



ADA cloud user documentation
**Getting started (1):
How to create an instance**

HPC Cloud support group

Last update: 30 May 2025

Getting started workflow

STEP BY STEP user GUIDE

CINECA

Get a CINECA HPC user and a cloud project

Getting started workflow

STEP BY STEP user GUIDE

CINECA

Get a CINECA HPC user and a cloud project



Access your cloud resources

Getting started workflow

STEP BY STEP user GUIDE

CINECA

Get a CINECA HPC user and a cloud project



Access your cloud resources

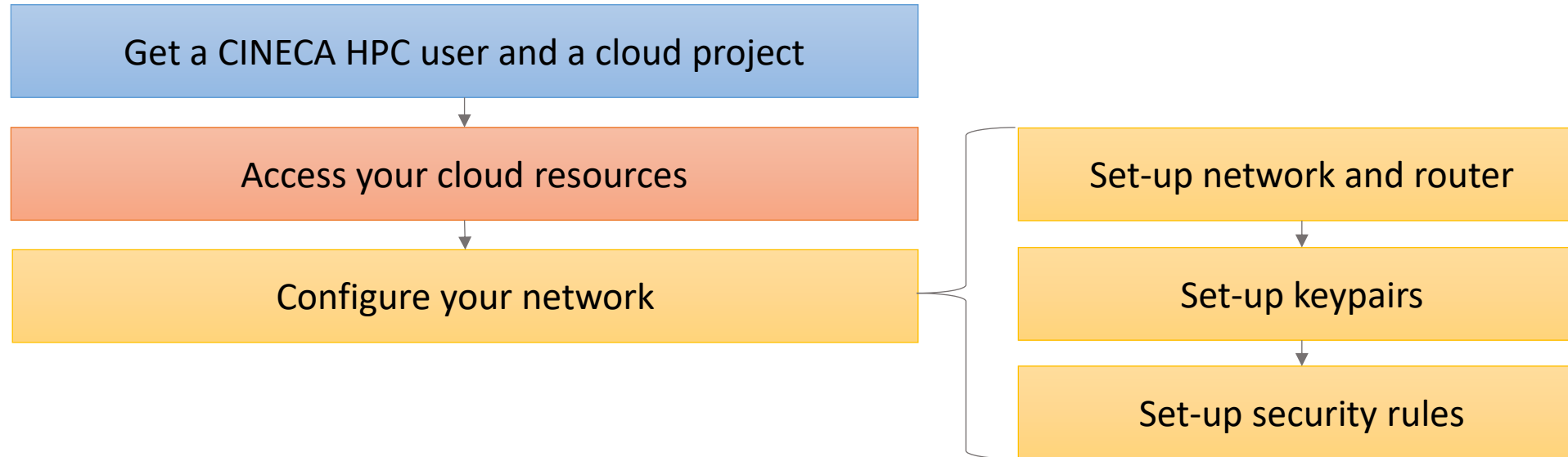


Configure your network

Getting started workflow

STEP BY STEP user GUIDE

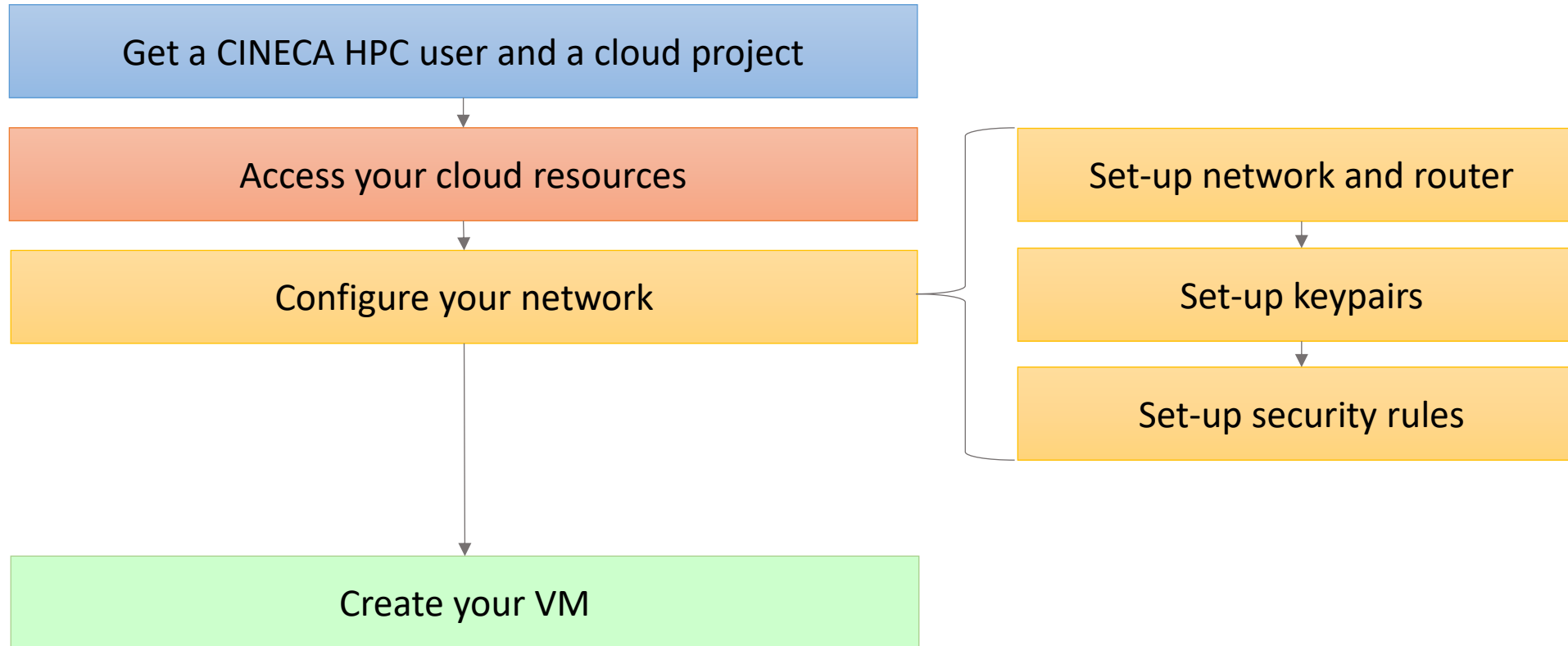
CINECA



Getting started workflow

STEP BY STEP user GUIDE

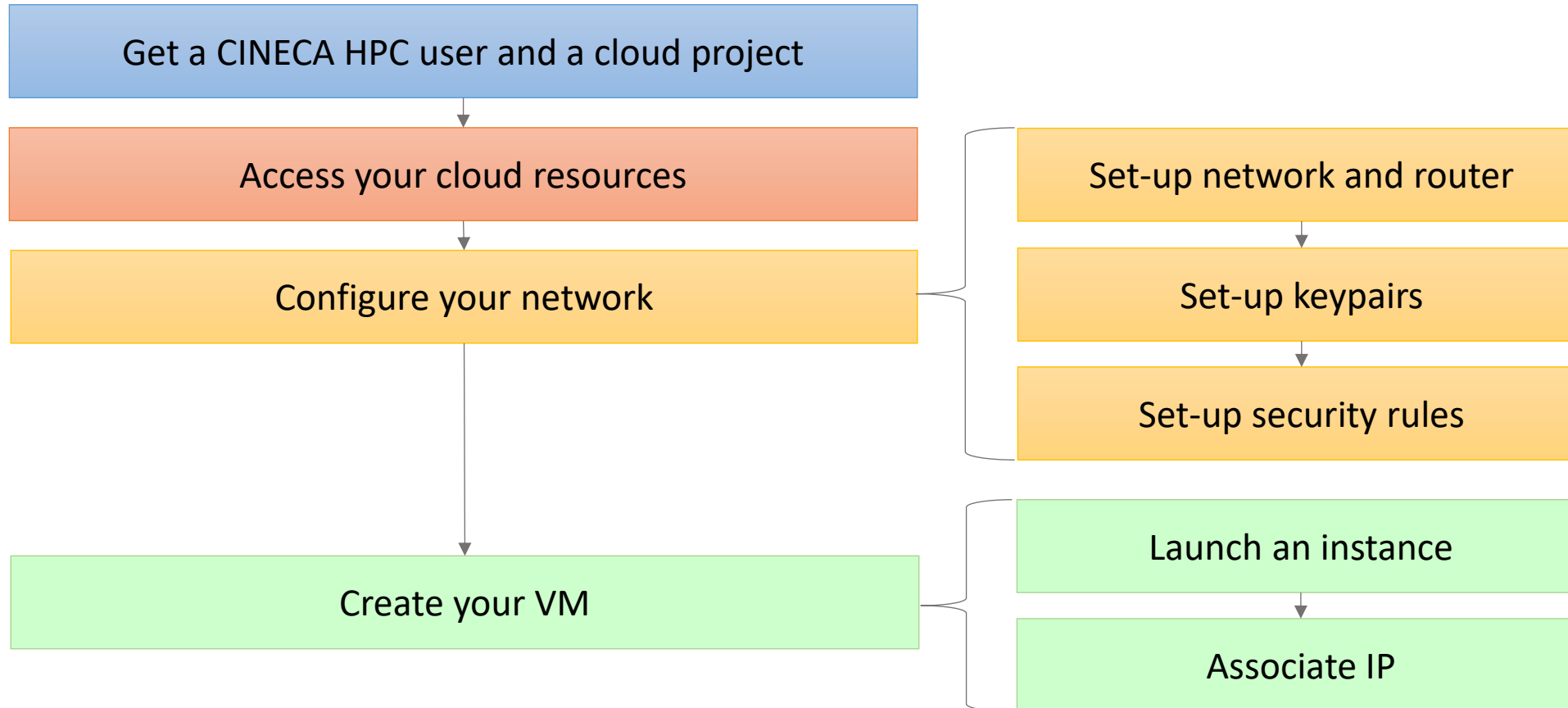
CINECA



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STEP BY STEP user GUIDE

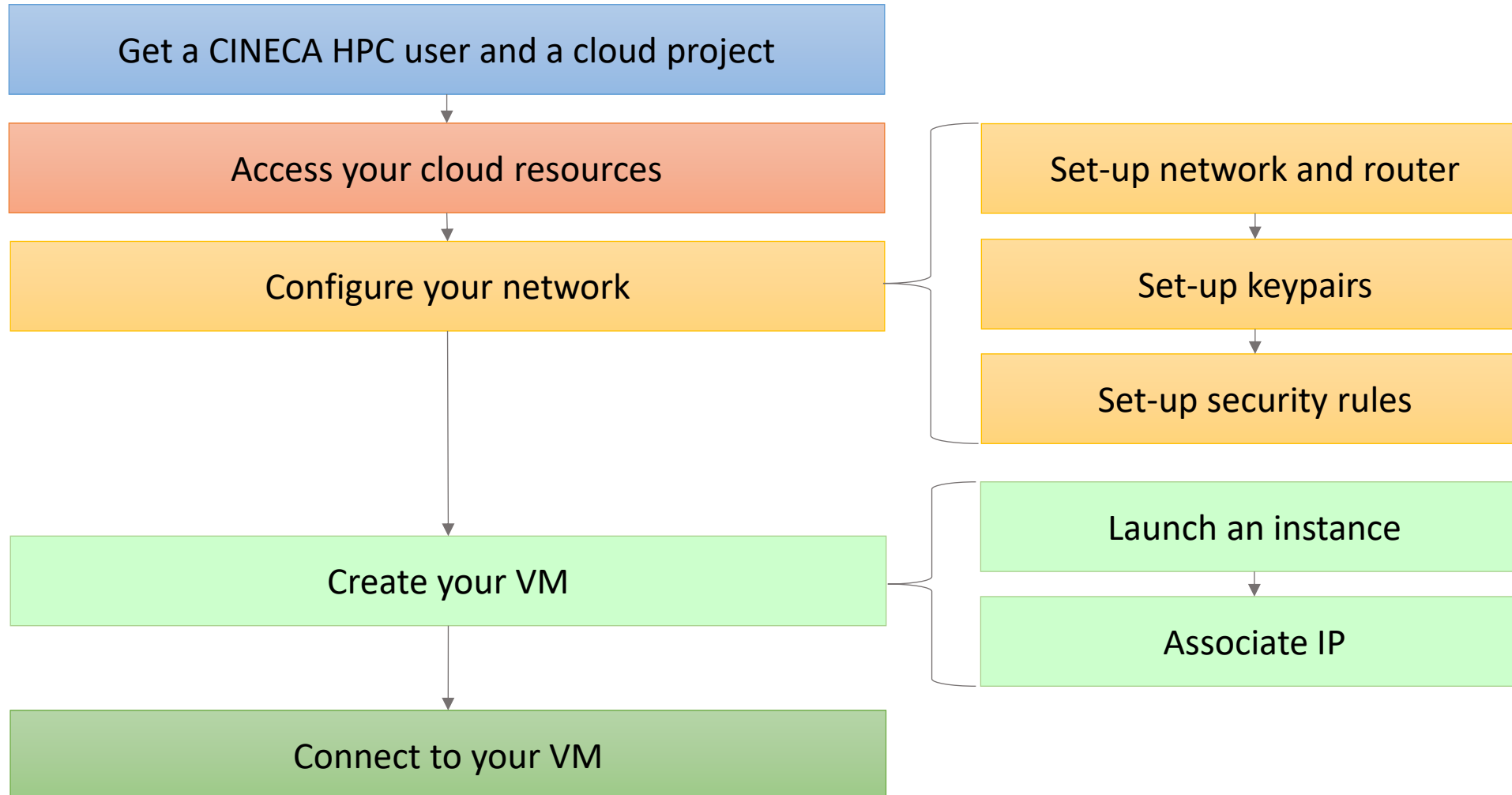
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STEP BY STEP user GUIDE

