VMware IOInsight

v1.1.1 User Guide

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IOInsight – Architecture

IOInsight Backend

Monitor

Database

Analyzer Plugins

Basic I/O Analyzer

Cache Simulation

scsi0:0   scsi0:0   scsi0:1

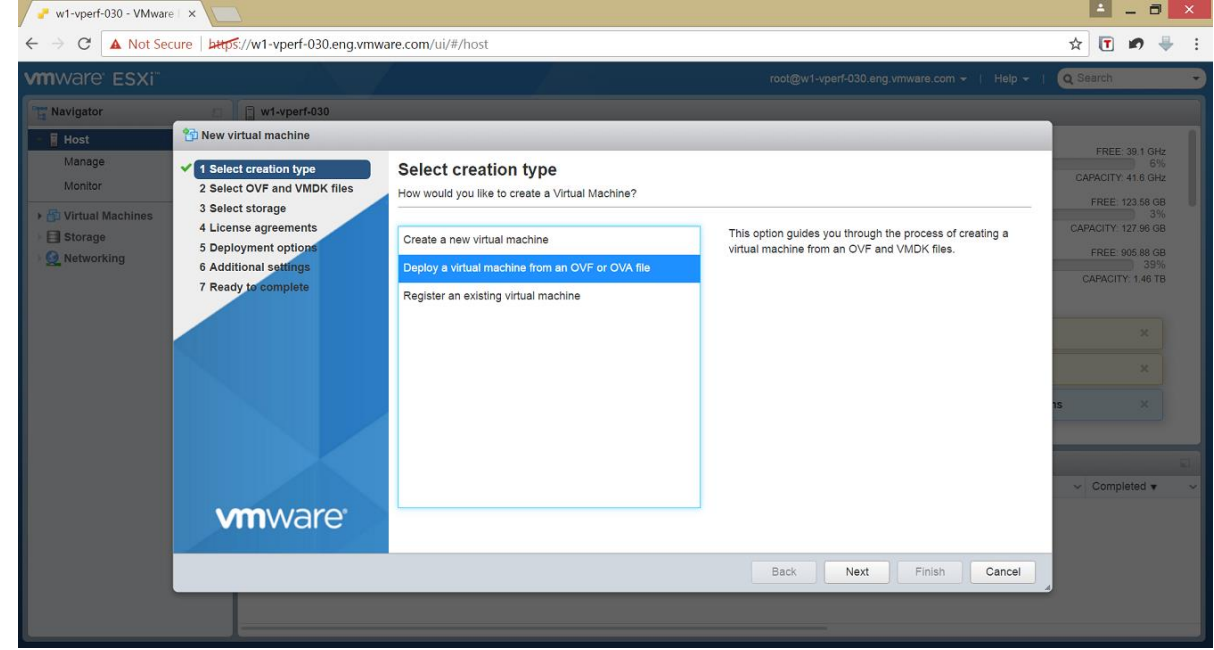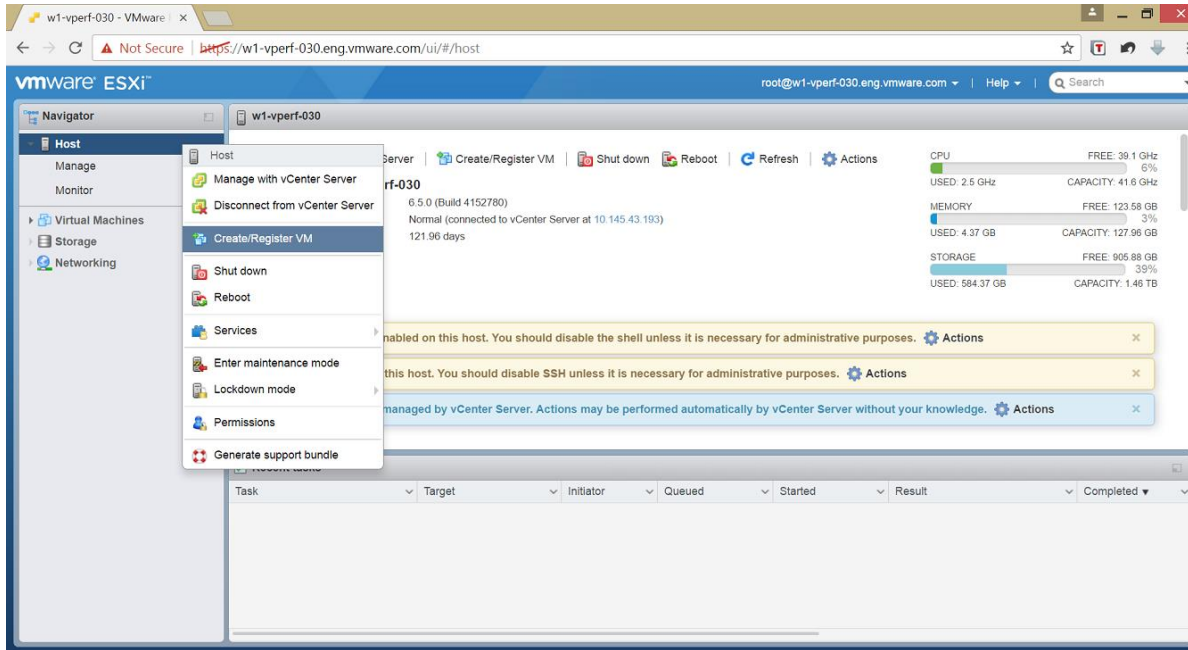VM1   VM2

