

Pozivanje OpenStack API-ja iz mobilne aplikacije

Pristup OpenStack okruženju

Potrebno nam je OpenStack okruženje, bilo na lokalnom kompjuteru ili udaljenom serveru. Za instalaciju OpenStack-a lokalno možemo iskoristiti DevStack. Upute za instalaciju su dostupne na službenoj web stranici <https://docs.openstack.org/devstack/latest/>.

Pružatelj usluga CloudVPS nudi OpenStack okruženje s javno dostupnim API-jima. Moguće je zatražiti besplatno korištenje servisa na dva tjedna.

CloudVPS: <https://www.cloudvps.com/openstack> (pristupljeno 13.7.2018.)

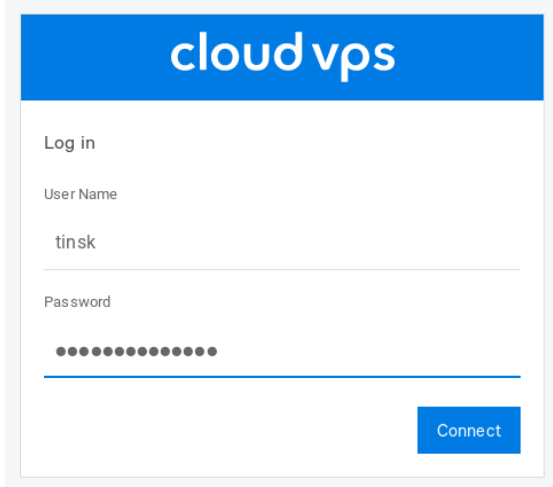
Forma za zatražiti probni pristup: <https://order.cloudvps.com/try-openstack> (pristupljeno 13.7.2018.)

Nakon ispunjavanja forme, administratori su tražili da za provjeru identiteta mailom pošaljem „selfie“ fotografiju u kojoj držim osobnu iskaznicu, tako da će pristup biti omogućen vjerojatno dva do tri dana nakon ispunjavanja forme.

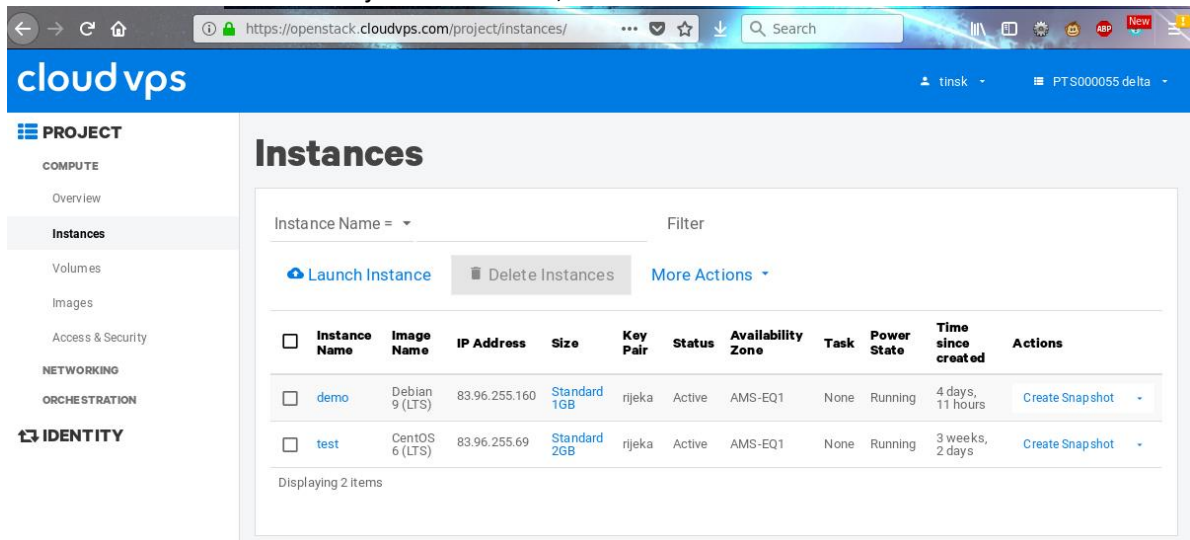
Kreiranje instanci

Instance kreiramo putem Horizon sučelja. Sljedeći koraci pokazuju kreiranje instance na CloudVPS-u.

