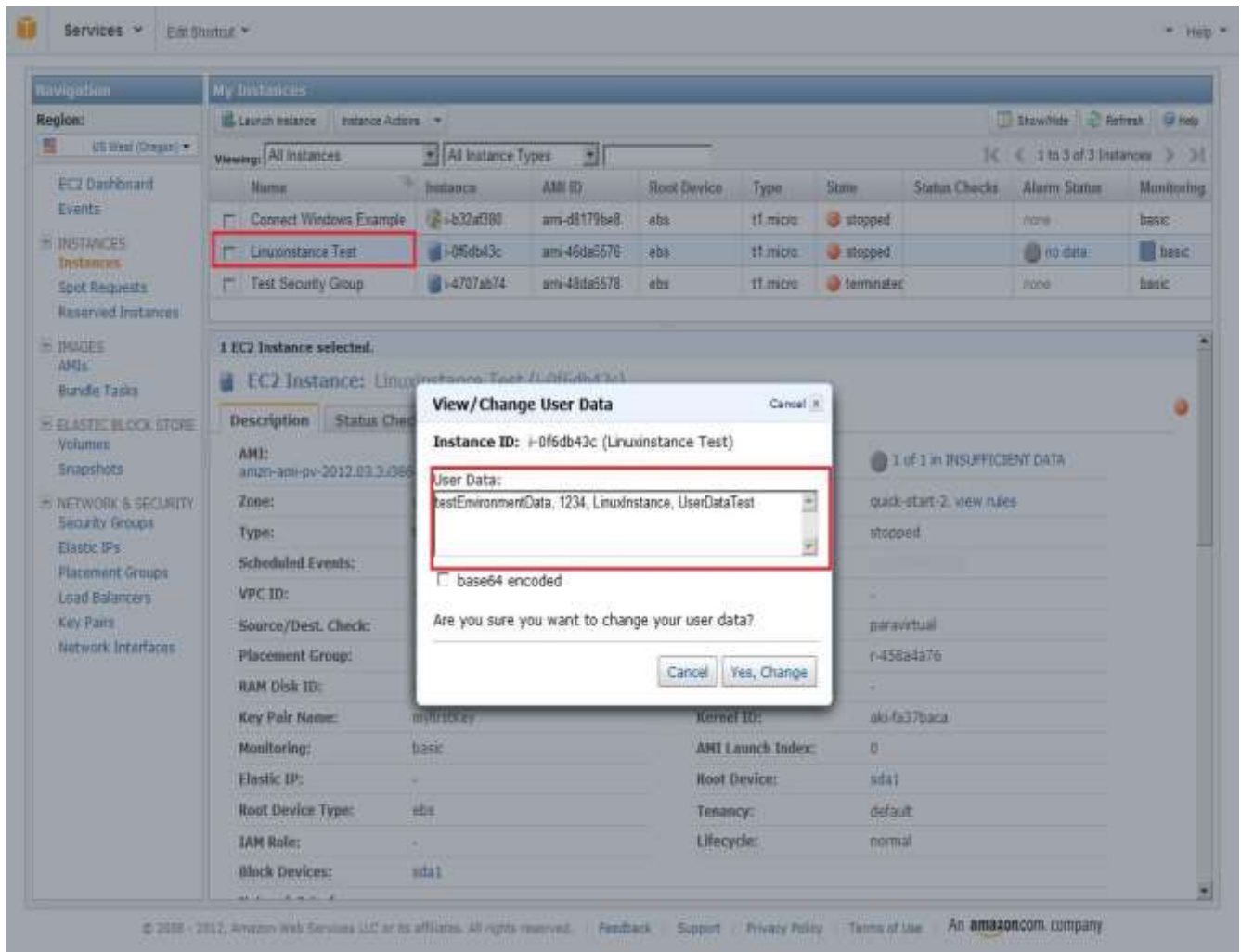
The screenshot shows the AWS Management Console interface. On the left is the navigation pane with categories like EC2 Dashboard, INSTANCES, IMAGES, ELASTIC BLOCK STORE, and NETWORK & SECURITY. The main area is titled 'My Instances'. A table lists three instances:

Root Device	Type	State	Status Checks	Alarm Status	Monitoring
pe8	ebs	t1.micro	stopped	none	basic
i-376	ebs	t1.micro	stopped	no data	basic
i-378	ebs	t1.micro	terminated	none	basic

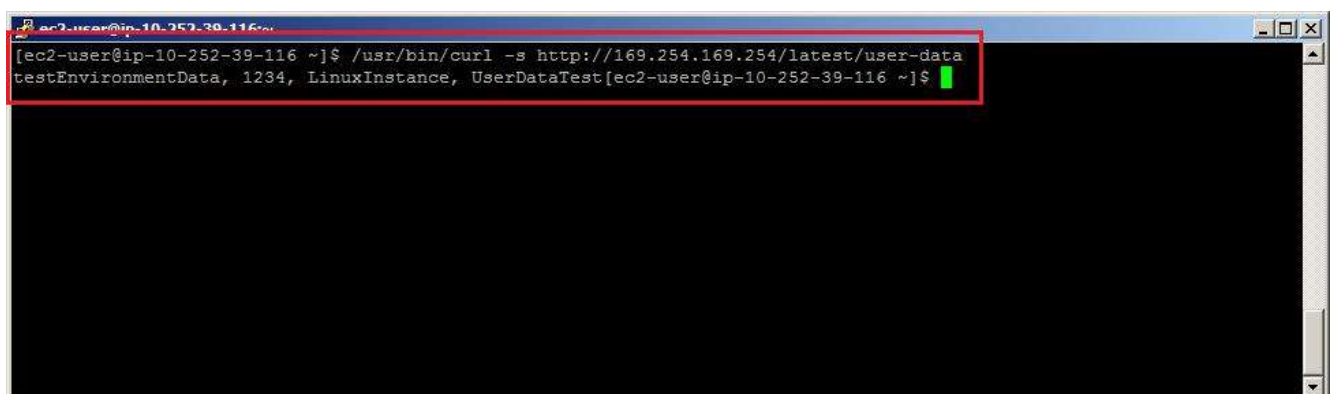
The 'Instance Actions' dropdown menu is open for the selected instance 'i-376'. The 'View/Change User Data' option is highlighted. The details for instance 'i-376' are shown on the right:

- Alarm Status: 1 of 1 in INSUFFICIENT DATA
- Security Groups: quick-start-2, view rules
- State: stopped
- Owner: -
- Subnet ID: -
- Virtualization: paravirtual
- Reservation: r-458a4a76
- Platform: -
- Kernel ID: aki-fa37baca
- AMI Launch Index: 0
- Root Device: sda1
- Tenancy: default
- Lifecycle: normal

At the bottom, the footer contains copyright information and a URL: <https://console.aws.amazon.com/ec2/home?region=us-west-2#>



15. In order to get the metadata of Linux instance run the following command -
`/usr/bin/curl -s http://169.254.169.254/latest/meta-data/user-data.`



As shown above either you can get instance metadata or your own metadata in the instance. This option is very useful when you want to pass boot parameters or pass some instructions during instance boot. Also when you have to configure DB connection / register your instance with monitoring tool or some configuration management tool the metadata is very handfult.