ESX Host

User Interface
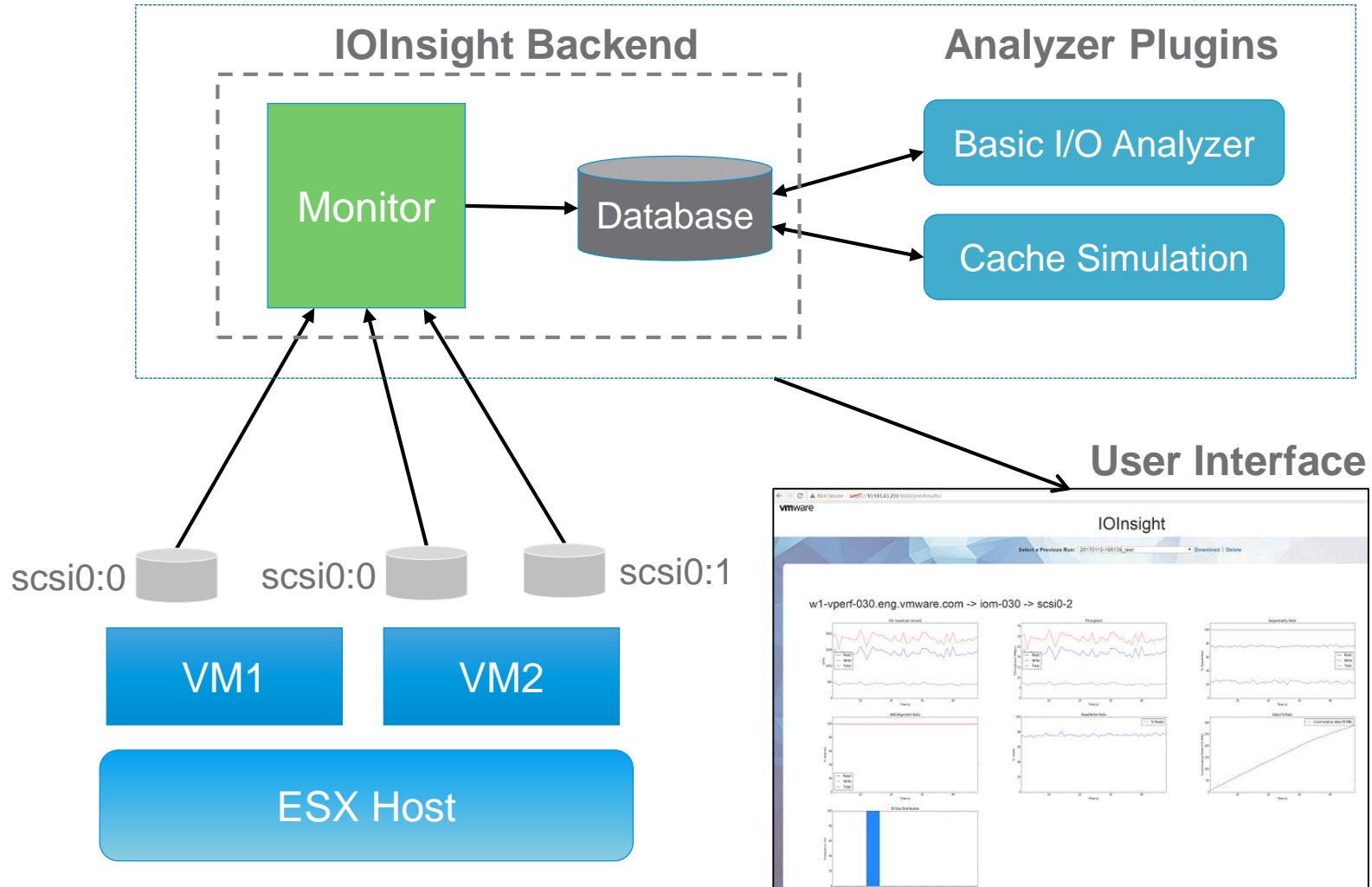
Deploying IOInsight Virtual Appliance