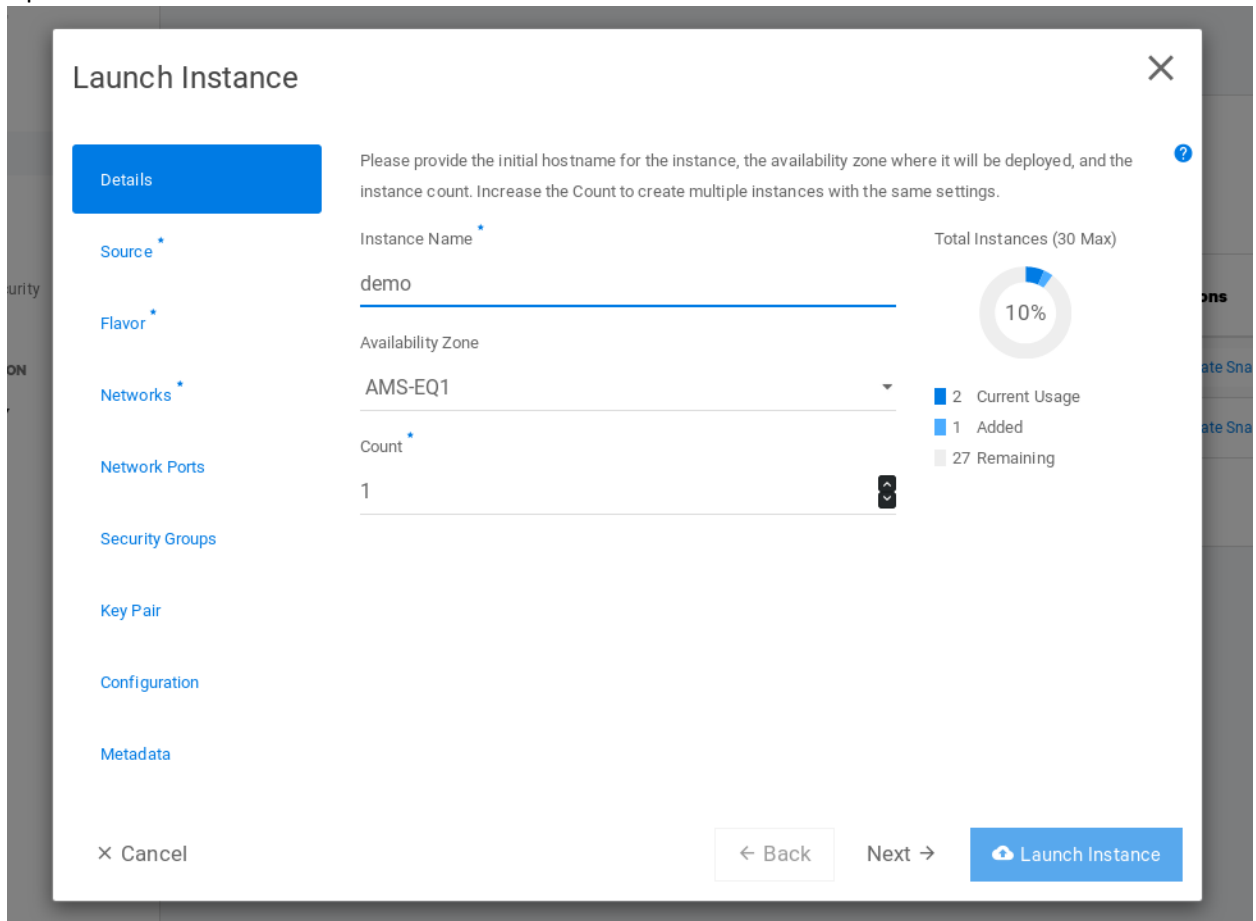
1. Login na web stranicu <https://openstack.cloudvps.com/>.