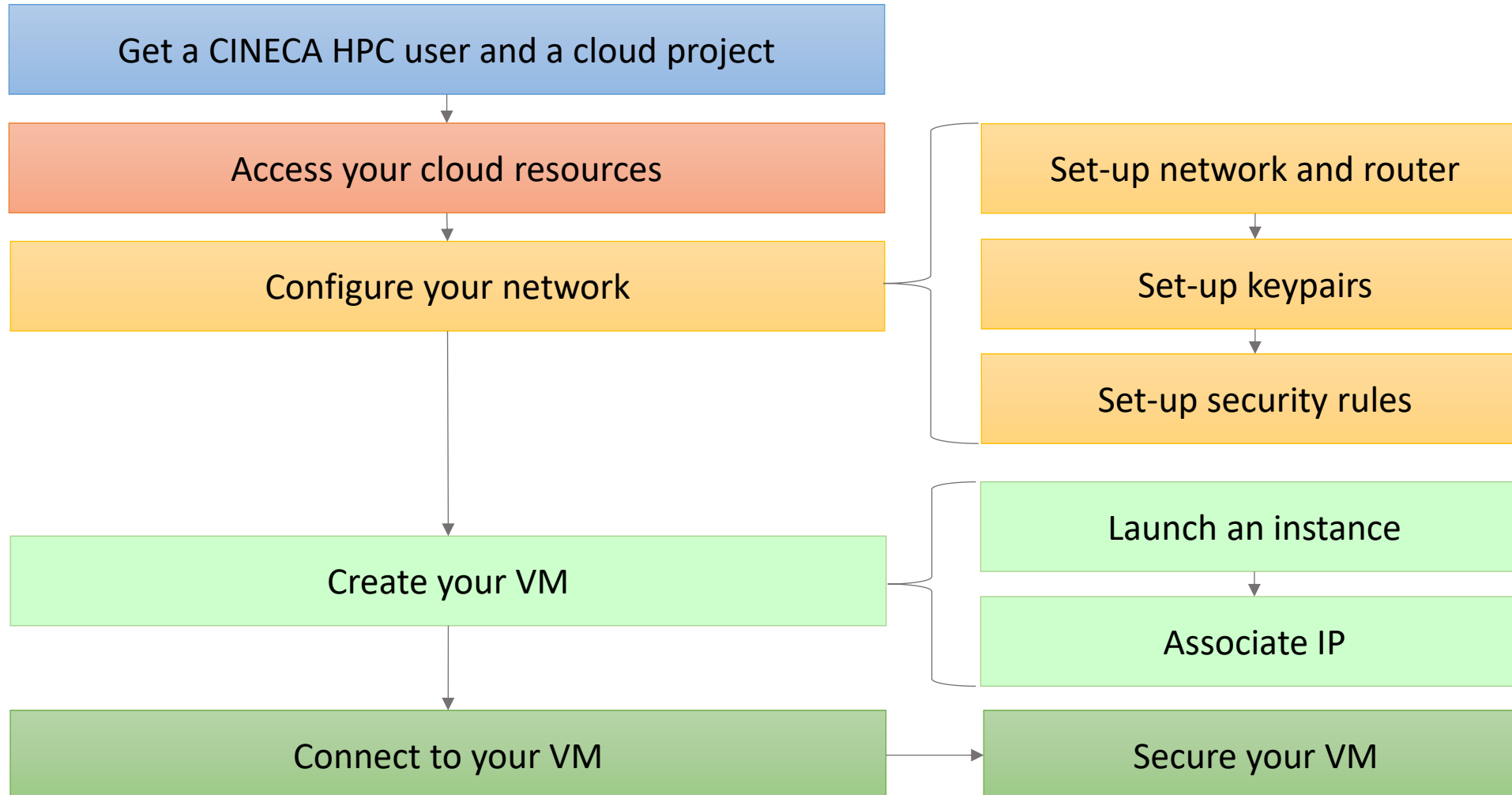
CINECA



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STEP BY STEP user GUIDE

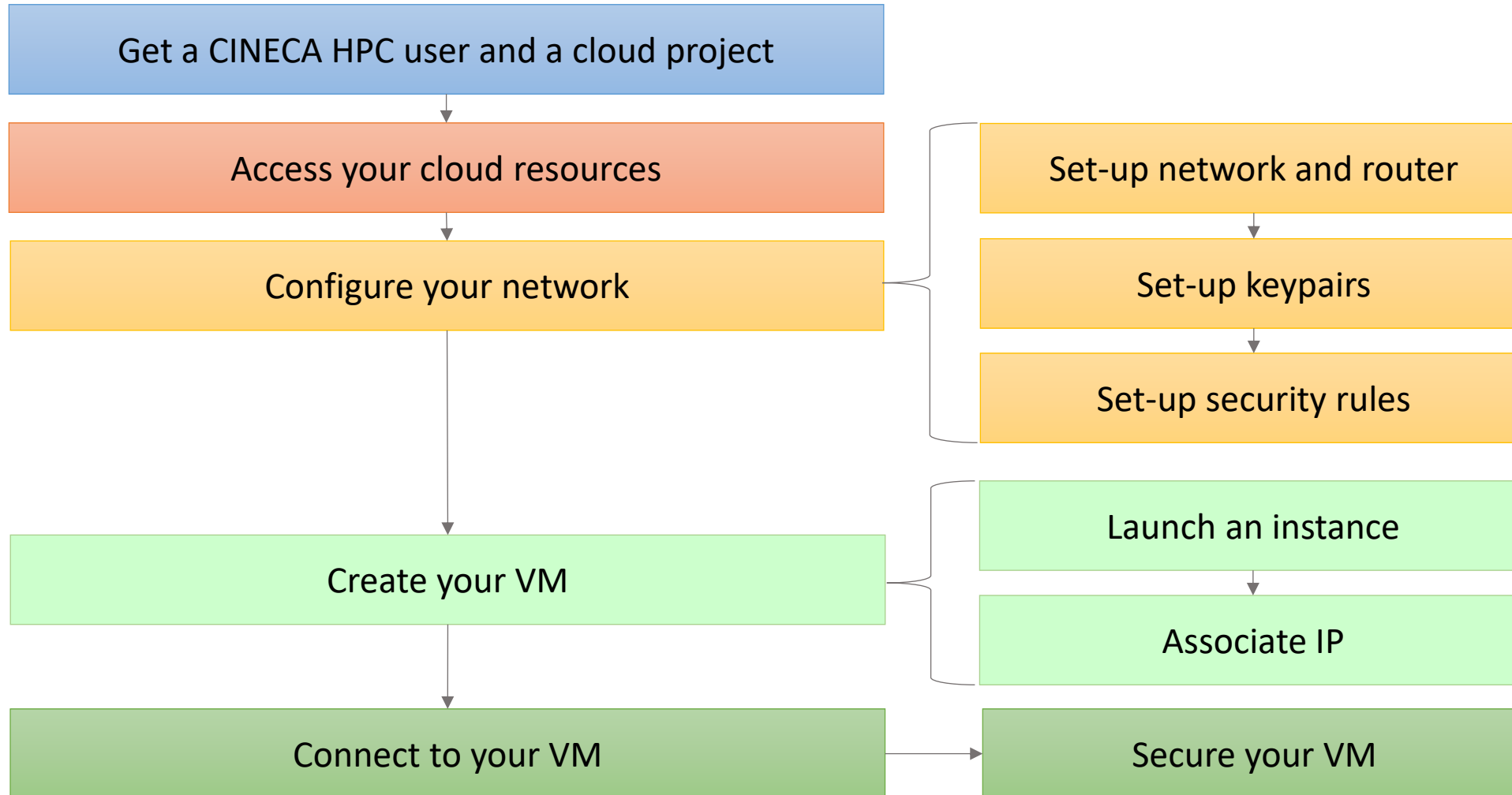
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STEP BY STEP user GUIDE

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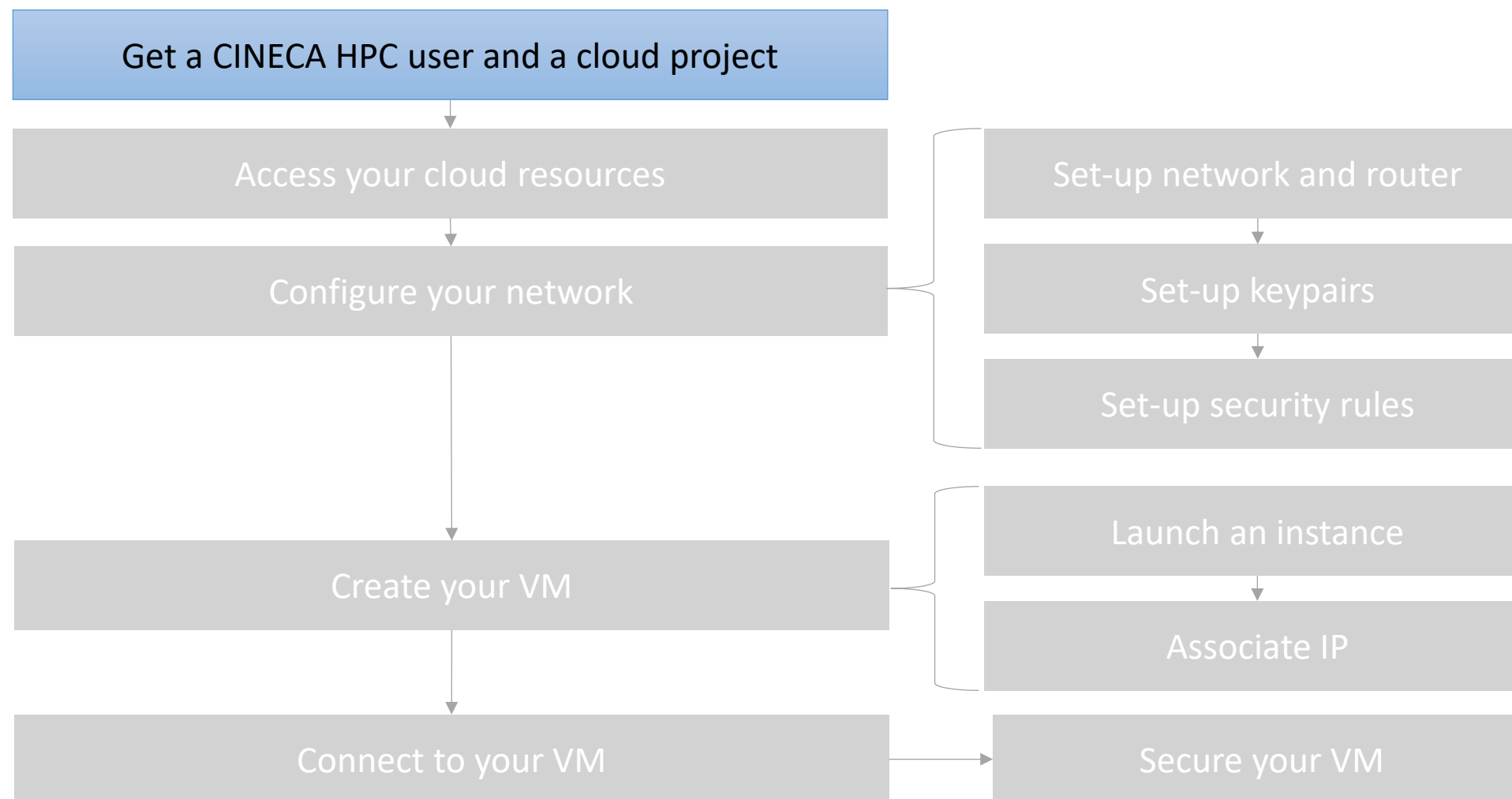


Visit the [ADA Cloud User guide](#) for more information

Getting started workflow

STEP BY STEP user GUIDE

CINECA



1 - Account and project

How to get a CINECA HPC account and cloud resources

CINECA

Get an HPC CINECA user
and a project

Access your cloud
resources

Configure your network

Create your VM

Connect to your VM

Get a HPC user

- Account = "personal" username for HPC systems in CINECA
- Register to CINECA [UserDB portal](#)
- Ask to be associated with a valid project, as "Collaborator" or as "Principal Investigator"
- **Important:** The access is possible only through two-factors (2FA) authentication