1. In vSphere web client, right click on the host and select "Create/Register VM"

2. Select option "Deploy a virtual machine from an OVF or OVA file"

3. Follow steps in the Wizard to select the downloaded ova, complete the deployment and power on VM

4. Network settings (optional) from commandline. Default password for 'root' user is '**changeme**'

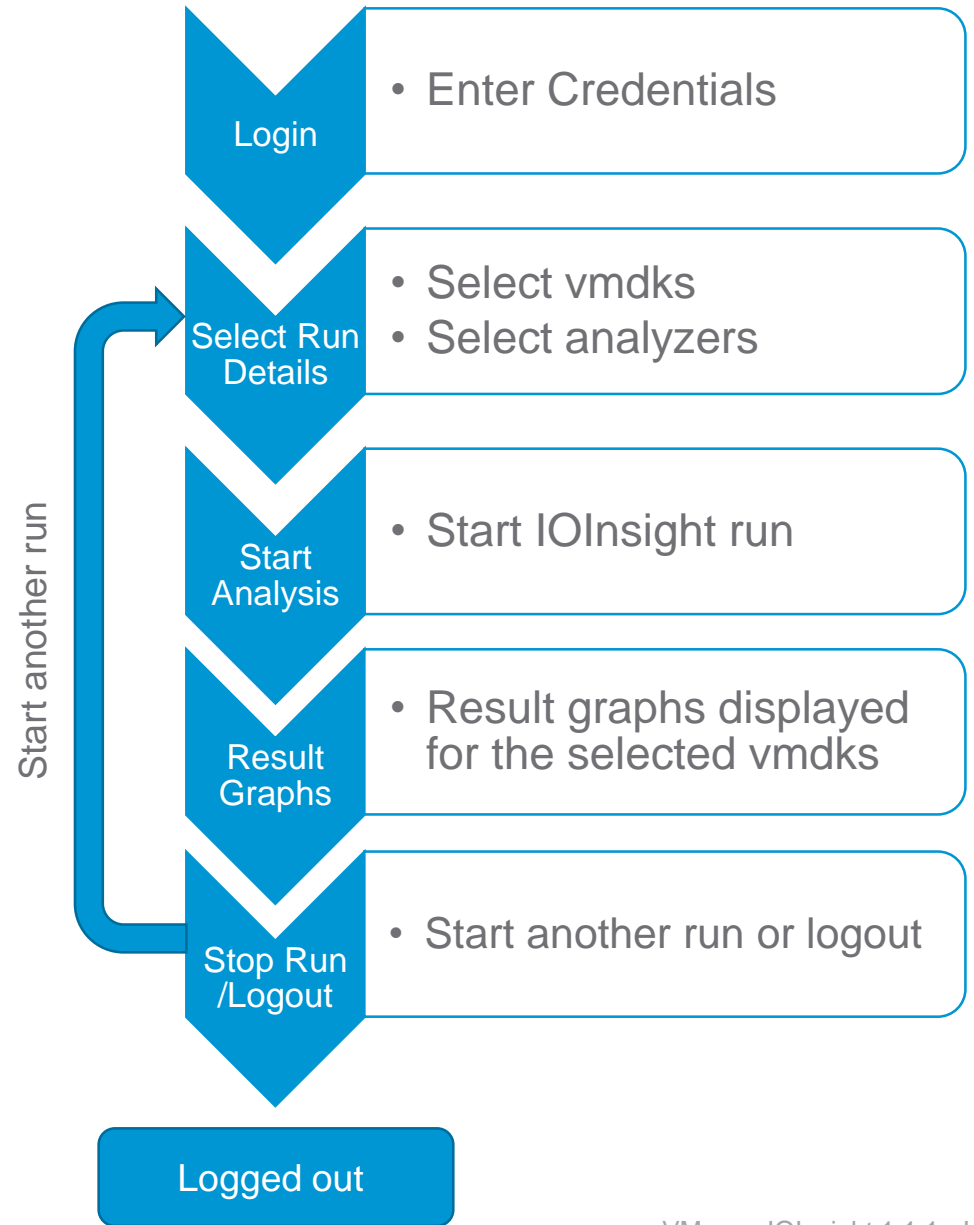5. Access IOInsight via URL: https://<IP-address-of-vm>

Network Configuration (Optional)

- IOInsight is configured with DHCP by default

- Use the following commandline utility to change the default network settings:

  ```
  root@IOInsight [ ~ ]# ioinsight nwcfg

  [Network Setup Wizard]

  Please select which configuration you would like to change.

  Enter option [dhcp | static | ntp | exit]:
  ```

- Options
  - dhcp : Configures eth0 for DHCP
  - static : Configure eth0 with static IP. Enter IP address, default gateway and DNS (optional)
  - ntp   : Use this option if you would like to override default ntp servers
  - exit   : Quit network setup script