2. Kliknemo na link **Instances** u lijevom izborniku, i zatim na **Launch Instance**.



3. Upišemo ime instance i kliknemo Next.



4. Odaberemo predložak za instancu.

Details

Source

Flavor

Networks

Network Ports

Security Groups

Key Pair

Configuration

Metadata

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

Select Boot Source

Image

Create New Volume

Yes

No

Volume Size (GB)

10

Delete Volume on Instance Delete

Yes

No

Allocated

| Name | Updated | Size | Type | Visibility |
|------------------|------------------|---------|------|------------|
| > CentOS 6 (LTS) | 7/10/18 12:32 PM | 8.00 GB | RAW | Public |

< Available 10

Select one

Click here for filters.

| Name | Updated | Size | Type | Visibility |
|--|------------------|---------|------|------------|
| > CentOS 7 (LTS) | 7/10/18 12:35 PM | 8.00 GB | RAW | Public |
| > Container Linux CoreOS (third-party) | 7/10/18 1:53 PM | 8.49 GB | RAW | Public |

5. Odaberemo Flavor instance.

Details

Source

Flavor

Networks

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Configuration

Metadata

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

Allocated

| Name | VCPUS | RAM | Total Disk | Root Disk | Ephemeral Disk | Public |
|-----------------|-------|------|------------|-----------|----------------|--------|
| > Standard 1 GB | 1 | 1 GB | 25 GB | 25 GB | 0 GB | Yes |

< Available 38

Select one

Click here for filters.

| Name | VCPUS | RAM | Total Disk | Root Disk | Ephemeral Disk | Public |
|----------------|-------|------|------------|-----------|----------------|--------|
| > Standard 2GB | 1 | 2 GB | 50 GB | 50 GB | 0 GB | Yes |
| > Small HD 2GB | 2 | 2 GB | 40 GB | 40 GB | 0 GB | Yes |
| > Standard 4GB | 2 | 4 GB | 100 GB | 100 GB | 0 GB | Yes |
| > Small HD 4GB | 3 | 4 GB | 40 GB | 40 GB | 0 GB | Yes |

6. Odaberemo mrežu. Na CloudVPS-u po zadanim postavkama nemamo dozvolu za „floating“ mrežu, te stoga biramo „net-public“.

Launch Instance

Networks provide the communication channels for instances in the cloud.

Allocated ¹ Select networks from those listed below.

| Network | Subnets Associated | Shared | Admin State | Status |
|-------------------|---|--------|-------------|--------|
| IF 1 > net-public | net-83.96.200.0 net-83.96.252.0 net-83.96.240.0 | Yes | Up | Active |

Available ² Select at least one network

Click here for filters.

| Network | Subnets Associated | Shared | Admin State | Status |
|-------------------|--------------------------|--------|-------------|--------|
| > floating | | No | Up | Active |
| > net-public-ipv6 | net-2a02:348:5e6:1::/112 | Yes | Up | Active |

Cancel Back Next Launch Instance

7. Kliknemo **Launch Instance** i čekamo da instanca promijeni stanje u Active.

Adrese API servisa

Mobilna aplikacija koristi postojeći OpenStack API za pristup resursima. Identity API omogućuje autentikaciju korisnika i prikaz liste korisnikovih projekata. Compute API dozvoljava autenticiranom korisniku pregled i upravljanje njegovim instancama. Okruženja DevStack i CloudVPS pružaju pristup API servisima s drugih računala na mreži. Na CloudVPS-u možemo vidjeti adrese za pristup ako kliknemo na **Access & Security** u izborniku s lijeve strane.

cloudvps

tinsk

PROJECT

COMPUTE

Overview

Instances

Volumes

Images

Access & Security

NETWORKING

ORCHESTRATION

IDENTITY

Access & Security

Security Groups

Key Pairs

Floating IPs

API Access

Download OpenStack RC File v2.0

Download OpenStack RC File v3

Download

+ View Credentials

| Service | Service Endpoint |
|----------------|--|
| Compute_Legacy | https://compute.openstack.cloudvps.com/v2/eaf78f8f58ec45b2829ab83f0cb19235 |
| Compute | https://compute.openstack.cloudvps.com/v2.1/eaf78f8f58ec45b2829ab83f0cb19235 |
| Network | https://network.openstack.cloudvps.com/ |
| Orchestration | https://orchestration.openstack.cloudvps.com/v1/eaf78f8f58ec45b2829ab83f0cb19235 |
| Cloudformation | https://cloudformation.openstack.cloudvps.com/v1 |
| Identity | https://identity.openstack.cloudvps.com/v3 |
| Volumev3 | https://volume.openstack.cloudvps.com/v3/eaf78f8f58ec45b2829ab83f0cb19235 |
| Volumev2 | https://volume.openstack.cloudvps.com/v2/eaf78f8f58ec45b2829ab83f0cb19235 |
| Image | https://image.openstack.cloudvps.com |

