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# How to use DWService.net link for remote access

## Overview

This paper provides instructions on how to use a DWService.net link.

DWService.net is a secure remote access tool that doesn't have some of the drawbacks that the Soleil or IBM Techzone web clients do. For that matter, it also doesn't have some of the drawbacks exhibited by the vSphere Web Client or the VMRC clients either.

Some of the IBM web client issues that DWService resolves are:

- Horrible keyboard problems too numerous to describe here. They are so bad, that it is nearly impossible to type normally, and it is definitely not feasible to have a good experience installing and testing software.
- Copying and pasting to/from laptop. It's important to be able to copy from a document that you are writing into a command line or text file in the lab image. The Soleil interface prohibits users from doing this.
- Downloading or uploading files to/from the lab environment. The Soleil interface prohibits users from doing this, except through Box or some other 3rd party tool.
- Multiple users working on the same computer at once without interfering with each other.
- Frequent timeouts and locking up of the user interface.
- Slow and unresponsive editing of files.
- Lack of the ability to monitor resources.
- Difficulty copying from shell prompts.
- Inability to share the screen and to have co-workers or engineering help us.

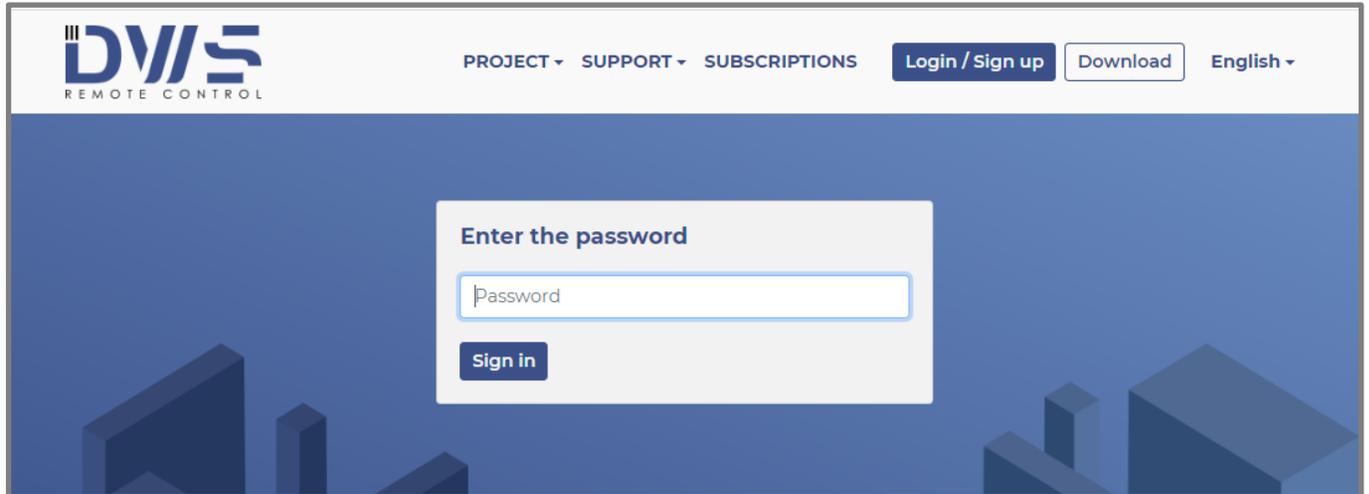
One of the benefits of DWService over some other remoting software is that it allows **unattended access**. In other words, some of the other remoting software require that a user on the remote host must "accept" a request to connect by you. That is not "unattended access". It is not a good configuration when you need to access vmware based servers or very remote systems, such as accessing an observatory on a remote mountaintop in the middle of the night.

It is important to establish good practices with regard to passwords and to manage which shares and agents are enabled at certain times.