- DNS nameserver setting is part of static IP configuration

- For advanced settings not provided by this utility, please refer Photon Administration guide:
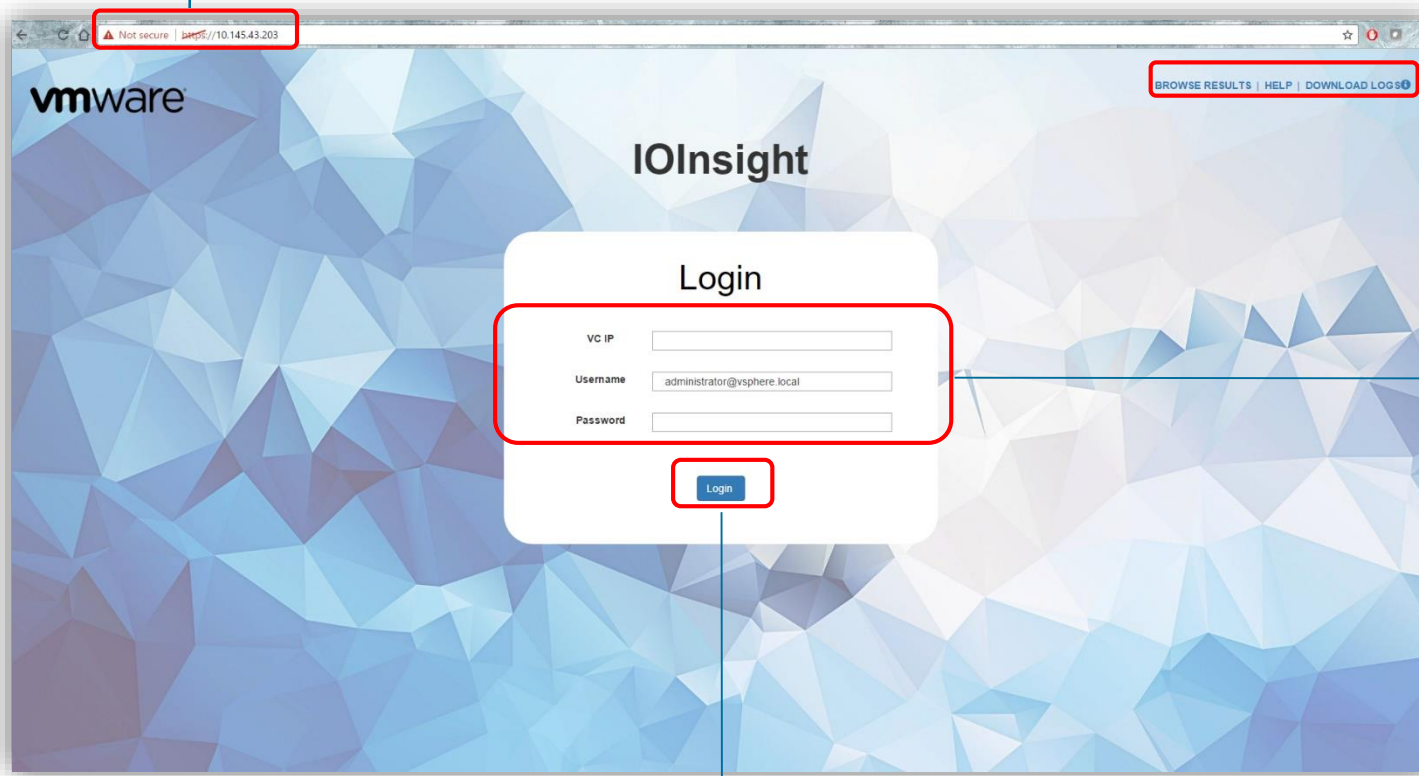
  https://github.com/vmware/photon/blob/master/docs/photon-admin-guide.md

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UI Workflow

Login
- Enter Credentials

Select Run Details
- Select vmdks
- Select analyzers

Start Analysis
- Start IOInsight run

Result Graphs
- Result graphs displayed for the selected vmdks

Stop Run /Logout
- Start another run or logout

Start another run

Logged out

Login

Supported Browsers: **Google Chrome, Apple Safari**

URL is of the form:-**https://<vm_ip>**
(Please note that it should be **https**)

Not secure | https://10.145.43.203

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IOInsight

BROWSE RESULTS | HELP | DOWNLOAD LOGS❶

Login

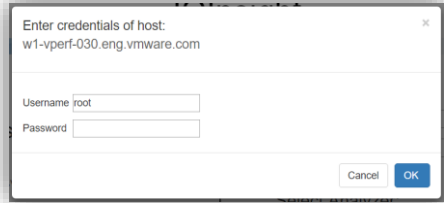| VC IP | |
| Username | administrator@vsphere.local |
| Password | |

Login

- **BROWSE RESULTS** leads to a page to browse results of previous runs

- **HELP** provides links to user guides

- **DOWNLOAD LOGS** downloads the log files which then can be mailed to *ioinsight@vmware.com* for troubleshooting