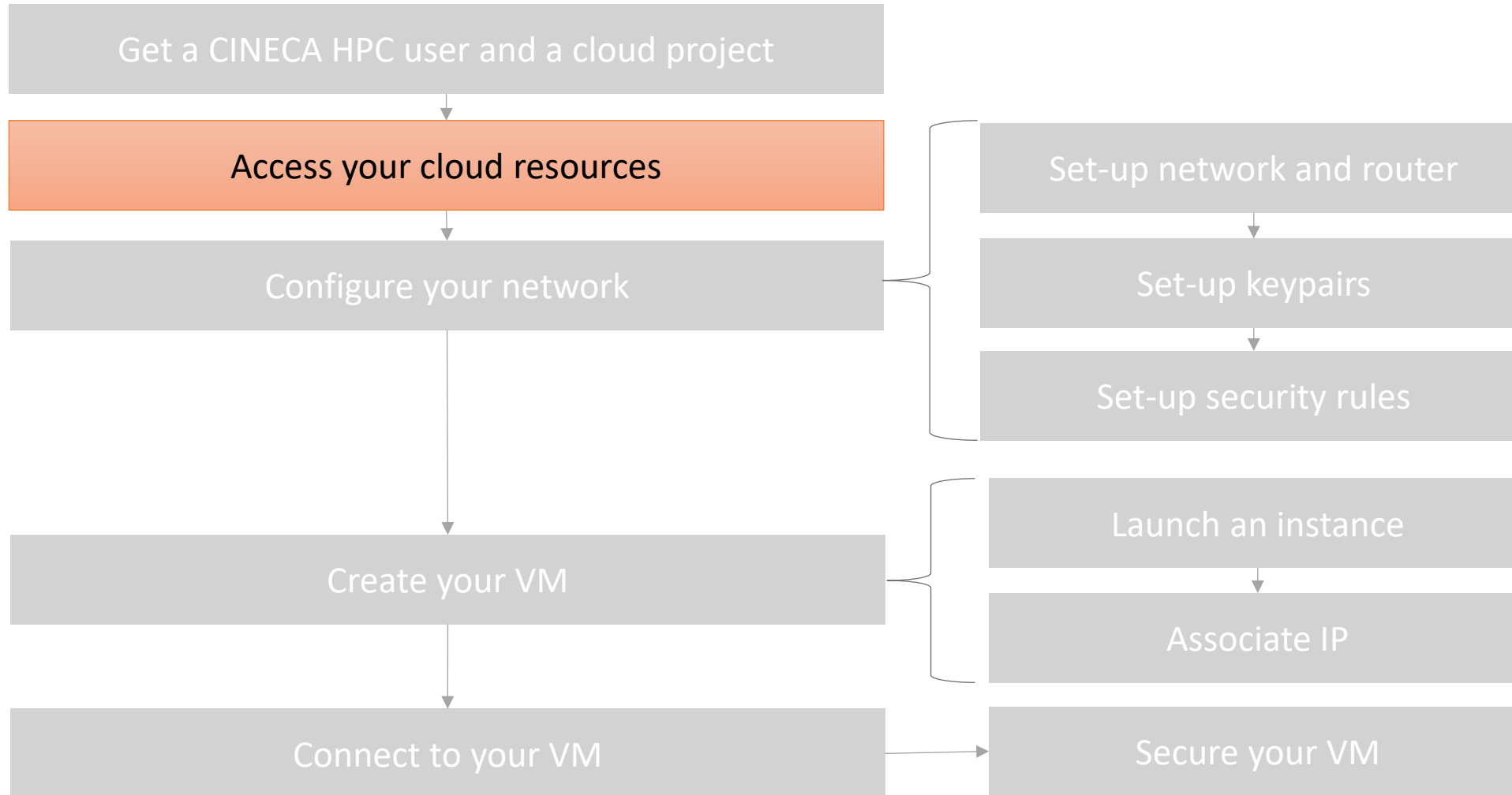
Get cloud resources

- [ISCRA Projects](#): Researchers affiliated with an Italian University or an Italian Research Agency
- [EuroHPC Projects](#): European researchers
- Italian research Institutions, General users and Industrial applications: contact the [HPC User support](#)

For more info: [Become a user](#) in User Guide

Getting started workflow

STEP BY STEP user GUIDE



2 - Access your cloud resources

ADA Cloud dashboard

- Go to <https://adacloud.hpc.cineca.it>
- Select "CINECA HPC" as Authentication method
- Insert your HPC-CINECA credentials to log in
- **NOTE:** the 2nd factor needs to be activated (see section [Managing password, 2FA and OTP](#))