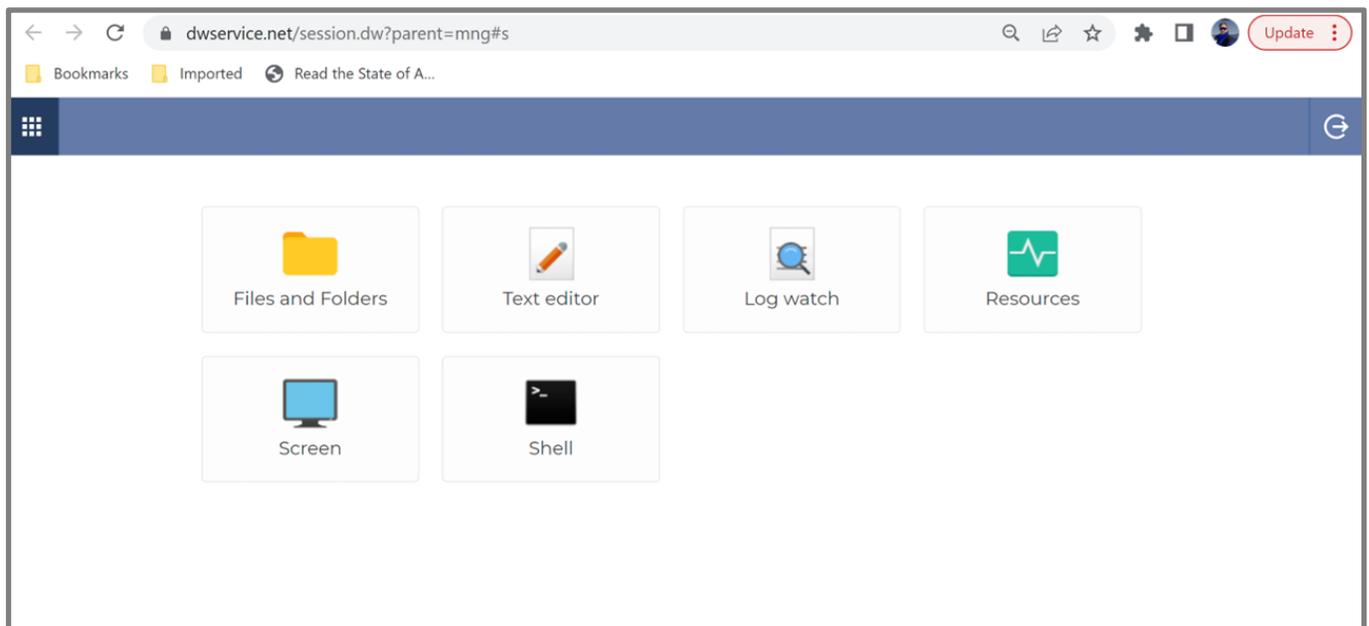
A DWService agent has been installed into the host to which you are connecting. That host should be able to provide access to other hosts in its group. For example, in the Instana lab environment, there are 4 hosts. You remote into the robot host and access the other hosts from there. In the WM602 Cloud Pak for Integration image set, there are 8 hosts. You install the dwagent on the bastion host. The bastion host typically has access in one way or another to the other hosts in the image set.

## Connecting by using a link

When you are given a DWService link, you click on the link and enter the password that you were provided. This connects you to the dashboard for host.



The following page appears for that host, showing you the DWService Dashboard, which shows the Apps that you are allowed to use. You would mostly use the **Screen** app.



The Apps shown on this screenshot are all the possible apps you can have. The creator of the link is responsible for the inclusion or exclusion of apps that you have access to.

## DWService Client Apps

This section describes the different DWService Apps. You will most typically use the Screen app. The "Files and Folders" app and the Shell app are very useful.



The Screen app allows you connect to the remote screen of a host almost as if you are sitting in front of the machine. It's much like Remote Desktop in that regard (or VNC, AnyDesk, etc). It is the most commonly used app.

From the Screen app, you can select the quality of the picture from Minimum Quality as the fastest to Maximum Quality (possibly slower but full fidelity for screenshots).

There are various tools along the toolbar to customize your experience.



 You can enter **full-screen mode** or exit full-screen mode. When in full-screen mode, this toolbar is hidden off to the left side of the screen and it opens when you move the mouse over it.

 There is a "**Copy text by remote**" icon for copying text from the remote host to the clipboard of your laptop.

 There is also a "**Paste text to remote**" icon for pasting text from your local keyboard into the remote host.

 Send Ctrl+Esc (or the Windows key).

