Cloud Administrator & Security Engineer

SCRIPTING & DEVOPS

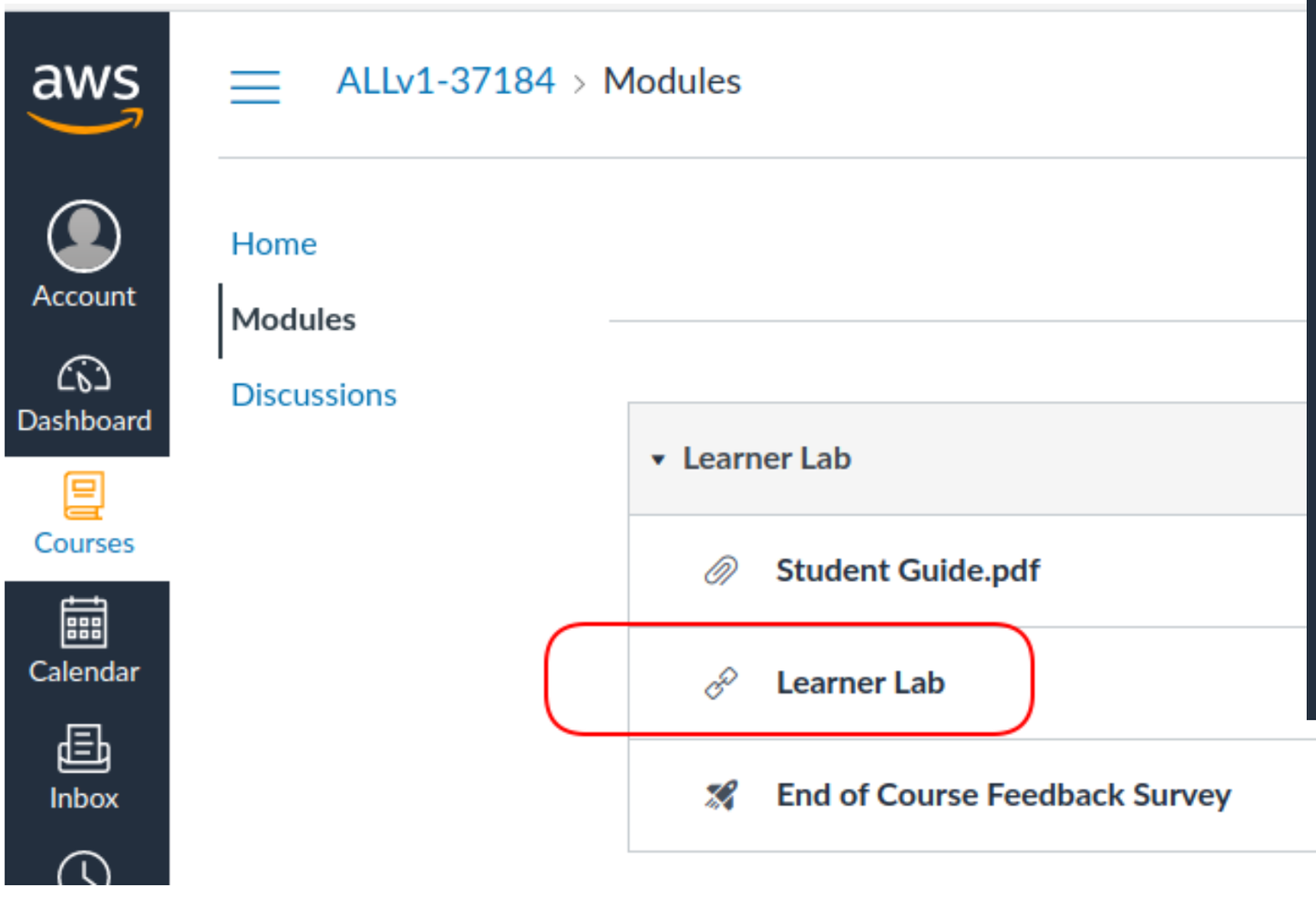
SCRIPTING BASH LAB

andrea.scrivanti@gmail.com
Andrea Scrivanti

Gen-Mar 2023

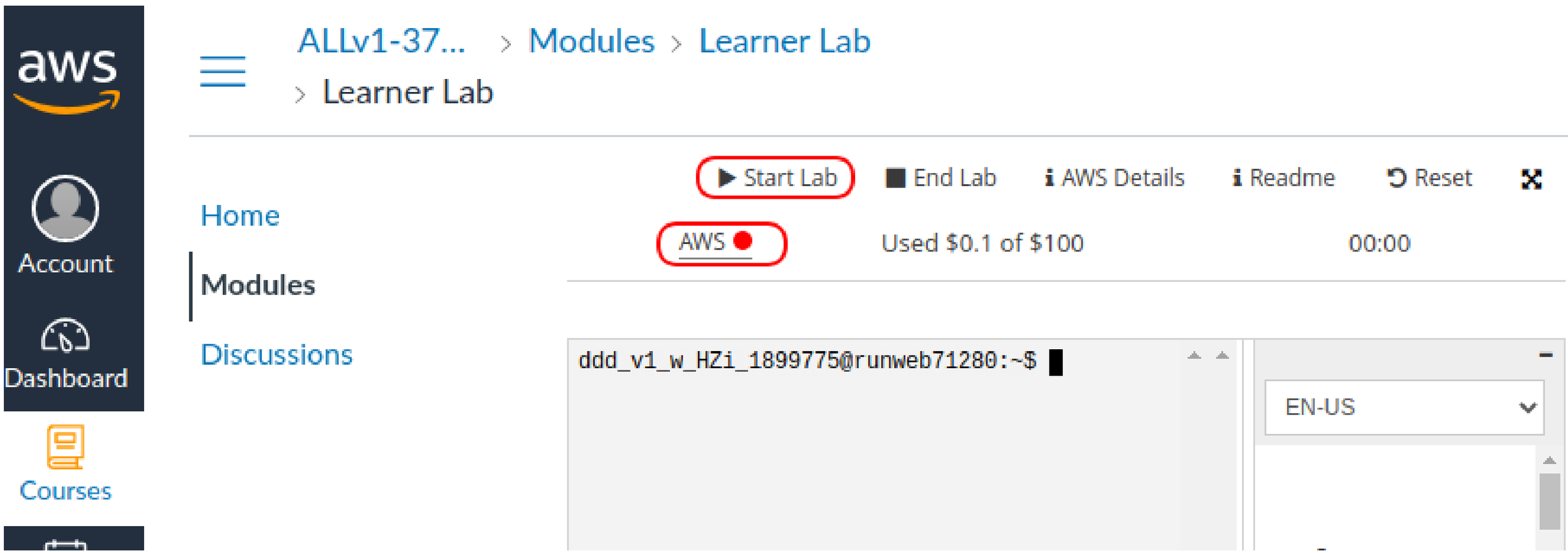
AWS Academy access

- https://awsacademy.instructure.com/



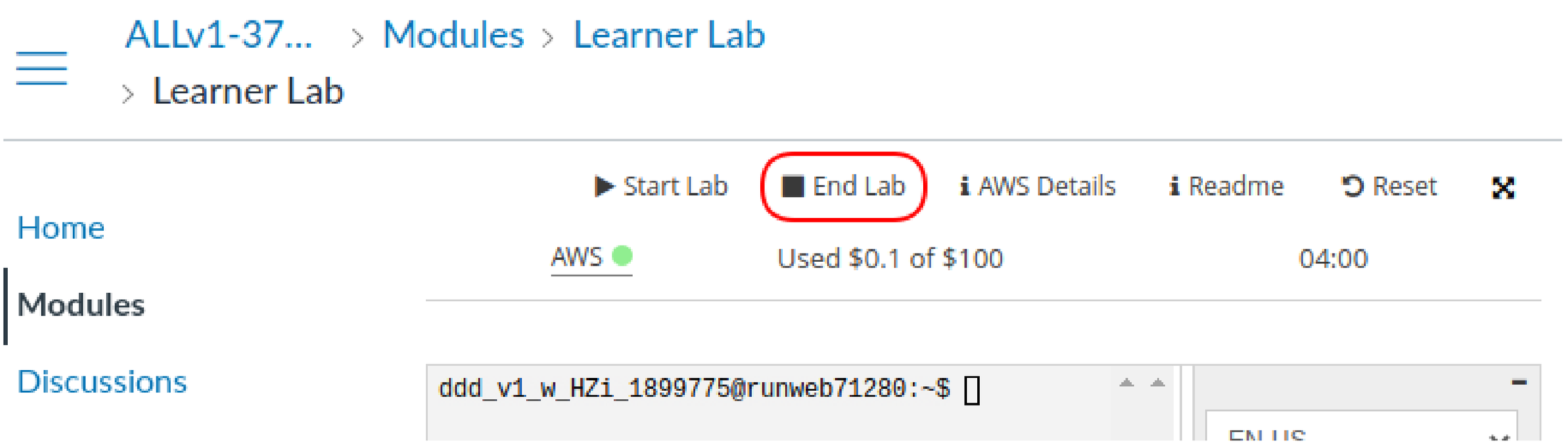
AWS Academy access

- Start lab
- Open AWS Web console



AWS Academy access

- Durata massima sessione: 4 ore
- 100 $ budget
- Importante! Al termine, spegnere sempre i servizi e la sessione



EC2

- Create EC2 instance
- Amazon Linux 2
- t2.nano
- Creare key pair

EC2 – create instance

EC2 > Instances > Launch an instance

Launch an instance Info

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags Info

Name

scripting

Add additional tags

Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Quick Start

Amazon Linux | macOS | Ubuntu | Windows | Red Hat | S

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type — Free tier eligible

ami-0b5eea76982371e91 (64-bit (x86)) / ami-03a45a5ac837f33b7 (64-bit (Arm))

Virtualization: hvm ENA enabled: true Root device type: ebs

Description

EC2 – create instance

Create key pair

Key pairs allow you to connect to your instance securely.

Enter the name of the key pair below. When prompted, store the private key in a secure and accessible location on your computer. **You will need it later to connect to your instance.** Learn more