- Login credentials include:
  - **VC IP**
  - **Username**
  - **Password**

Once all login credentials are entered, click on the **LOGIN** button
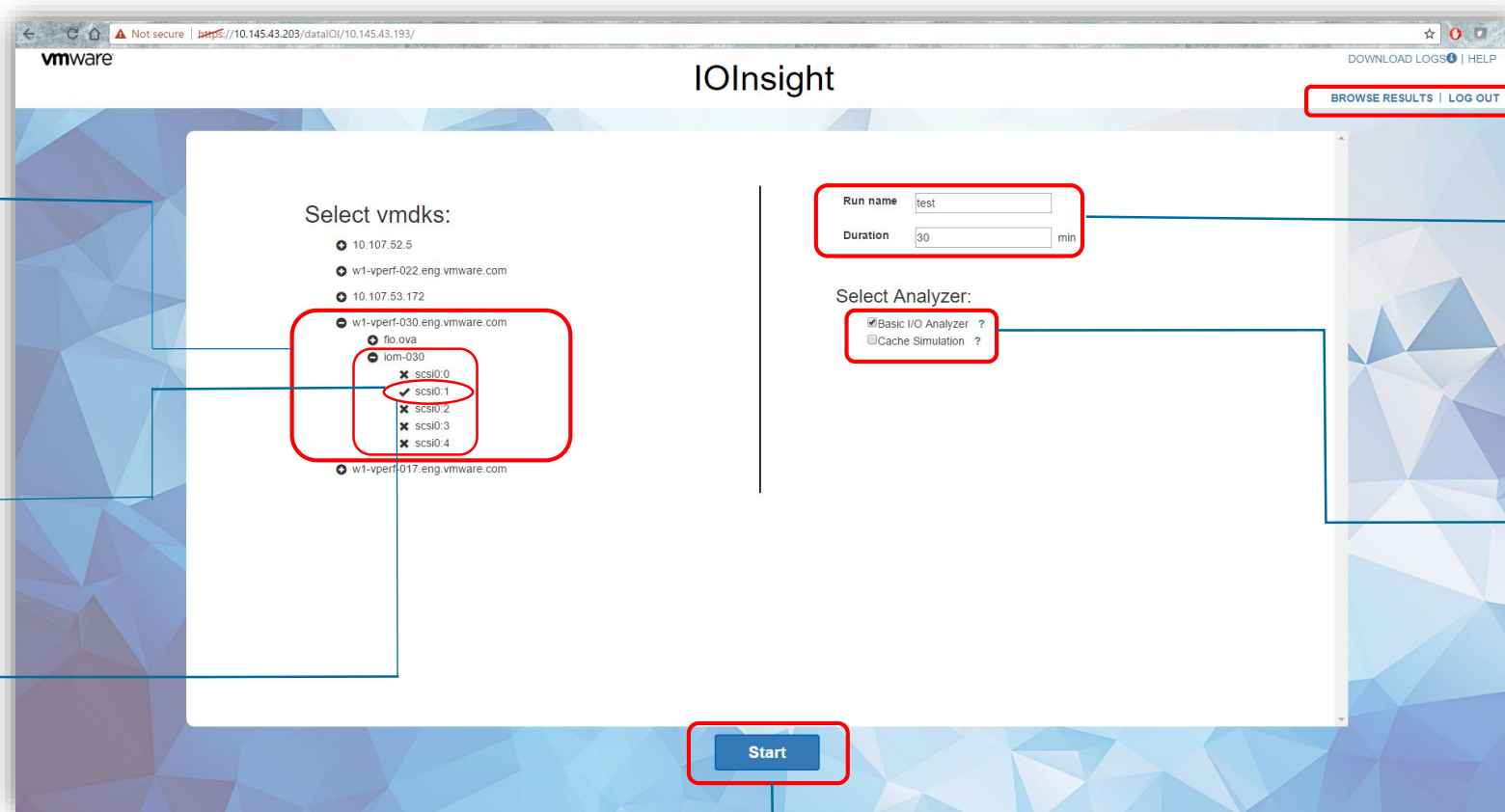
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Selecting Run Details

Select **Host.** Enter host credentials (one time task).

Enter credentials of host:
w1-vperf-030.eng.vmware.com

Username root
Password

Cancel   OK

Select **VM**
Note: VM names containing the characters *|&[]\/^'}"% are not supported

Select **VMDK**

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DOWNLOAD LOGS | HELP

BROWSE RESULTS | LOG OUT

Select vmdks:

- 10.107.52.5
- w1-vperf-022.eng.vmware.com
- 10.107.53.172
- w1-vperf-030.eng.vmware.com
  - fio.ova
  - iom-030
    - scsi0:0
    - scsi0:1
    - scsi0:2
    - scsi0:3
    - scsi0:4
- w1-vperf-017.eng.vmware.com

