

Contestant VM Manual

This page contains information about using the Contestant VM.

There is only one normal user account in the Contestant VM for the Contestant to use. The username is `ioi` with default password `ioi`.

Setup

At your first login to the Contestant VM, and every subsequent login as long as you do not complete this step, you will be prompted to run the IOI Setup script. You can also re-run IOI Setup by running `ioisetup` from the Terminal

The IOI Setup script will request your Contestant credentials, then download and install a VPN configuration. The UNIX "gecos real name" is also updated with your Contestant ID, e.g. XXX1, which will be displayed in the top right corner on subsequent logins.

The VPN connection identifies this VM instance to the IOI 2021 Online Contest Environment as being associated to the configured Contestant. If another Contestant takes over the use of this VM instance, you must re-run IOI Setup with the other Contestant's credentials.

IMPORTANT: There must be only *one* VM instance running and connected to the IOI 2021 Online Contest Environment per Contestant. If the same Contestant is logged in more than once, the VPN connection will flap between the two instances and will *not* be usable.

You *may* change the `ioi` local user account password in the Contestant VM. This does *not* change the official Contestant Credentials given the Contestants.

Online Connection

The Contestant VM must be running and connected to the IOI 2021 Online Contest Environment no later than 4 hours before Contest starts, or no later than 1 hour before Practice starts. The HTC will access the Contestant VM remotely to perform verification checks and to apply any necessary updates. Delays caused to the HTC will mean a late start for the Contestant.

The Contestant VM must remain connected after end of Contest and Practice for the HTC's continued access to download logs and other data. Instructions will be conveyed through the Proctors once the online connection is no longer required, and thereafter, the Contestant VM may be shutdown.

Account Reprovisioning

The `ioi` user account will be removed and reprovisioned automatically 15 minutes before Contest or Practice starts. Users who are logged in at that time will be forcibly logged out. Contestants may relogin after the account has been reprovisioned. The screen will be locked automatically after login, and unlocked at Contest or Practice start.

Note that the account reprovisioning does *not* revert the `ioi` password to the default. I.e., if you have changed the `ioi` account password, your new password is still effective.

Local Configuration

The following settings can be configured in the VM. These settings will persist through account reprovisioning.

Home Directory Backup

The Contestant VM provides a backup/replication mechanism that uses `rsync` to replicate the home directory to a backup server in the IOI 2021 Online Contest Environment. This is *not* enabled by default. Contestants can either:

1. Run the `ioibackup` script at any time to perform the `rsync`.
2. Run `ioiconf setautobackup on` to enable automatic backup at a 5-minute interval. A random delay up to 30 seconds is inserted before automatic backup. Run `ioiconf setautobackup off` to disable automatic backup.

Backups are available only during Contest and Practice time.

This backup is more accurately described as replication. It uses `rsync` with the `--delete` option, which means the remote contents are a mirror of the local home directory. In particular, files deleted locally will also be removed at the remote. This replication only includes non-hidden files up to a maximum size of 1 MB.

To restore or retrieve files from remote, run `ioibackup -r`. The files will be restored in `/tmp/restore`.

Automatic Screen Lock

Automatic screen lock is enabled by default, with a 30 second delay after 15 minutes of idle time. You can disable automatic screen lock by running `ioiconf setscreenlock off`. Run `ioiconf setscreenlock on` to reenable automatic screen lock.

Timezone

The Contestant VM is configured to show time in the Asia/Singapore timezone. All dates and times communicated by the IOI 2021 organisers will be in Asia/Singapore timezone unless otherwise specified.

If you strongly prefer to see the time in your local timezone, you can run `ioiconf settz <timezone>`, where `<timezone>` is an appropriate TZ specification (according to `tzselect`). The changes will be effected the next time you login to the `ioi` account.

E.g.: `ioiconf settz UTC` to use GMT time.

VPN Protocol Mode

By default, the VPN is configured to use TCP on port 655 only. The VPN software, Tinc, can also use UDP on port 655 for data packets, in addition to using TCP on port 655 for metadata. This may improve performance, provided your network permits UDP port 655 traffic outbound and inbound. This mode can be enabled by running `ioiconf setvpnproto auto`, then `ioiconf vpnrestart` (or restart the Contestant VM).

In auto mode, both TCP/UDP will be used, with automatic fallback to TCP-only. To revert to the default TCP-only setting, run `ioiconf setvpnproto tcp`, then `ioiconf vpnrestart` (or restart the Contestant VM).

Note that the VPN protocol mode will return to default if the VPN is re-setup (i.e. by re-running `ioissetup`).