Na DevStack-u su adrese API-ja dostupne na linku **API Access** u lijevom izborniku. Ako je lokalna adresa prikazana kao „localhost“ ili 127.0.0.1, trebamo je zamijeniti IP adresom računala. Mobilna aplikacija mora biti na istoj lokalnoj mreži kao i server na kojem je DevStack da bi mogla pristupiti resursima. Adresu računala na kojem je DevStack na lokalnoj mreži možemo pronaći upisivanjem naredbe „ip addr show“ u naredbenu liniju.

openstack

demo

admin

Project

API Access

Compute

Volumes

Network

Admin

Identity

Project / API Access

API Access

View Credentials

Download OpenStack RC File

Displaying 10 items

| Service | Service Endpoint |
|----------------|---|
| Block Storage | http://192.168.0.16/volume/ |
| Compute | http://192.168.0.16/compute/v2.1 |
| Compute_Legacy | http://192.168.0.16/compute/v2/32d88b61dfef4392b751d2326af57b06 |
| Identity | http://192.168.0.16/identity |
| Image | http://192.168.0.16/image |

Korištenje mobilne aplikacije

Mobilna aplikacije se može dohvatiti na adresi:

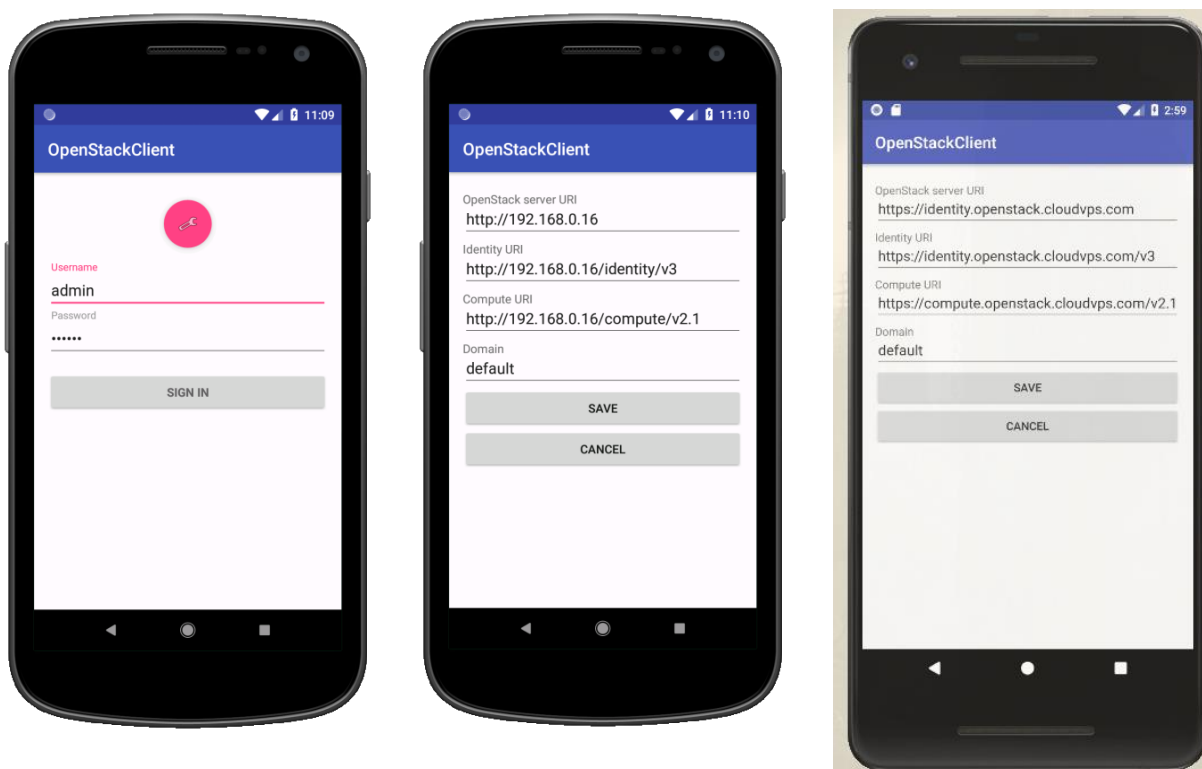
<https://github.com/tinsk/OpenStackAndroidApp/releases>

Aplikacija se može skinuti klikom na link **OpenStackClient.apk** i instalirati na Android uređaj.