Run name   test
Duration   30   min

Select Analyzer:
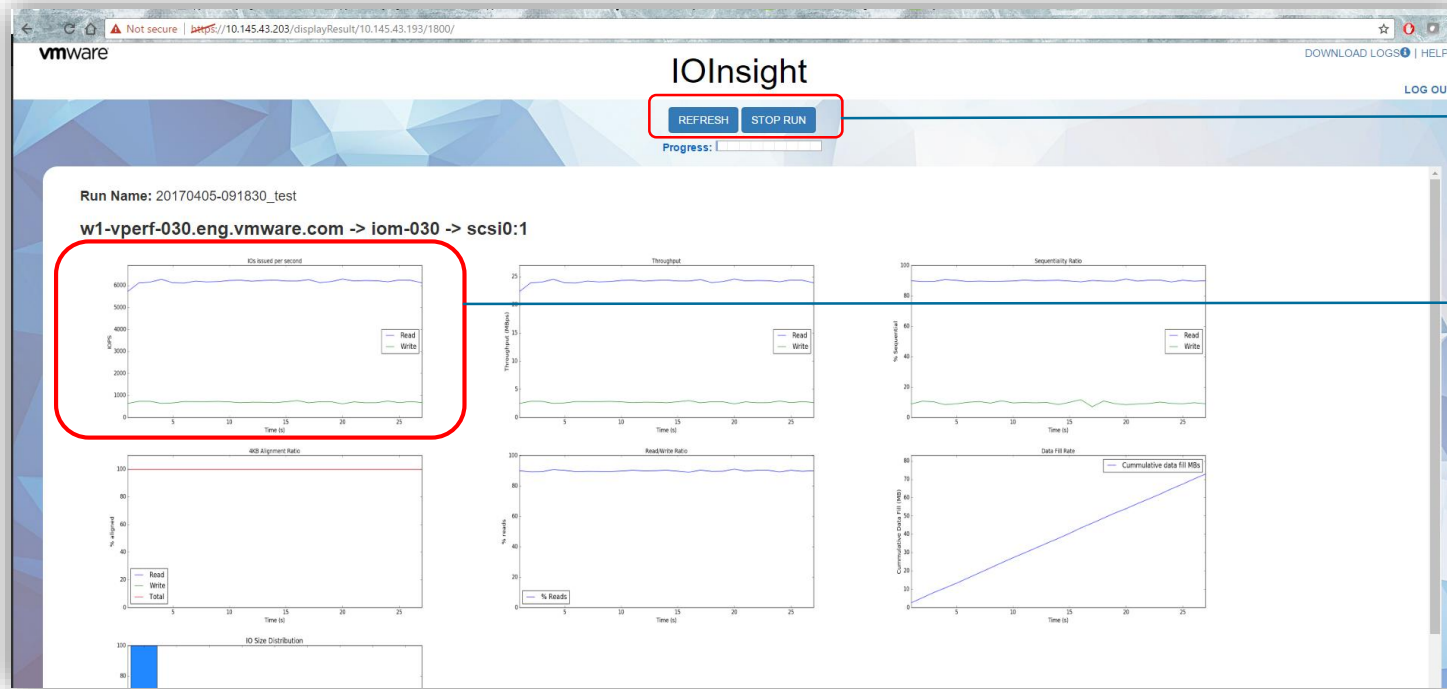- Basic I/O Analyzer   ?
- Cache Simulation   ?

Start

- **BROWSE RESULTS** link to browse results of previous runs
- **LOG OUT** link to logout of IOInsight

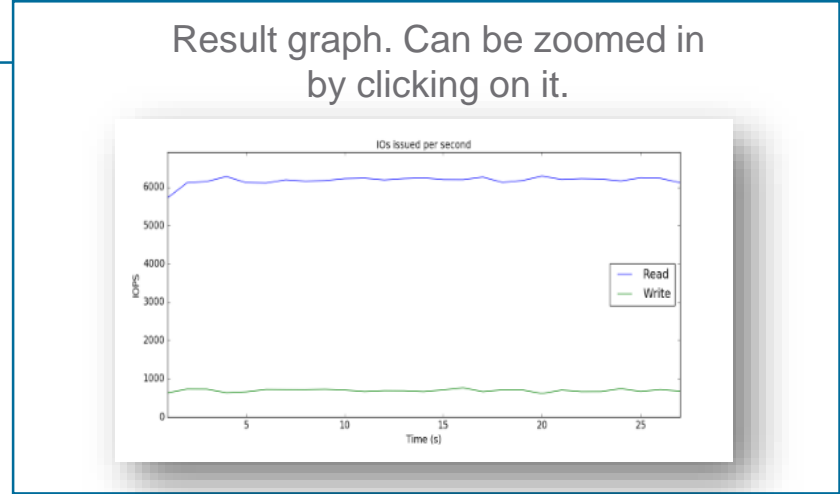Enter the **RUN NAME** and the **DURATION** of the run in minutes

Select an analyzer

Once all details are provided click on the **START** button to start the run

Result Visualization

- **REFRESH** button updates the graphs
- **STOP RUN** button stops the ongoing run

Result graph. Can be zoomed in by clicking on it.