CINECA

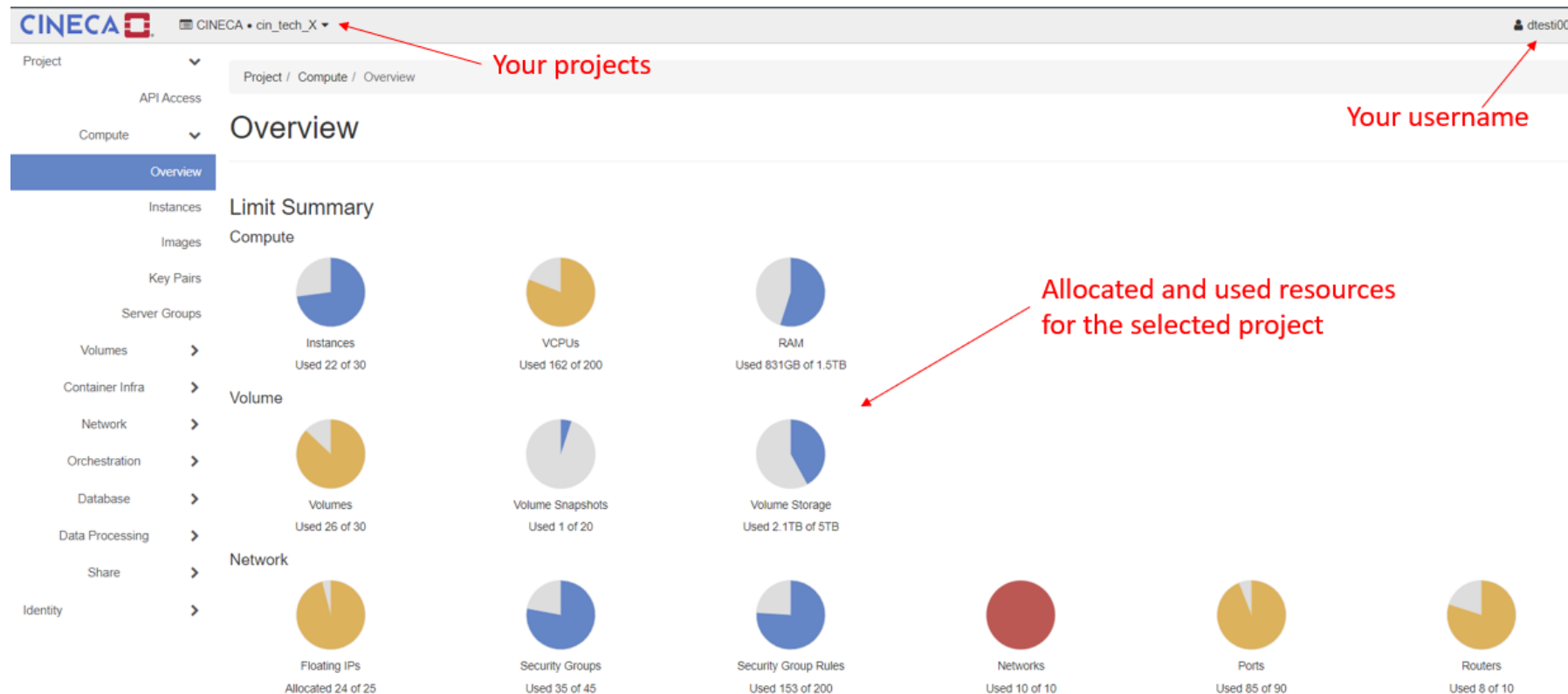
Get an HPC CINECA user
and a project

Access your cloud
resources

Configure your network

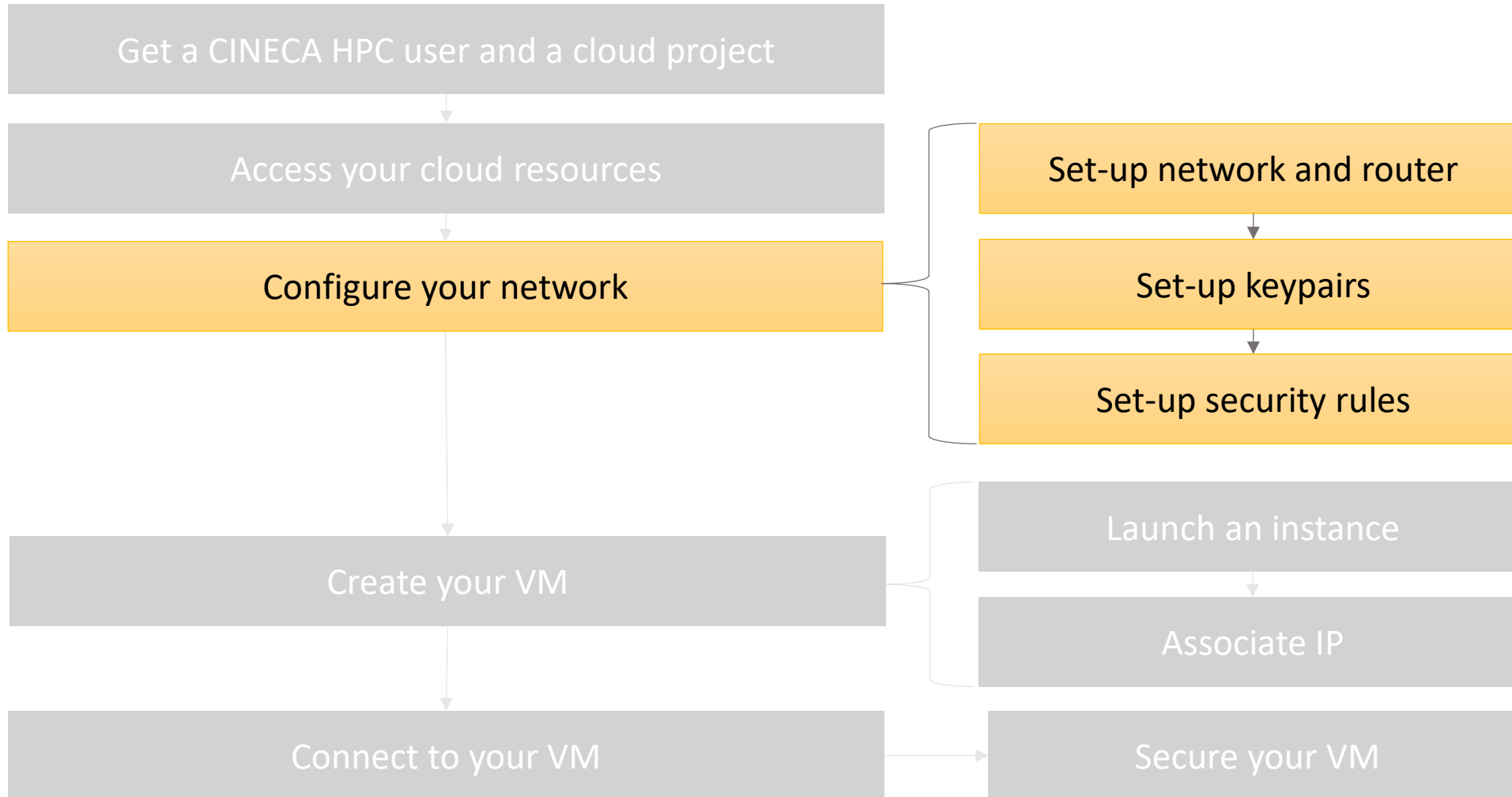
Create your VM

Connect to your VM



Getting started workflow

STEP BY STEP user GUIDE



3 - Configure your network

3.1 – Create Network and subnet for the project

CINECA

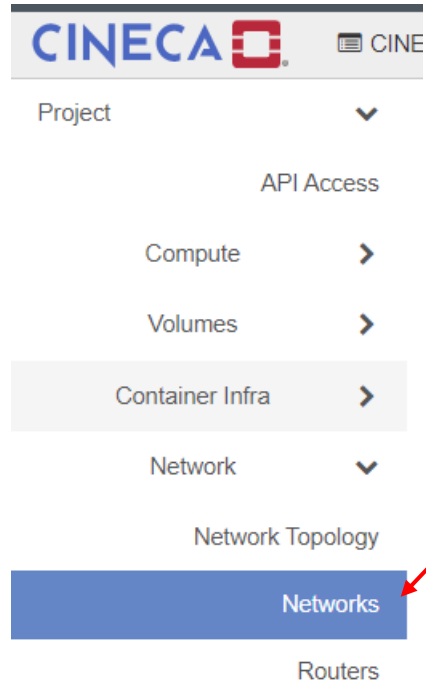
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and a project

Access your cloud
resources

Configure your network

Create your VM

Connect to your VM



Go to the «Networks» tab under «Network» in the left side menu

Project / Network / Networks

Networks

Click

Name = Filter [+ Create Network](#) [Delete Networks](#)

3 - Configure your network

3.1 – Create Network and subnet for the project

Follow the wizard steps

Create Network

Network Subnet Subnet Details

Network Name

my-network

Insert a name for your network

Create a new network. In addition, a subnet associated with the network can be created in the following steps of this wizard.

☒ Enable Admin State ⓘ

☒ Create Subnet

Availability Zone Hints ⓘ

nova

MTU ⓘ

Click

Cancel « Back Next »

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Access your cloud resources

Configure your network

Create your VM

Connect to your VM

3 - Configure your network

3.1 – Create Network and subnet for the project

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Access your cloud
resources

Configure your network

Create your VM

Connect to your VM

Insert name of your subnet

Create Network

[Network](#) **Subnet** [Subnet Details](#)

Subnet Name

Network Address ?

IP Version

IPv4

Gateway IP ?

☐ **Disable Gateway**

Creates a subnet associated with the network. You need to enter a valid "Network Address" and "Gateway IP". If you did not enter the "Gateway IP", the first value of a network will be assigned by default. If you do not want gateway please check the "Disable Gateway" checkbox. Advanced configuration is available by clicking on the "Subnet Details" tab.

Cancel

« Back

Next »

Click

Insert network IP address: 192.168.0.0/24

Insert gateway IP: 192.168.0.254

3 - Configure your network

3.1 – Create Network and subnet for the project

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Access your cloud
resources

Configure your network

Create your VM

Connect to your VM

Create Network

Network

Subnet

Subnet Details

☒ Enable DHCP

Specify additional attributes for the subnet.

Allocation Pools ?

DNS Name Servers ?

Host Routes ?

Cancel

« Back

Create

Click

3 - Configure your network

3.2 – Create Router for the Project

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Access your cloud
resources

Configure your network


Create your VM


Connect to your VM


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Project 

API Access

Compute 

Volumes 

Container Infra 

Network 

Network Topology

Networks

Routers

Security Groups

Load Balancers

Floating IPs