Key pair name

ttf-2023-windows

The name can include upto 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

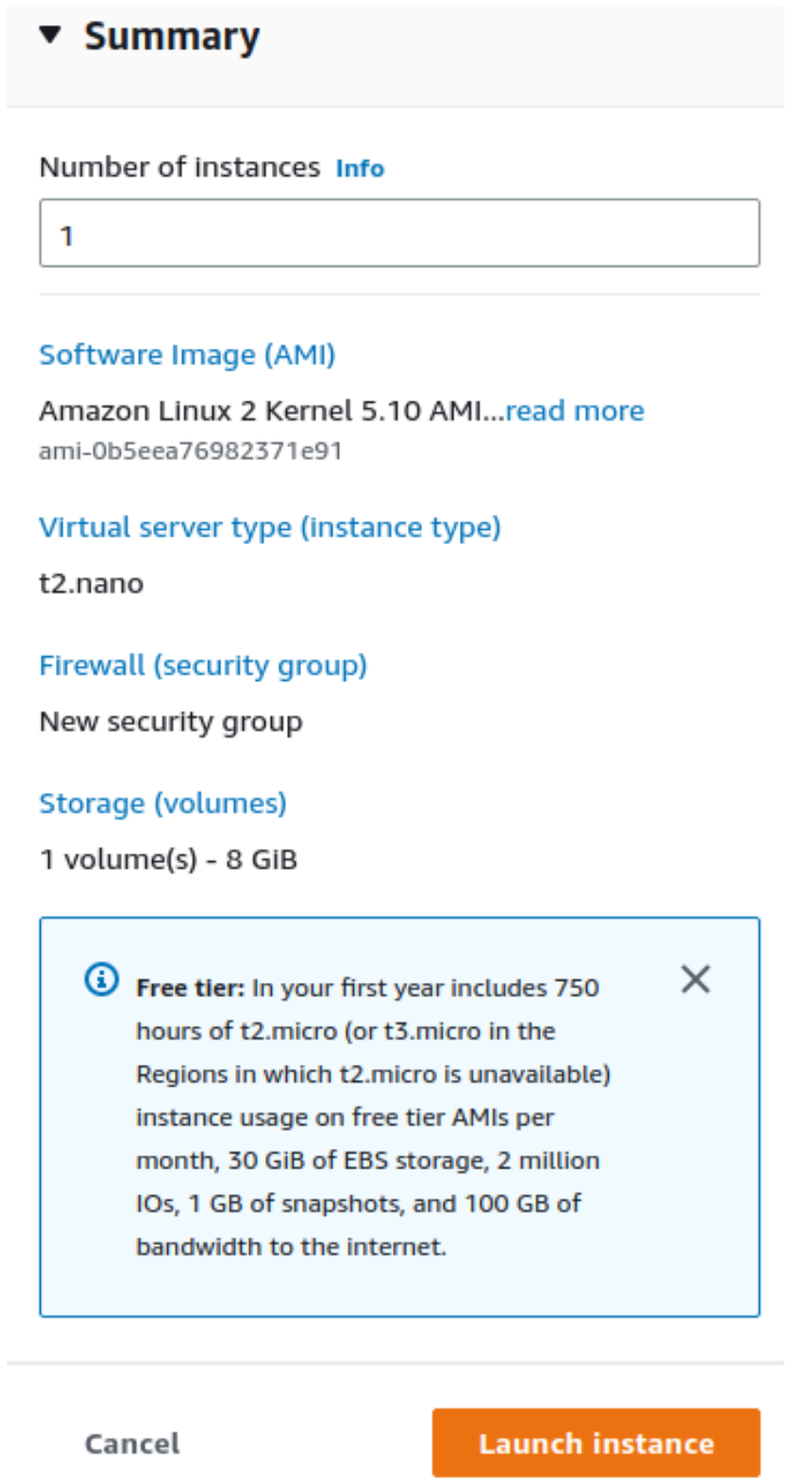
- (•) RSA
  RSA encrypted private and public key pair
- ( ) ED25519
  ED25519 encrypted private and public key pair (Not supported for Windows instances)

Private key file format

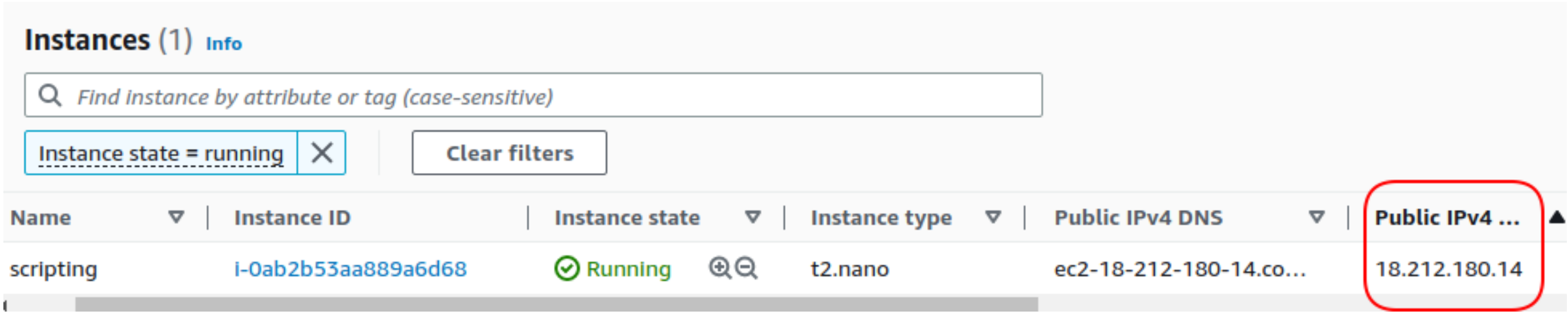
- ( ) .pem
  For use with OpenSSH
- (•) .ppk
  For use with PuTTY

Cancel | Create key pair

EC2 – create instance



EC2 – create instance



- EC2 Instance up and running!
- Connect to the machine via SSH
- From linux:
  - ssh -i <pem key file> ec2-user@<public IP>

EC2 - connect via SSH

- Linux:
  - ssh -i <pem key file> ec2-user@<public IP>
- Windows
  - putty

EC2 - putty

- https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html

Package files

You probably want one of these. They include versions of all the PuTTY utilities (except the new and slightly experimental Windows pterm).