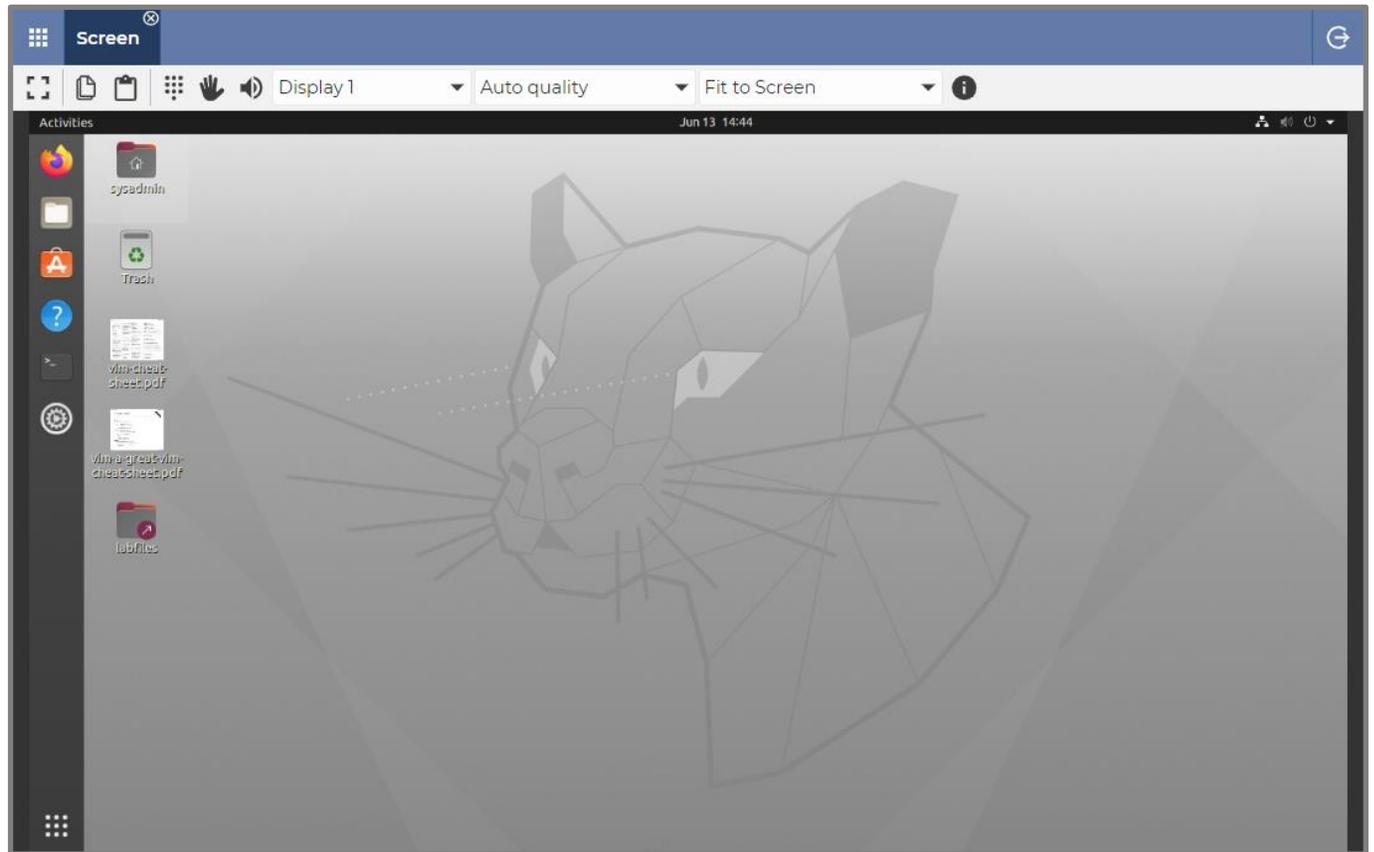
 Send Ctrl+Alt+Del.

 There is also a tool for **sending specific keys** to the remote by using an input key dialog.

 Also, there is a "**Disable mouse/keyboard**" icon that turns off your own mouse and keyboard. You would use that feature, for example, if you needed to watch a student do lab steps and you don't want your keyboard or mouse to interfere with them.

 You can also enable/disable **audio**.

 If the remote host has **multiple monitors**, you can choose which of the monitors to display.