Go to «Routers» tab under «Network» in the left side menu

Project / Network / Routers

Routers

Click

Router Name = Filter  Create Router

3 - Configure your network

3.2 – Create Router for the Project

Follow the wizard steps

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Access your cloud
resources

Configure your network

Create your VM

Connect to your VM

Create Router

Router Name

my_router

Description:

Creates a router with specified parameters.

☒ Enable Admin State ?

External Network

externalNetwork

Availability Zone Hints ?

nova

Cancel Create Router

Insert a name for your router

Select «externalNetwork» from the menu

Click

3 - Configure your network

3.2 – Create Router for the Project

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Access your cloud
resources

Configure your network

Create your VM

Connect to your VM

From the list of Routers, click on your
Router name

Project / Network / Routers

Routers

Router Name = my-router Filter + Create Router Delete Routers

Displaying 1 item

<input type="checkbox"/>	Name	Status	External Network	Admin State	Availability Zones	Actions
<input type="checkbox"/>	my-router	Active	externalNetwork	UP	nova	Clear Gateway

Go to the «Interfaces» tab

Project / Network / Routers / my_router

my_router

Clear Gateway

Overview Interfaces Static Routes

+ Add Interface

Name	Fixed IPs	Status	Type	Admin State	Actions
No items to display.					

Click

3 - Configure your network

3.2 – Create Router for the Project

In the wizard

Select the network created in the previous step

Add Interface

Subnet *

my-network: 192.168.0.0/24 (my-subnet)

IP Address (optional) ?

Description:

You can connect a specified subnet to the router.

If you don't specify an IP address here, the gateway's IP address of the selected subnet will be used as the IP address of the newly created interface of the router. If the gateway's IP address is in use, you must use a different address which belongs to the selected subnet.

Click

Cancel

Submit

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Access your cloud
resources

Configure your network

Create your VM

Connect to your VM

3 - Configure your network

3.3 - Set-up keypairs

CINECA

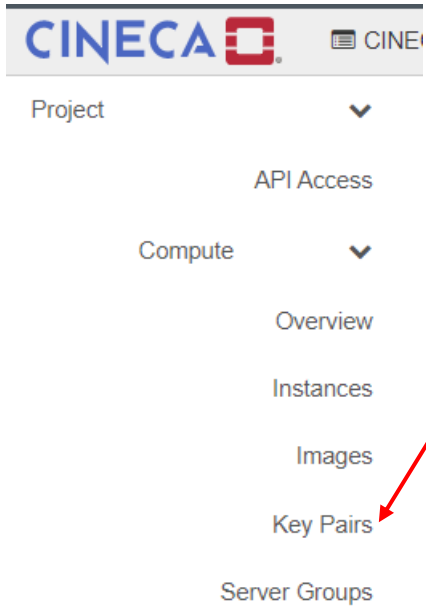
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Access your cloud
resources

Configure your network

Create your VM

Connect to your VM



Go to the «Key Pairs» tab under «Compute» in the left side menu

Project / Compute / Key Pairs

Key Pairs

Click



3 - Configure your network

3.3 - Set-up keypairs

In the wizard

The screenshot shows the 'Create Key Pair' wizard interface. A red box labeled 'Insert a name for the new Key Pair' points to the 'Key Pair Name' input field, which contains 'my_keypair' and a green checkmark. Another red box labeled 'Select «SSH Key»' points to the 'Key Type' dropdown menu, which is set to 'SSH Key'. A third red box labeled 'Click' points to the '+ Create Key Pair' button. The interface also includes a 'Cancel' button and a help icon.