(Not sure whether you want the 32-bit or the 64-bit version? Read the FAQ entry.)

We also publish the latest PuTTY installers for all Windows architectures as a free-of-charge download at the Microsoft Store; they usually take a few days to appear there after we release them.

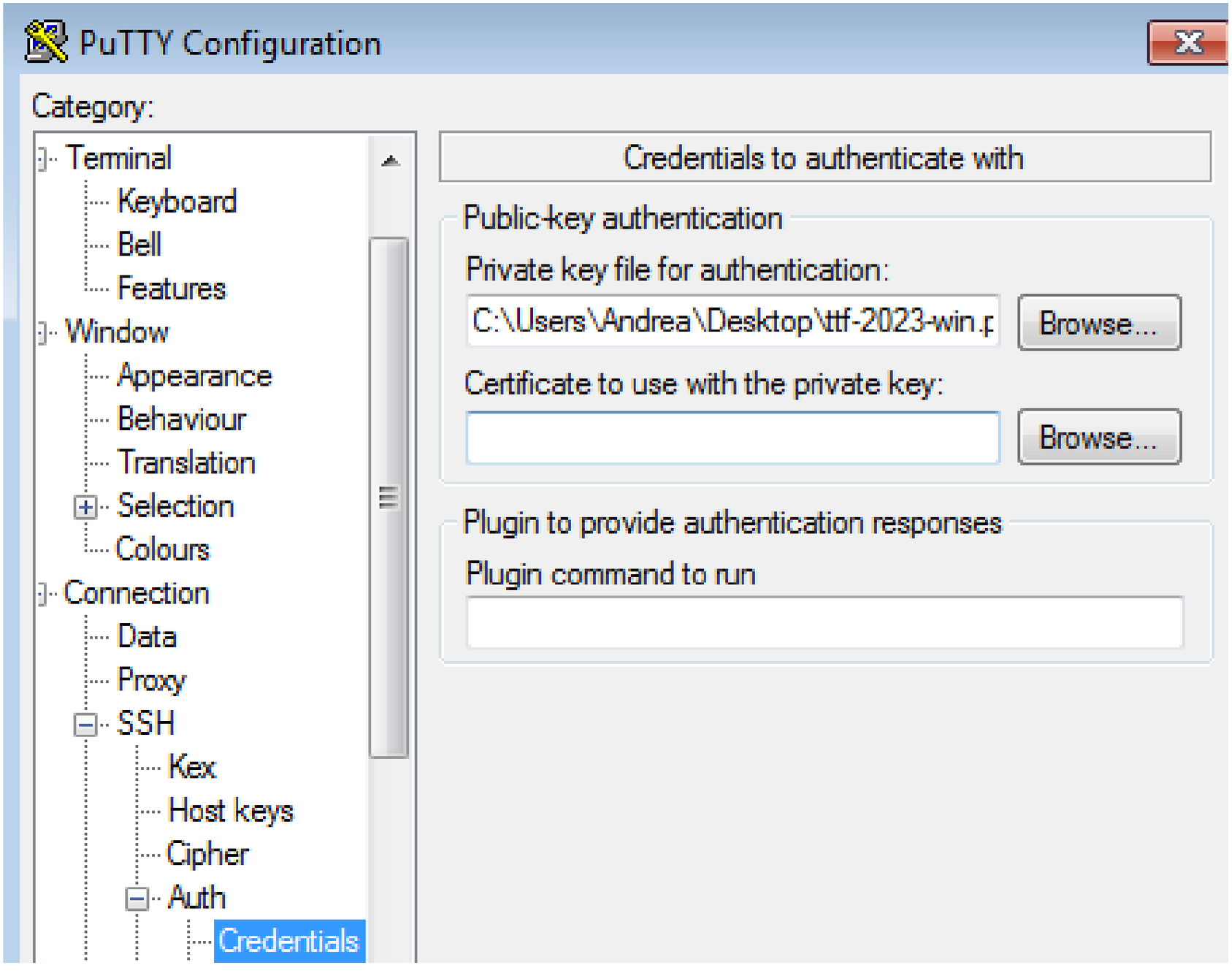
MSI ('Windows Installer')