## Files and Folders

Files and Folders

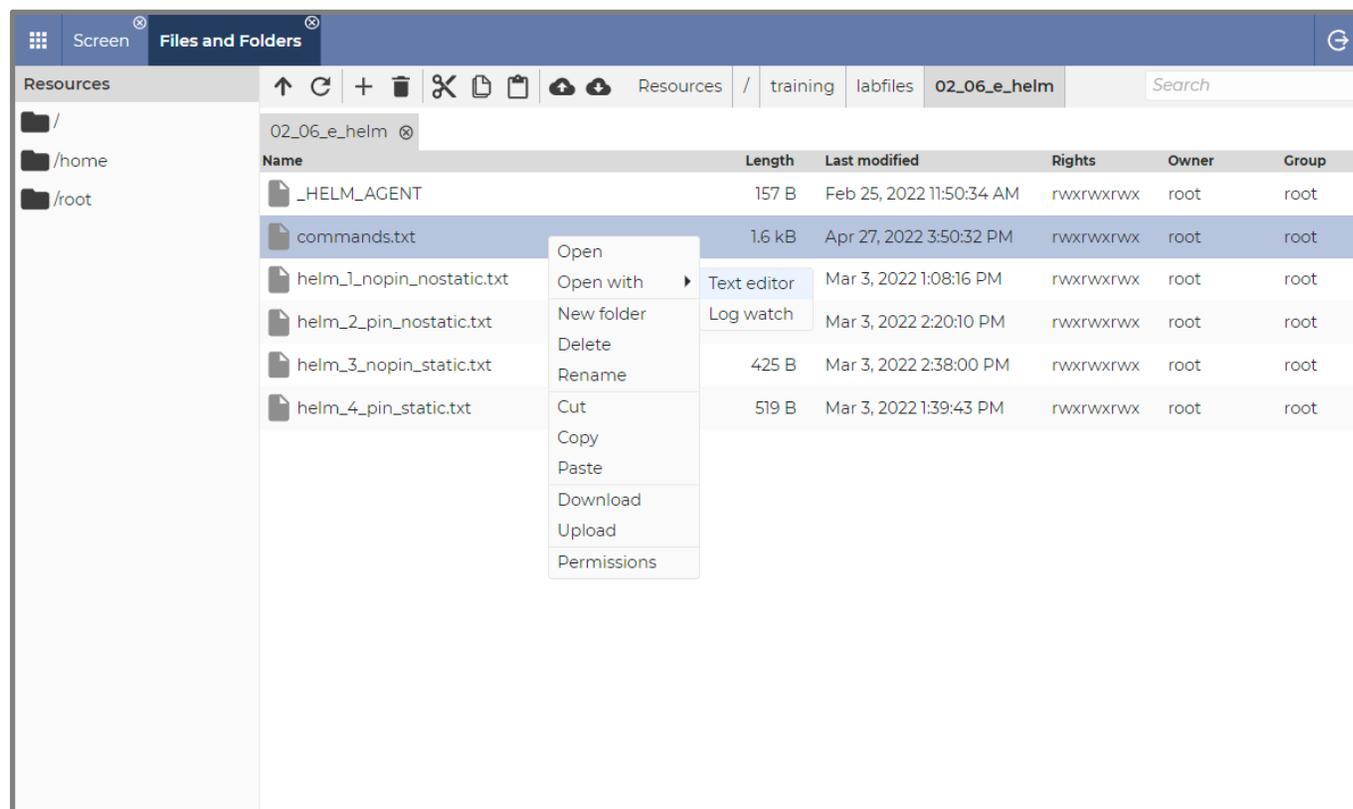
The Files and Folders app allows you to browse the remote computer and upload/download files to/from the remote host.

You can also open text files with a **Text editor** app or the **Log watch** app. The Text editor is a simple text editor. It is typically more responsive than editing on the remote screen - especially if the keyboard repeat is disabled or slowed.

The files lists can be sorted by any column header.

As you can see in the screenshot below, you can also perform operations on a file, or a selection of files, such as **Delete**, **Rename**, **Cut**, **Copy**, **Paste**, **Download**, **Upload**, and set **Permissions**.

You can use this app to copy files from the remote host or to the remote host. It is often useful in pushing config files that you have edited or downloaded elsewhere to the labfiles.



## Shell Shell

The Shell app allows you to execute CLI commands without connecting to the Screen app. Using the Shell app makes it much easier to copy/paste from command line results into your curriculum documents. Because you can copy from FrameMaker, Word, or PowerPoint, you can test each command by pasting the documented commands into the shell as it is presented to students to ensure that there are no typos in the material.