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Access your cloud
resources

Configure your network

Create your VM

Connect to your VM

- The **public** key stays on the OpenStack dashboard
- The **private** key is AUTOMATICALLY downloaded locally
- **IMPORTANT NOTES:**
 - The download of the private key will be done ONLY when the keypair is created. If you lose the private key, you will have to create a new keypair.
 - If you are a Linux user, modify the permission of the private key (downloaded file) to read-write for only the user (`chmod 600 <file name>`)

3 - Configure your network

3.4 – Set-up security rules

CINECA

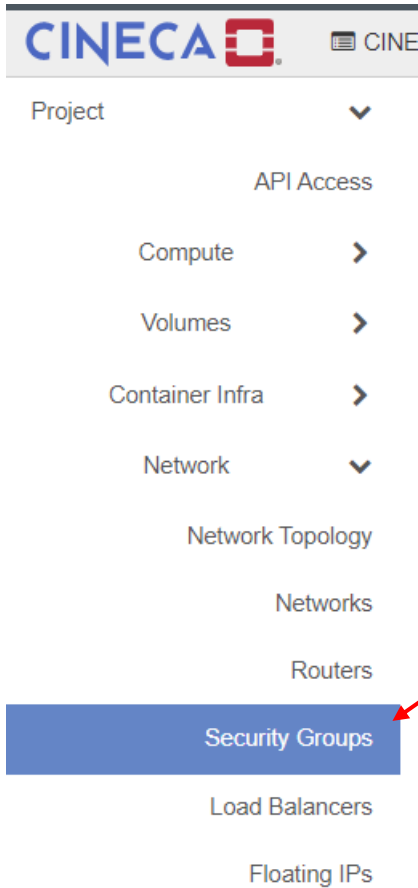
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Access your cloud resources

Configure your network

Create your VM

Connect to your VM



- A **security rule** defines which traffic is allowed to instances assigned to the security group.
- A **security group** is a group of security rules that can be assigned to an instance.

Go to the «Security groups» tab under «Network» in the left side menu

Security Groups

Click

Filter

3 - Configure your network

3.4 – Set-up security rules

In the wizard

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Access your cloud
resources

Configure your network

Create your VM

Connect to your VM

Create Security Group

Name *

my_security

Description

Description:

Security groups are sets of IP filter rules that are applied to network interfaces of a VM. After the security group is created, you can add rules to the security group.

Create Security Group

Insert a name for the security group

Click

3 - Configure your network

3.4 – Set-up security rules

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Access your cloud resources

Configure your network

Create your VM

Connect to your VM

For the security group just created, select «Manage Rules» on the right side

By default, only security rules to get out of your VM are created

Shared Actions

False Manage Rules

Project / Network / Security Groups / Manage Security Group Rule...

Manage Security Group Rules: my_security (064c2420-cde9-4e1d-bd02-2eb025b1274d)

Displaying 2 items

<input type="checkbox"/>	Direction	Ether Type	IP Protocol	Port Range	Remote IP Prefix	Remote Security Group	Description	Actions
<input type="checkbox"/>	Egress	IPv4	Any	Any	0.0.0.0/0	-	-	Delete Rule
<input type="checkbox"/>	Egress	IPv6	Any	Any	:::/0	-	-	Delete Rule

Displaying 2 items

+ Add Rule Delete Rules

Security rules to access your VM needs to be added

3 - Configure your network

3.4 – Set-up security rules

In the wizard

Select «SSH» from the list

Add Rule

Rule *

SSH

Description ?

Remote * ?

CIDR

CIDR * ?

0.0.0.0/0

Description:

Rules define which traffic is allowed to instances assigned to the security group. A security group rule consists of three main parts:

Rule: You can specify the desired rule template or use custom rules, the options are Custom TCP Rule, Custom UDP Rule, or Custom ICMP Rule.

Open Port/Port Range: For TCP and UDP rules you may choose to open either a single port or a range of ports. Selecting the "Port Range" option will provide you with space to provide both the starting and ending ports for the range. For ICMP rules you instead specify an ICMP type and code in the spaces provided.

Remote: You must specify the source of the traffic to be allowed via this rule. You may do so either in the form of an IP address block (CIDR) or via a source group (Security Group). Selecting a security group as the source will allow any other instance in that security group access to any other instance via this rule.

Cancel

Add

By default, access is enabled for all IPs

Click

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Access your cloud resources

Configure your network

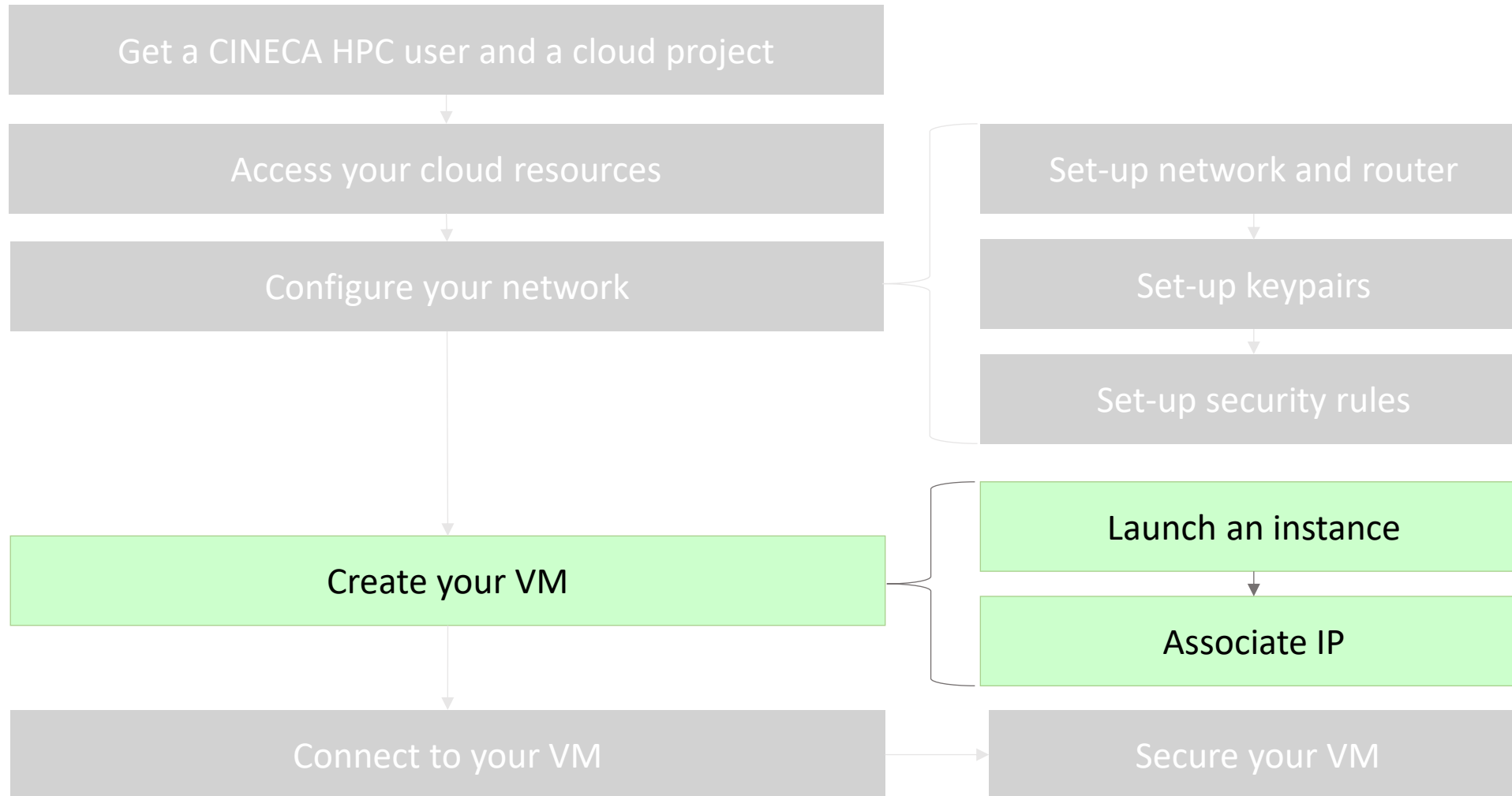
Create your VM

Connect to your VM

Getting started workflow

STEP BY STEP user GUIDE

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Visit the [HPC Cloud User guide](#) for more information

4 - Create your VM

4.1 - Launch an instance

CINECA

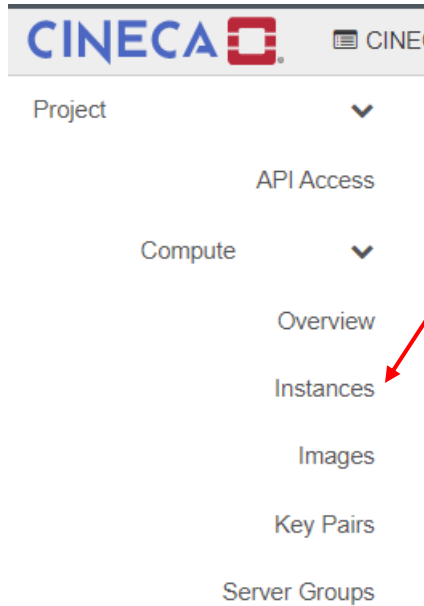
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Access your cloud
resources

Configure your network

Create your VM

Connect to your VM



Go to the «Instances» tab under «Compute» in the left side menu

Project / Compute / Instances

Instances

Click «Launch instance»

Instance ID = Filter  Launch Instance  Delete Instances More Actions 

4 - Create your VM

4.1 - Launch an instance

Follow the wizard steps

CINECA

Get an HPC CINECA user
and a project

Access your cloud
resources

Configure your network

Create your VM

Connect to your VM

Launch Instance

Details

Source *

Flavour *

Networks *

Network Ports

Security Groups

Key Pair

Configuration

Server Groups

Scheduler Hints

Metadata

Please provide the initial hostname for the instance, the availability zone where it will be deployed, and the instance count. Increase the Count to create multiple instances with the same settings.