64-bit x86:	putty-64bit-0.78-installer.msi	(signature)
64-bit Arm:	putty-arm64-0.78-installer.msi	(signature)
32-bit x86:	putty-0.78-installer.msi	(signature)

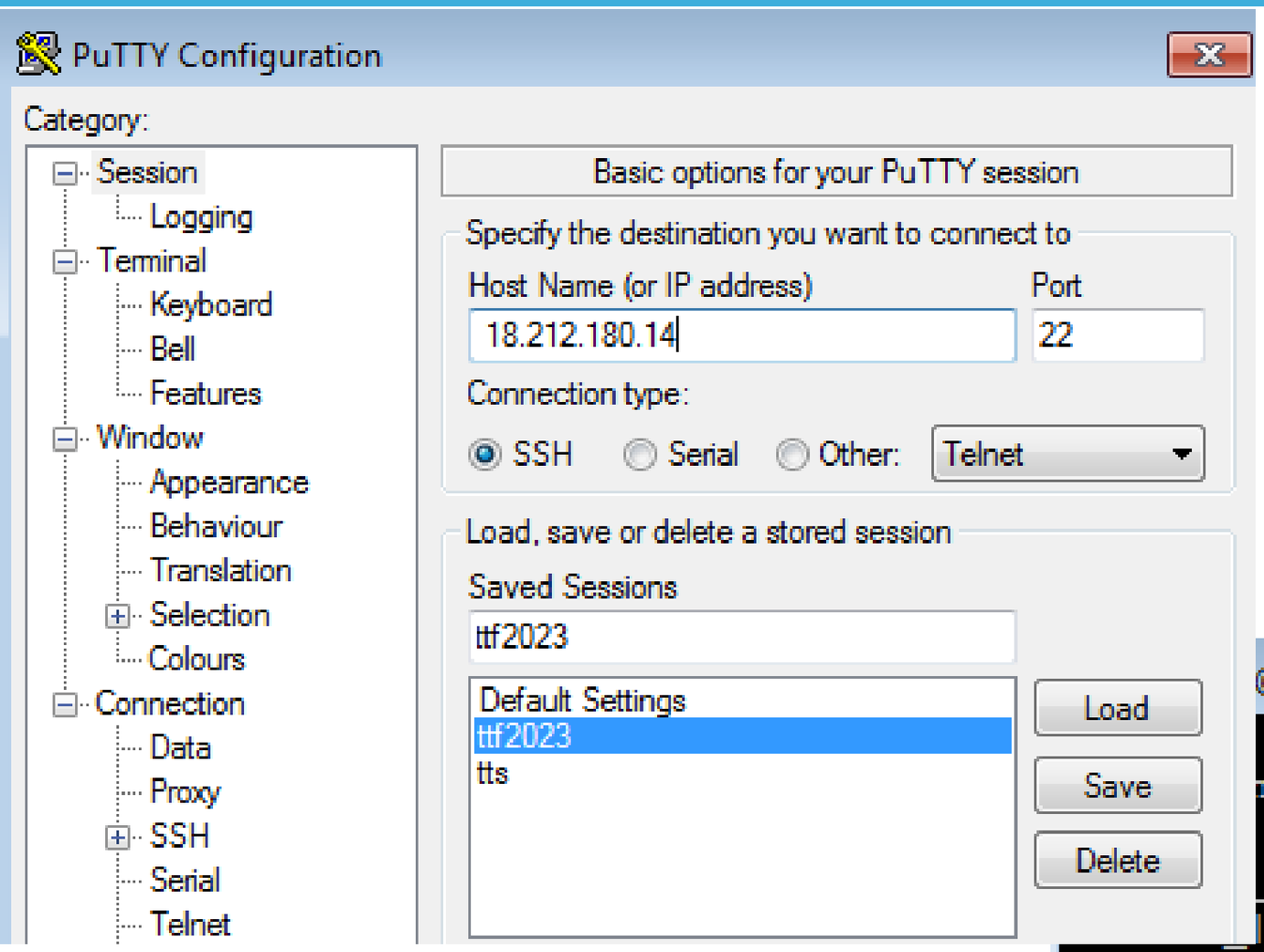
Unix source archive

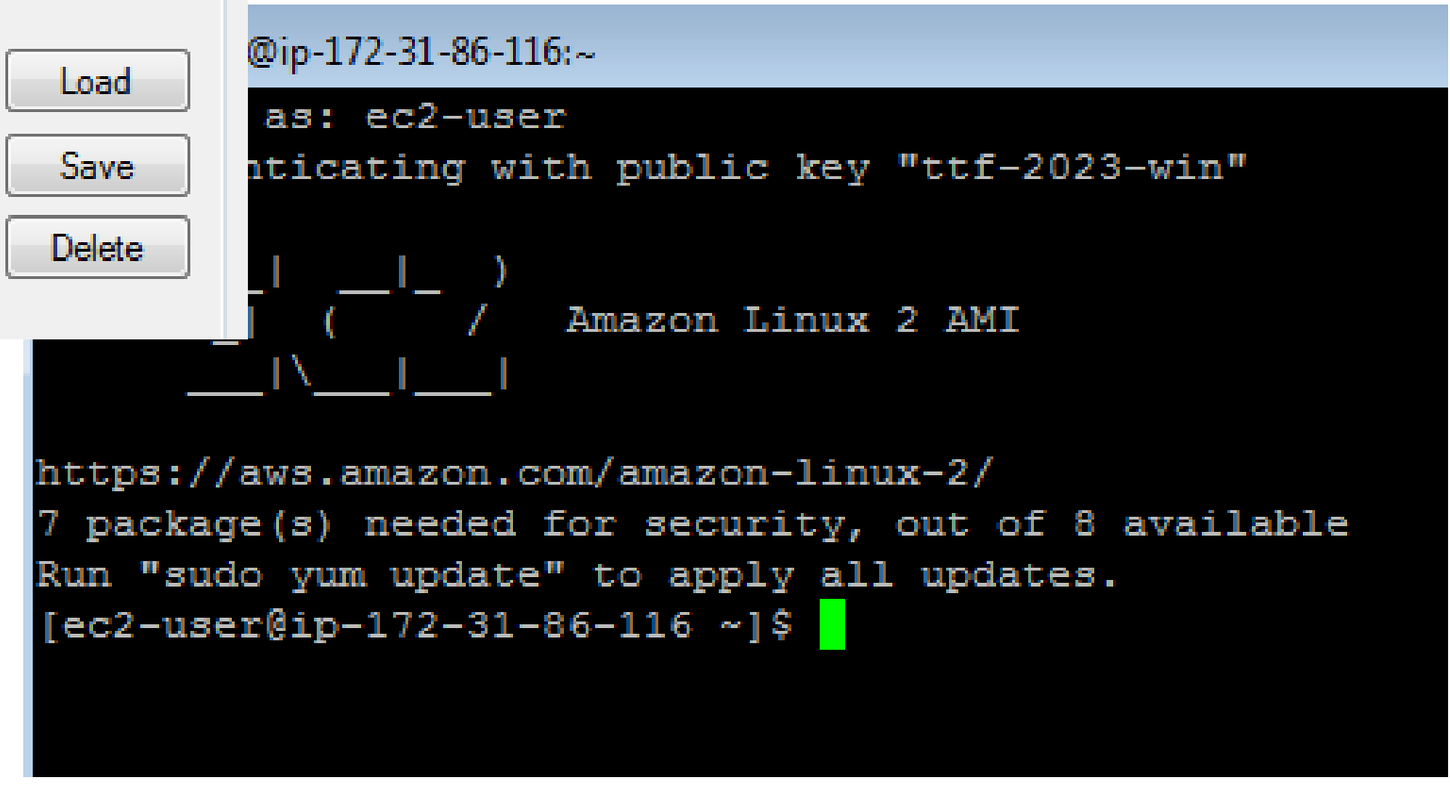
.tar.gz:	putty-0.78.tar.gz	(signature)