- First set of result graphs are generated 30 seconds after starting a run. If results are not available at that time, it retries with 30s interval until results are available or exceeds 5mins without any result

- At the end of run duration, final results graphs for the entire duration is generated

- Results are grouped based on VMDKs (Title format: HOST -> VM -> VMDK)

Result Visualization (contd.)

Once a run is completed/stopped, result graphs can be downloaded or can start a new run .
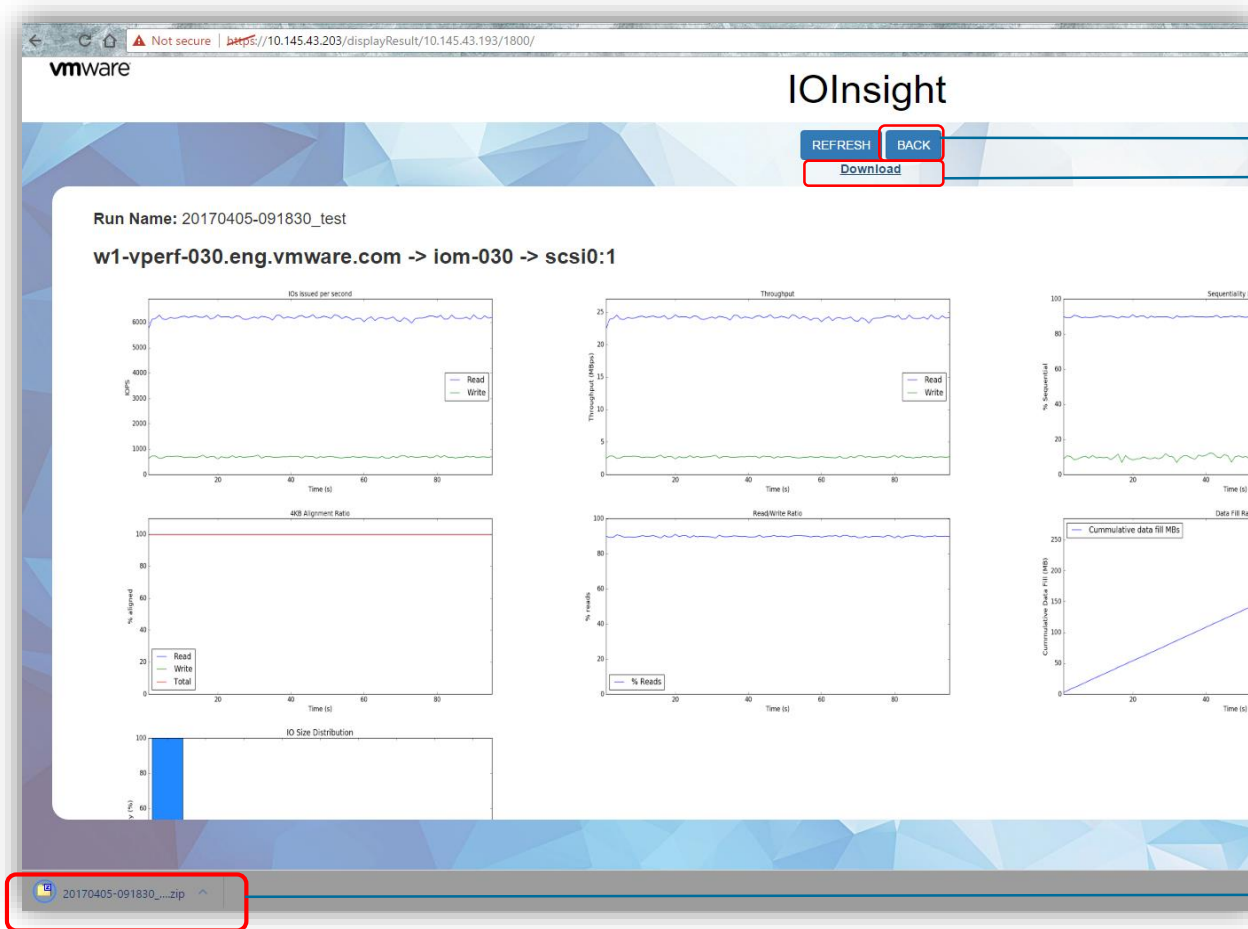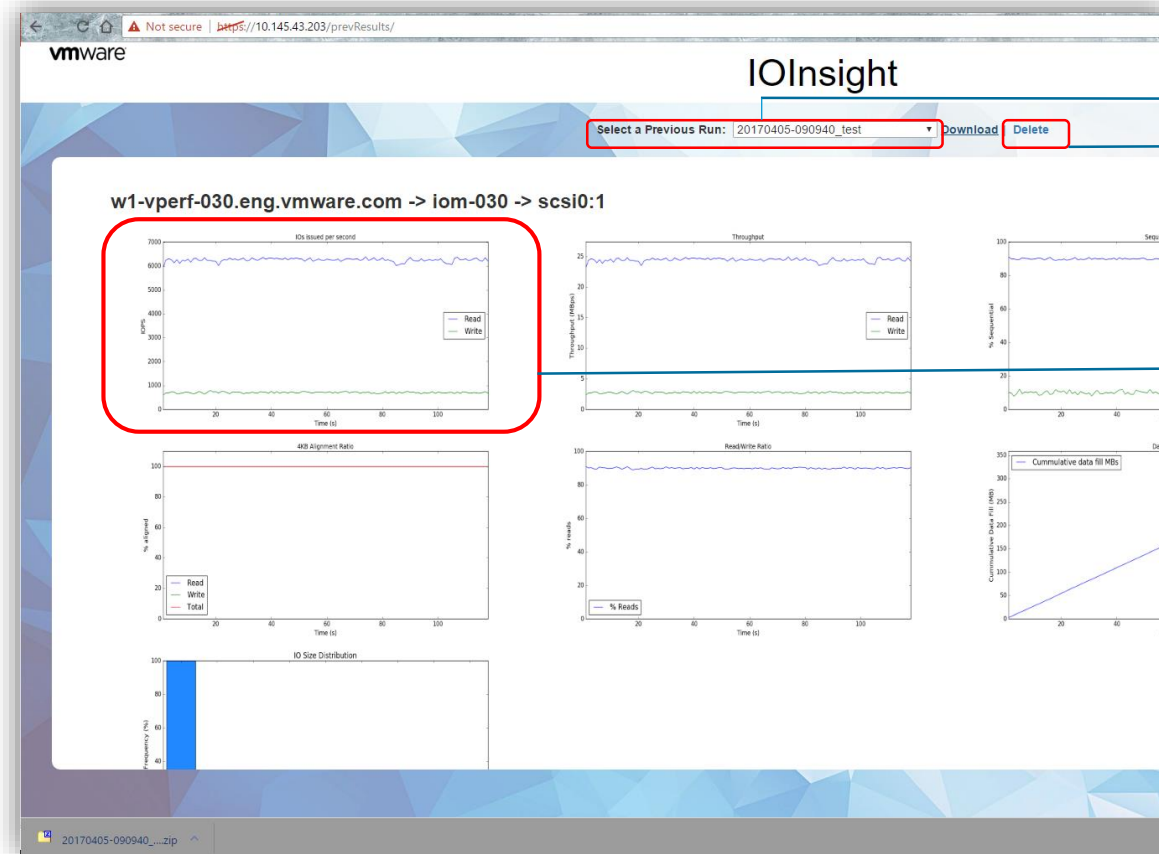