Project Name

cin_tech_X

Instance Name *

my_first_VM

Description

Availability Zone

nova

Count *

1

Total Instances
(30 Max)

77%

22 Current Usage

1 Added

7 Remaining

Cancel

< Back

Next >

Launch Instance

Insert a name for your VM

Click

4 - Create your VM

4.1 - Launch an instance

CINECA

Get an HPC CINECA user
and a project

Access your cloud
resources

Configure your network

Create your VM

Connect to your VM

Launch Instance

Instance source is the template used to create an instance. You can use an image, a snapshot of an instance (image snapshot), a volume or a volume snapshot (if enabled). You can also choose to use persistent storage by creating a new volume.

Select Boot Source: Image Yes No

Allocated

Displaying 0 items

Name	Updated	Size	Format	Visibility
Select an item from Available items below				

Displaying 0 items

Available 11

Click here for filters or full text search.

Displaying 11 items

Name	Updated	Size	Format	Visibility
CentOS-7-x86_64-GenericCloud-2009	7/28/21 9:41 AM	847.81 MB	QCOW2	Public
CentOS-8-GenericCloud-8.4.2105-20210603.0.x86_64	7/28/21 9:49 AM	1.22 GB	QCOW2	Public
CentOS-Stream-GenericCloud-8-20220913	11/21/22 5:22 PM	10.00 GB	RAW	Public
Debian12 (Bookworm)	8/23/23 8:41 AM	2.00 GB	RAW	Shared
manila-service-image	8/2/21 11:05 AM	555.13 MB	QCOW2	Public
Rocky Linux 8.9	12/19/23 1:13 PM	1.84 GB	QCOW2	Public
Rocky Linux 9.3	12/19/23 12:25 PM	1.01 GB	QCOW2	Public
Ubuntu Server 18.04 LTS (Bionic Beaver)	7/28/21 10:02 AM	353.81 MB	QCOW2	Public
Ubuntu Server 20.04 LTS (Focal Fossa)	7/28/21 10:01 AM	535.19 MB	QCOW2	Public
Ubuntu Server 21.04 (Hirsute Hippo)	7/28/21 10:01 AM	553.06 MB	QCOW2	Public
Ubuntu Server 22.04 LTS (Jammy Jellyfish)	9/13/22 8:56 AM	2.20 GB	RAW	Public

Displaying 11 items

Cancel Back Next Launch Instance

Select an operative
system of your VM

Launch Instance

Instance source is the template used to create an instance. You can use an image, a snapshot of an instance (image snapshot), a volume or a volume snapshot (if enabled). You can also choose to use persistent storage by creating a new volume.

Select Boot Source: Image Yes No

Allocated

Displaying 1 item

Name	Updated	Size	Format	Visibility
Ubuntu Server 18.04 LTS (Bionic Beaver)	7/28/21 10:02 AM	353.81 MB	QCOW2	Public

Displaying 1 item

Available 10

Click here for filters or full text search.

Displaying 10 items

Name	Updated	Size	Format	Visibility
CentOS-7-x86_64-GenericCloud-2009	7/28/21 9:41 AM	847.81 MB	QCOW2	Public
CentOS-8-GenericCloud-8.4.2105-20210603.0.x86_64	7/28/21 9:49 AM	1.22 GB	QCOW2	Public
CentOS-Stream-GenericCloud-8-20220913	11/21/22 5:22 PM	10.00 GB	RAW	Public
Debian12 (Bookworm)	8/23/23 8:41 AM	2.00 GB	RAW	Shared
manila-service-image	8/2/21 11:05 AM	555.13 MB	QCOW2	Public
Rocky Linux 8.9	12/19/23 1:13 PM	1.84 GB	QCOW2	Public
Rocky Linux 9.3	12/19/23 12:25 PM	1.01 GB	QCOW2	Public
Ubuntu Server 20.04 LTS (Focal Fossa)	7/28/21 10:01 AM	535.19 MB	QCOW2	Public
Ubuntu Server 21.04 (Hirsute Hippo)	7/28/21 10:01 AM	553.06 MB	QCOW2	Public
Ubuntu Server 22.04 LTS (Jammy Jellyfish)	9/13/22 8:56 AM	2.20 GB	RAW	Public

Displaying 10 items

Cancel Back Next Launch Instance

Click

4 - Create your VM

4.1 - Launch an instance

CINECA

Get an HPC CINECA user
and a project

Access your cloud
resources

Configure your network

Create your VM

Connect to your VM

Select the flavour of your VM

Launch Instance

Details

Source

Flavour *

Networks *

Network Ports

Security Groups

Key Pair

Configuration

Server Groups

Scheduler Hints

Metadata

Flavours manage the sizing for the compute, memory and storage capacity of the instance.

Allocated

Displaying 0 items

Name	VCPUS	RAM	Total Disk	Root Disk	Ephemeral Disk	Public
Select a flavour from the available flavours below.						

Displaying 0 items

▼ Available 8

Select one

Click here for filters or full text search.

Displaying 8 items

Name	VCPUS	RAM	Total Disk	Root Disk	Ephemeral Disk	Public
> fl.ada.xxs	1	7.5 GB	10 GB	10 GB	0 GB	Yes
> fl.ada.manila	1	7.5 GB	10 GB	10 GB	0 GB	Yes
> fl.ada.xs	2	15 GB	30 GB	30 GB	0 GB	Yes
> fl.ada.s	4	30 GB	30 GB	30 GB	0 GB	Yes
> fl.ada.m	8	60 GB	30 GB	30 GB	0 GB	Yes
> fl.ada.l	16	120 GB	30 GB	30 GB	0 GB	Yes
> fl.ada.gpu.xxl	48	168 GB	30 GB	30 GB	0 GB	No
> fl.ada.gpu.full	96	336 GB	30 GB	30 GB	0 GB	No

Displaying 8 items

Cancel

< Back

Next >

Launch Instance

Launch Instance

Details

Source

Flavour

Networks *

Network Ports

Security Groups

Key Pair

Configuration

Server Groups

Scheduler Hints

Metadata

Flavours manage the sizing for the compute, memory and storage capacity of the instance.

Allocated

Displaying 1 item

Name	VCPUS	RAM	Total Disk	Root Disk	Ephemeral Disk	Public
> fl.ada.xxs	1	7.5 GB	10 GB	10 GB	0 GB	Yes

Displaying 1 item

▼ Available 7

Select one

Click here for filters or full text search.

Displaying 7 items

Name	VCPUS	RAM	Total Disk	Root Disk	Ephemeral Disk	Public
> fl.ada.manila	1	7.5 GB	10 GB	10 GB	0 GB	Yes
> fl.ada.xs	2	15 GB	30 GB	30 GB	0 GB	Yes
> fl.ada.s	4	30 GB	30 GB	30 GB	0 GB	Yes
> fl.ada.m	8	60 GB	30 GB	30 GB	0 GB	Yes
> fl.ada.l	16	120 GB	30 GB	30 GB	0 GB	Yes
> fl.ada.gpu.xxl	48	168 GB	30 GB	30 GB	0 GB	No
> fl.ada.gpu.full	96	336 GB	30 GB	30 GB	0 GB	No

Displaying 7 items

Cancel

< Back

Next >

Launch Instance

Click

4 - Create your VM

4.1 - Launch an instance

CINECA

Get an HPC CINECA user
and a project

Access your cloud
resources

Configure your network

Create your VM

Connect to your VM

Select the network created in the
previous «configure your network» step
and click «Next»

Launch Instance

Details

Source

Flavour

Networks

Network Ports

Security Groups

Key Pair

Configuration

Networks provide communication channels for instances in the cloud. You can select ports instead of networks or a mix of both.

▼ Allocated 1

Displaying 1 item

Network	Subnets Associated	Shared	Admin State	Status
> my-network	my-subnet	No	Up	Active

Displaying 1 item

▼ Available 8

Select one or more

Click here for filters or full text search.

4 - Create your VM

4.1 - Launch an instance

CINECA

Get an HPC CINECA user
and a project

Access your cloud
resources

Configure your network

Create your VM

Connect to your VM

Launch Instance

Details

Source

Flavour

Networks

Network Ports

Security Groups

Key Pair

Configuration

Server Groups

Scheduler Hints

Metadata

A key pair allows you to SSH into your newly created instance. You may select an existing key pair, import a key pair, or generate a new key pair.