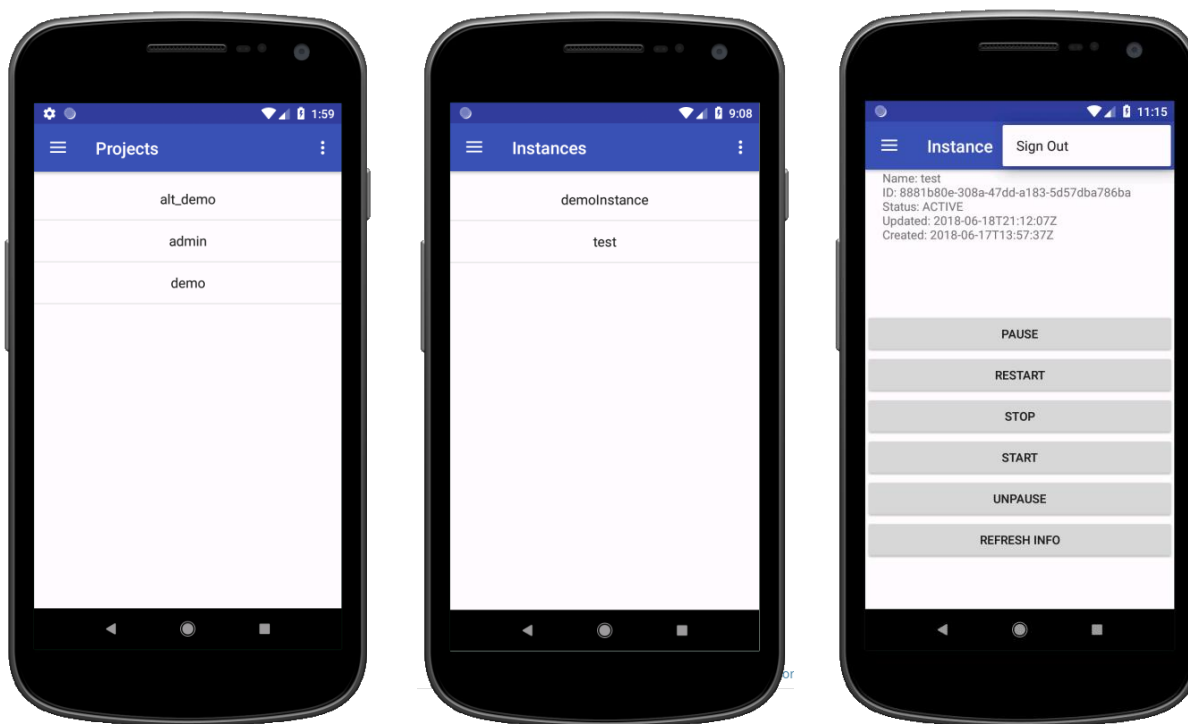
Pri pokretanju aplikacije, prvo se prikaže Login ekran, gdje možemo upisati korisničko ime i lozinku. Klikom na Settings gumb iznad Login polja, prikažu se opcije za upis API adresa. Ako koristimo DevStack, dovoljno je upisati prvi URI, i aplikacija će sama popuniti ostala polja nakon spremanja podataka. Zadane vrijednosti za Identity i Compute api su: /identity/v3 i /compute/v2.1.

Ako koristimo CloudVPS, nije potrebno upisivati prvi URI, ali moramo upisati adrese za Identity i Compute. U trenutku pisanja vježbe, to su:

<https://identity.openstack.cloudvps.com/v3> i <https://compute.openstack.cloudvps.com/v2.1> . Nije potrebno prepisivati ID projekta s CloudVPS stranice.



Klikom na Save se spremaju adrese, te se možemo prijaviti klikom na **Sign In**. Na sljedećem ekranu izaberemo projekt, a nakon toga imamo izbor instanci.



Kod aplikacije

Cijeli kod aplikacije moguće je povući s Git repozitorija: <https://github.com/tinsk/OpenStackAndroidApp>

Dio koda koji direktno komunicira s OpenStack API-jima se nalazi u klasi:

<https://github.com/tinsk/OpenStackAndroidApp/blob/master/app/src/main/java/OpenStackHttpClient/OSHttpClient.java>