The user interface is much quicker than doing it from within the Screen app. Especially if the keyboard repeat has been disabled or slowed.

You can also copy rectangles of text (shown in the screenshot, the user has selected a rectangular portion of the output by holding the Alt key down while selecting a rectangular area of text). It does not copy graphics.

As you can see, you can use SSH to log in to a secure shell of another host in the image set. You could also use SCP to execute a secure copy from one host to the next.

When it logs you in, it logs you in to a shell connected as root.

```

Shell  Files and Folders
+
id:1  id:2
root@robot:/training/labfiles/02_03_docker# sudo ssh instanaserv
root@instanaserv's password:
Last login: Sun Jun 11 13:35:00 2023 from robot
[root@instanaserv ~]#
[root@instanaserv ~]# docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED    STATUS    PORTS    NAMES
1e3932161a7   containers.instana.io/instana/release/product/nginx:1.18_v0.5.0   "/docker-entrypoint..." 10 months ago Up 25 hours (healthy) instana-nginx
05ad03637d47   containers.instana.io/instana/release/product/ui-backend:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-ui-backend
7c3afff9815   containers.instana.io/instana/release/product/appdata-legacy-converter:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-appdata-legacy-converter
aca3a5a2e3b9   containers.instana.io/instana/release/product/appdata-processor:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-appdata-processor
e12b672f154f   containers.instana.io/instana/release/product/issue-tracker:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-issue-tracker
ab07279e5a6c   containers.instana.io/instana/release/product/processor:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-processor
2aa455845de2   containers.instana.io/instana/release/product/filler:3.217.275-0   "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-filler
e3b46b077ee4   containers.instana.io/instana/release/product/ui-client:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-ui-client
67a54d30044   containers.instana.io/instana/release/product/serverless-acceptor:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-serverless-acceptor
b0c359a4711   containers.instana.io/instana/release/product/appdata-reader:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-appdata-reader
06f2507b5798   containers.instana.io/instana/release/product/appdata-writer:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-appdata-writer
c0997951f256   containers.instana.io/instana/release/product/js-stack-trace-translator:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-js-stack-trace-translator
215593a3462   containers.instana.io/instana/release/product/sli-evaluator:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-sli-evaluator
3b552e949dc9   containers.instana.io/instana/release/product/appdata-health-processor:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-appdata-health-processor
833ade8c584   containers.instana.io/instana/release/product/eum-health-processor:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-eum-health-processor
e03ab49fca26   containers.instana.io/instana/release/product/eum-processor:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-eum-processor
8fac23740d19   containers.instana.io/instana/release/product/eum-acceptor:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-eum-acceptor
8d89894547a   containers.instana.io/instana/release/product/acceptor:3.217.275-0   "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-acceptor
598457442b8c   containers.instana.io/instana/release/product/cashier-rollup:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-cashier-rollup
4d00971536d2   containers.instana.io/instana/release/product/cashier-ingest:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-cashier-ingest
f3aa690138b9   containers.instana.io/instana/release/product/accountant:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-accountant
75b1738d3372   containers.instana.io/instana/release/product/groundskeeper:3.217.275-0 "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-groundskeeper
c70bd82349e0   containers.instana.io/instana/release/product/butler:3.217.275-0     "/usr/bin/sun.sh"        10 months ago Up 25 hours (healthy) instana-butler
8e2b10a9cab   containers.instana.io/instana/release/product/cassandra:3.11.10_v0.6.0 "/docker-entrypoint..." 10 months ago Up 25 hours (healthy) instana-cassandra
cea39de10c18   containers.instana.io/instana/release/product/elasticsearch:7.16.3_v0.7.0 "/docker-entrypoint..." 10 months ago Up 25 hours (healthy) instana-elastic
8240484f702   containers.instana.io/instana/release/product/clickhouse:21.8.76_v0.6.0 "/docker-entrypoint..." 10 months ago Up 25 hours (healthy) instana-clickhouse
1f8ae320503f   containers.instana.io/instana/release/product/kafka:2.7.1_v0.7.0     "/docker-entrypoint..." 10 months ago Up 25 hours (healthy) instana-kafka
f763cc38ef55   containers.instana.io/instana/release/product/cockroachdb:21.1.7_v0.6.0 "/docker-entrypoint..." 10 months ago Up 25 hours (healthy) instana-cockroachdb
d5eeff0d06dda   containers.instana.io/instana/release/product/zookeeper:3.6.3_v0.5.0 "/docker-entrypoint..." 10 months ago Up 25 hours (healthy) instana-zookeeper
[root@instanaserv ~]#

```



## Text editor Text editor

The Text editor app is not very fancy or feature-rich, but it is quick and responsive.