+ Create Key Pair Import Key Pair

Allocated

Displaying 0 items

Name	Type	Fingerprint
Select a key pair from the available key pairs below.		

Displaying 0 items

> Available  Expand to see available items

☐ Set admin password

Select one

< Back Next > Launch Instance

Select the Key Pair created in the
previous «configure your network» step

Click

4 - Create your VM

4.1 - Launch an instance

CINECA

Get an HPC CINECA user
and a project

Access your cloud
resources

Configure your network

Create your VM

Connect to your VM

Select the Security Group created in
the previous «configure your network»
step and click «Launch Instance»

Launch Instance

Details

Source

Flavour

Networks

Network Ports

Security Groups

Key Pair

Configuration

Server Groups

Scheduler Hints

Metadata

Select the security groups to launch the instance in.

▼ Allocated 2

Displaying 2 items

Name	Description
> default	Default security group
> my-secgroup	my-secgroup

Displaying 2 items

▼ Available 33

Select one or more

Q Click here for filters or full text search.

Displaying 13 items | < Prev

Name	Description
> http	

4 - Create your VM

4.2 - Associate a floating IP to your VM

CINECA

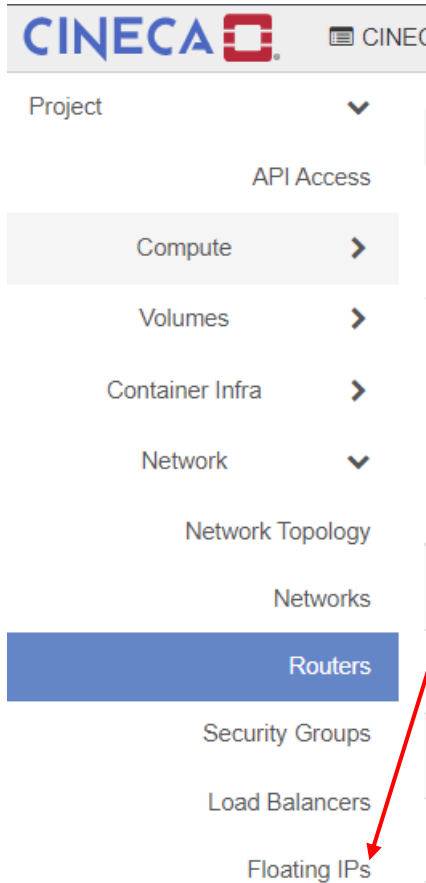
Get an HPC CINECA user
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Access your cloud
resources

Configure your network

Create your VM

Connect to your VM



Go to the «Floating IPs» tab under «Network» in
the left side menu

Floating IPs

Project / Network / Floating IPs

Displaying 24 items

Floating IP Address =

Filter

Allocate IP To Project

Release Floating IPs

Click

4 - Create your VM

4.2 - Associate a floating IP to your VM

In the wizard

Allocate Floating IP

Pool ^{*}

externalNetwork

Description

Description:

Allocate a floating IP from a given floating IP pool.

Project Quotas

Floating IP 24 of 25 Used

Cancel

Allocate IP

Click

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Get an HPC CINECA user
and a project

Access your cloud
resources

Configure your network

Create your VM

Connect to your VM

4 - Create your VM

4.2 - Associate a floating IP to your VM

CINECA

Get an HPC CINECA user and a project

Access your cloud resources

Configure your network

Create your VM

Connect to your VM

Project / Network / Floating IPs

Floating IPs

Floating IP Address = 131.175.204.217 Filter % Allocate IP To Project (Quota exceeded) \$ Release Floating IPs

Displaying 1 item

<input type="checkbox"/>	IP Address	Description	Mapped Fixed IP Address	Pool	Status	Actions
<input type="checkbox"/>	131.175.204.217		-	externalNetwork	Down	Associate

Displaying 1 item

Click

In the wizard

Manage Floating IP Associations

IP Address *

Select an IP address



Select the IP address you wish to associate with the selected instance or port.

Port to be associated *

Select a port



Cancel

Associate

By default, the IP, you have just allocated, will be selected

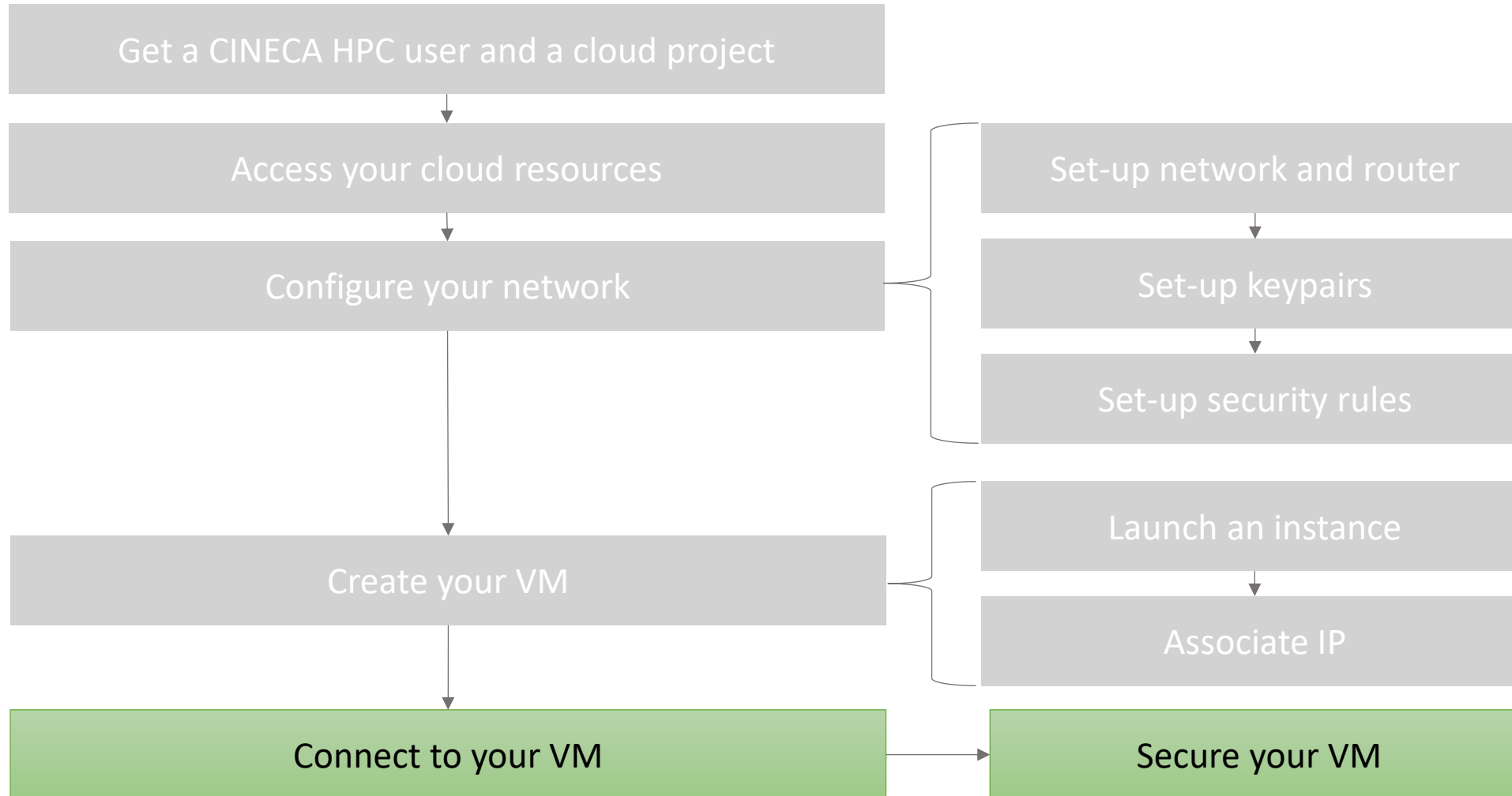
From the menu, select your VM

Click

Getting started workflow

STEP BY STEP user GUIDE

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Visit the [HPC Cloud User guide](#) for more information

5 - Connect to your VM

5.1 – Log in to your VM

- Your VM is now ready to be used
- Login using the default user (of the OS you have chosen for your VM) and your private key (see step 3.3)
- Suppose you have used the default ubuntu cloud image, you can login as:

\$ ssh -i my_keypair.pem ubuntu@<floating IP address>

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Configure your network

Create your VM

Connect to your VM

5 - Connect to your VM

5.2 – Secure your VM

At the first log in, remember to:

- Update the OS and relative packages

Follow the basic security guidelines:

- activate automatic updates
- only install software from reputable sources
- disable unneeded services
- use encrypted and secure communication protocols to avoid man in the middle attacks
- keep logs of your applications
- monitor accounts created on your system and do not enable password login, use SSH keys instead

More information at: [Security guidelines](#)

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For any issue or question please contact the HPC User
support at superc@cineca.it