EC2 – Putty - add ppk key



EC2 – Putty - add connection





EC2 – data transfer

```
$ wget
```

Bash sample

- Stampare numeri da 1 a 10:

```
1 #!/bin/bash
2 printNumbers() {
3         for((i=1;i<=10;i++))
4         do
5             echo $i
6         done
7 }
8
9 printNumbers
```

Bash sample

- Varianti:
  - Stampare i numeri da 1 a n (input da tastiera)
  - Stampare i numeri da 1 a n (parametro da script) verificando che il parametro esiste
  - Stampare i numeri da n a m (parametro da script), verificando che n < m, e che entrambi i parametri esistano

Bash - Log Analyzer

kaggle

Search

Create

Home

Competitions

Datasets

Code

Discussions

Courses

More

Dataset

76

web log dataset

Online Judge (RUET OJ) Server Log Dataset

Ashadullah Shawon • updated 2 years ago (Version 2)

Data Code (2) Discussion Activity Metadata

Download (1 MB) New Notebook

Usal

Descrip

Conte

I have c

Conte

This da

Ackno

andreascrivanti / ttf-scripting-devops-2023 Public

Code Issues Pull requests Actions Projects Wiki Security Insights

main ttf-scripting-devops-2023 / data /

ascrivanti add data

..

data100k.csv.zip add

weblog.csv add

Give feedback

Bash - Log Analyzer

- https://github.com/andreascrivanti/ttf-scripting-devops-2023/blob/main/data/weblog.csv

```
IP,Time,URL,Staus
10.128.2.1,[29/Nov/2017:06:58:55,GET /login.php HTTP/1.1,200
10.128.2.1,[29/Nov/2017:06:59:02,POST /process.php HTTP/1.1,302
10.128.2.1,[29/Nov/2017:06:59:03,GET /home.php HTTP/1.1,200
10.131.2.1,[29/Nov/2017:06:59:04,GET /js/vendor/moment.min.js HTTP/1.1,200
10.130.2.1,[29/Nov/2017:06:59:06,GET /bootstrap-3.3.7/js/bootstrap.js HTTP/1.1,200
10.130.2.1,[29/Nov/2017:06:59:19,GET /profile.php?user=bala HTTP/1.1,200
10.128.2.1,[29/Nov/2017:06:59:19,GET /js/jquery.min.js HTTP/1.1,200
10.131.2.1,[29/Nov/2017:06:59:19,GET /js/chart.min.js HTTP/1.1,200
10.131.2.1,[29/Nov/2017:06:59:30,GET /edit.php?name=bala HTTP/1.1,200
10.131.2.1,[29/Nov/2017:06:59:37,GET /logout.php HTTP/1.1,302
10.131.2.1,[29/Nov/2017:06:59:37,GET /login.php HTTP/1.1,200
10.130.2.1,[29/Nov/2017:07:00:19,GET /login.php HTTP/1.1,200
10.130.2.1,[29/Nov/2017:07:00:21,GET /login.php HTTP/1.1,200
10.130.2.1,[29/Nov/2017:13:31:27,GET / HTTP/1.1,302
10.130.2.1,[29/Nov/2017:13:31:28,GET /login.php HTTP/1.1,200
10.129.2.1,[29/Nov/2017:13:38:03,POST /process.php HTTP/1.1,302
10.131.0.1,[29/Nov/2017:13:38:04,GET /home.php HTTP/1.1,200
```

Bash - Log Analyzer

- Provare comandi:
  - Cat
  - Tail
  - Head
  - Cut

Bash - Log Analyzer

- Realizzare script bash che:
  - Scarica il file di log da github
  - Conta il numero di righe
  - Filtra per indirizzo ip (preso come parametro) e conta le righe, ritornando le ultime 10 URL chiamate

Bash - Log Analyzer 2

- try z* commands:
  - zcat data100k.csv.zip | head -n 2 | cut -d "," -f3-5
- Useful links:
  - https://devhints.io/bash
  - https://github.com/LeCoupa/awesome-cheatsheets/blob/master/languages/bash.sh