You should always remember that someone else on the remote host could also be editing the same file at the same time. The last one to save their file overwrites any other saves by other users.

It supports column select and copy by holding the Alt key down while selecting a rectangular area of text.

You can get context coloring by selecting the matching language in the dropdown (shown here with "Shell" language selected).

```

1
2
3
4 ### Remove SCSS and things before installing Docker or Podman
5
6 yum remove docker-client-latest docker-common docker-latest docker-latest-log
7 ## Result or removal
8
9
10 yum install -y yum-utils
11 ## Results: nothing to do
12
13
14 #####
15 ## DOCKER
16
17 yum-config-manager --add-repo https://download.docker.com/linux/rhel/docker-ce.repo
18 ## Results: repo saved to /etc/yum.repos.d/docker-ce.repo
19
20 yum install yum-utils
21 ## Results: failure: repodata/repomd.xml from docker-ce-stable: [Errno 256] No more mirrors to try
22 ## https://download.docker.com/linux/rhel/7Server/x86_64/stable/repodata/repomd.xml: [Errno
23
24
25 yum install -y yum-utils device-mapper-persistent-data lvm2
26
27
28
29 vim /etc/yum/pluginconf.d/search-disabled-repos.conf
30 #change notify_only=0
31
32
33
34
35

```



## Log watch Log watch

The Log watch app allows you to monitor a log file while log entries are actively being added to it live.

You can also pause the output and resume it. Pausing the feed is helpful if you are trying to select log entries to copy into the clipboard. The log entries could be so busy that it is scrolling too much, so you can pause it to focus on one or more entries.