To start a new run, click the **BACK** button

- **Download** link to download displayed results

Downloaded zip file contains result graph images and raw data in CSV format
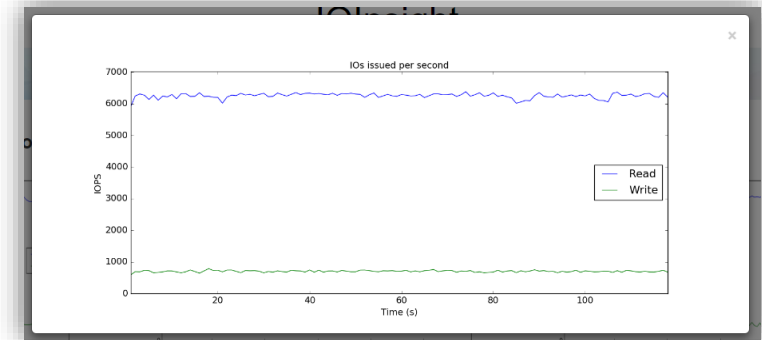
Browse Previous Results

BROWSE RESULTS link lead to this webpage.

Select a previous run, graphs of which you want to view

To delete results of the selected run/analysis, click the **Delete** link

Graph be zoomed in by clicking on it

Best Practices

- IOInsight VM Configuration
  - vCPUs : Minimum 2, 4 if analyzers with heavy processing are added
  - Provisioned memory: >= 2GB
  - IOInsight VM should be ideally deployed in the same/closer network as the hosts being monitored. Otherwise, larger RTTs can result in slower response times

- Analysis/Run Configuration
  - We recommend selecting < 8 VMDKs for a single run as large number of parallel monitoring can result in high overhead, especially if IOPS is very high for those VMDKs
  - Recommended analysis duration is at least 10min (default: 30min)
  - Cache Simulation analyzer is CPU-intensive. We recommend running cache simulation for 1 or 2 cache configurations at a time for better performance. Increase the number of VCPUs for more parallel configurations.

REFERENCE

- IOInsight Community Page

  https://communities.vmware.com/community/vmtn/performance/vmware-ioinsight

- IOInsight Flings Website

  https://labs.vmware.com/flings/ioinsight

- IOInsight Detailed User Manual can be downloaded from HELP page in IOInsight appliance

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