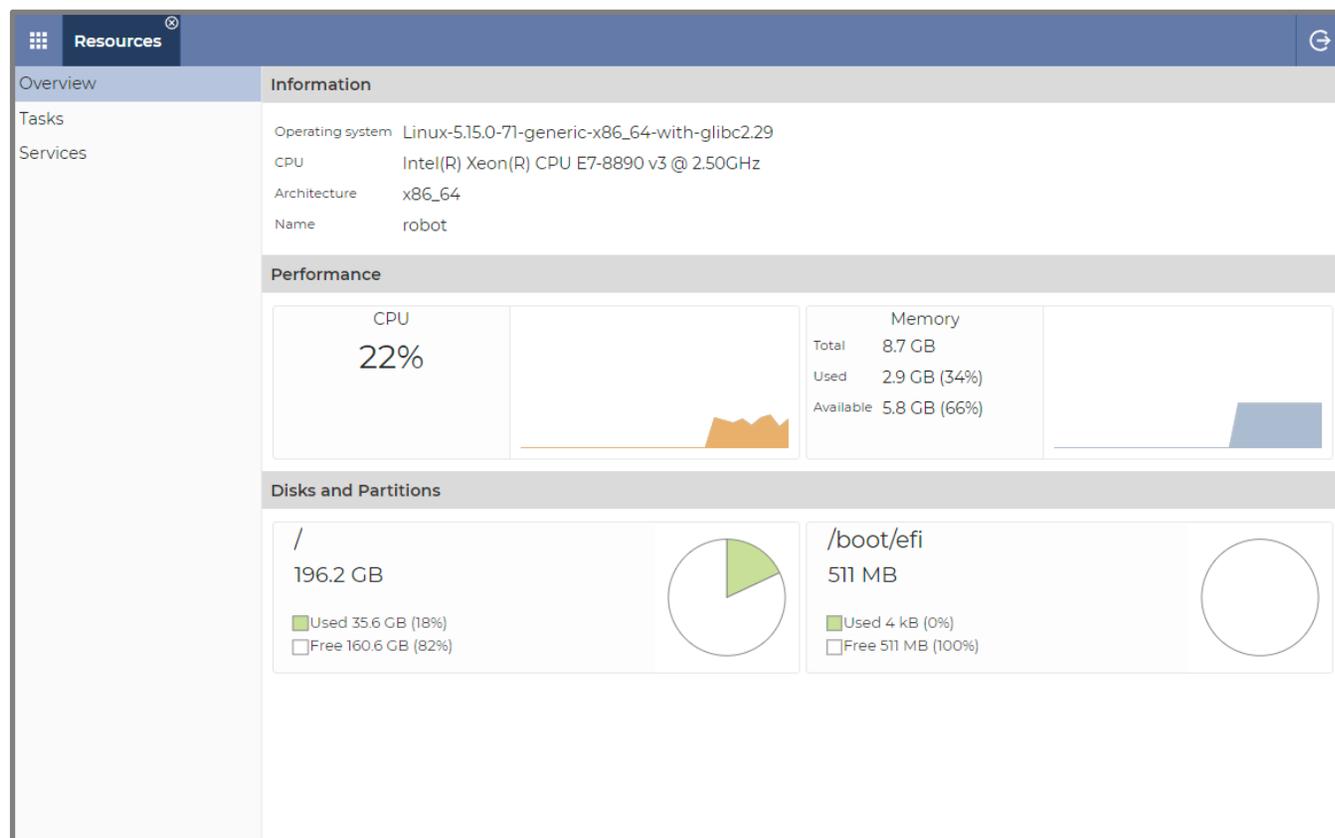
```
Log watch
lastStart.txt
OK
I0612 13:58:02.974316 1747 addons.go:261] installing /etc/kubernetes/addons/storageclass.yaml
I0612 13:58:02.974369 1747 exec_runner.go:145] found /etc/kubernetes/addons/storageclass.yaml, removing ...
I0612 13:58:02.974379 1747 exec_runner.go:190] rm: /etc/kubernetes/addons/storageclass.yaml
I0612 13:58:02.975202 1747 exec_runner.go:152] cp: memory --> /etc/kubernetes/addons/storageclass.yaml (271 bytes)
I0612 13:58:02.975429 1747 exec_runner.go:52] Run: sudo cp -a /tmp/minikube273174551 /etc/kubernetes/addons/storageclass.yaml
I0612 13:58:03.029739 1747 exec_runner.go:52] Run: sudo KUBECONFIG=/var/lib/minikube/kubeconfig /var/lib/minikube/binaries/v1.20.2/kubectl
apply -f /etc/kubernetes/addons/storageclass.yaml
I0612 13:58:03.566911 1747 exec_runner.go:85] Completed: sudo KUBECONFIG=/var/lib/minikube/kubeconfig
/var/lib/minikube/binaries/v1.20.2/kubectl apply -f /etc/kubernetes/addons/storage-provisioner.yaml: (1.847398757s)
I0612 13:58:03.910156 1747 out.go:170] * Enabled addons: storage-provisioner, default-storageclass
I0612 13:58:03.910211 1747 addons.go:330] enableAddons completed in 3.107206766s
W0612 13:58:03.910617 1747 out.go:424] no arguments passed for "* kubectl not found. If you need it, try: 'minikube kubectl -- get pods -
A'\n" - returning raw string
I0612 13:58:03.916078 1747 out.go:170] * kubectl not found. If you need it, try: 'minikube kubectl -- get pods -A'
I0612 13:58:03.925797 1747 out.go:170] * Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
```



## Resources

Resources

The Resources app allows you to view system resources. The app has three views, **Overview**, **Tasks**, and **Services**.



**Overview** - Includes OS, CPU, Architecture, host name, CPU and Memory performance monitoring graphs, and Disk and Partition information for Used and Free storage.

**Tasks** - Displays a list of each of the processes running in the system. In some cases, if you have permissions, you can kill a process. You might need to do that if it is a runaway process.

**Services** - Displays a list of each of the services running in the system. It also shows you whether it is Running or Stopped. If you have permissions, you can Stop or Start a service.

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### **Important:**

This paper only relates to doing **development** or remote access to systems that have the dwagent installed on them.

In order to get this system to work for students requires using the DWService API to generate links for students on the fly when they request a lab environment. In that case, the data center would deploy the image set and then run some API commands to generate a link.

For a classroom of, let's say, 10 students in a non-multi-tenant-based image set, 10 instances of the lab deployment would be provisioned and then the APIs would be called to generate a link and a password for each student. For a multi-tenant-based image set, one image set would be provisioned and then the API would be called 10 times, one for each student, to produce the links and passwords.

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