

MAINTENANCE



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1. Backing Up and Restoring Metric Insights

1.1 Backup Your Metric Insights Instance

The **mi-app-backup** script is used to create a backups of your MetricInsights application and database. This backup tool will create a snapshot of your application database and critical files on the application server. The result of a backup is a tarball that can be used to restore the state of your application on the same or any other machine.

See [Restore Your Metric Insights Instance](#) for information about this complimentary process.

You will need root privileges to do the following commands. So either sign in as root, or do each command prefixed with "sudo".

1. Create the backup file

To create an application backup file, use the following command from the application server:

mi-app-backup -v

This will create a file similar to:

/var/backups/mi-app-backups/mi-full-backup-20130228-0407.tar.gz

NOTE: The timestamp in the filename can be used to distinguish new and old backup files.

2. Usage

To see all usage options:

mi-app-backup -h

```
usage: mi-app-backup [-h] [--dry-run] [--verbose] [--version] [--user USER]
                    [--password PASSWORD] [--format FORMAT] [--overwrite]
                    [--ssh-key SSH_KEY] [--include TYPE] [--keep N[d|w|m]]
                    [DEST_URI]
```

Backup restore-able Metric Insights data to the given DEST_URI.

positional arguments:

DEST_URI destination to store backup file. This can point to a directory

(filename auto-generated) or an exact filename. If omitted file:///var/backups/mi-app-backups/

will be used

optional arguments:

-h, --help show this help message and exit

--dry-run, -n Dry run. Print what would happen

--verbose, -v Be verbose. More v's, more verbose

--version, -V show program's version number and exit

--user USER, -u USER Optional user for logging into remote host

--password PASSWORD, -p PASSWORD

Optional password for logging into remote system. NOTE: for ssh, use --ssh-key below

--format FORMAT A format string for autogenerated filenames. Format identifiers are the same as time.strftime, with the following additions

%v - the MI version being backed up

%h - the hostname of the MI server

%t - the backup type

--overwrite, -o Overwrite existing backup file

--ssh-key SSH_KEY, -i SSH_KEY

ssh key file to use for remote server

--include TYPE, -I TYPE

What to include in the backup. Choose from 'db', 'files', or 'full'. Default: full

--keep N[d|w|m], -k N[d|w|m]

of backups / how long to keep backups. 3 will keep the last 3 backups.

3d/w/m will keep backups newer than 3 days/weeks/months ago.

If empty or negative, all backups will be kept.

3. Examples

Examples:

mi-app-backup

write to the default backup location: /var/backups/mi-app-backups/

mi-app-backup /some/dir[/my_file.tar.gz]

mi-app-backup file:///some/dir[/my_file.tar.gz]

mi-app-backup ssh://machine.example.com/home/cru/backups[/my_file.tar.gz]

write to the remote machine machine.example.com. This will use the ~/.ssh/id_rsa ssh key by default if it exists. Use -i SSH_KEY to modify this.

mi-app-backup -u <user> -p <pass> ftp://ftp.example.com/upload/backups[/my_file.tar.gz]

write to an autogenerated file and ftp to ftp.example.com in the /upload/backups directory.

mi-app-backup -u <S3_ID> -p <S3_KEY> s3://my-bucket

write to the Amazon s3 storage. You will need to install s3 on this machine (apt-get install s3cmd). And optionally provide s3 configuration (e.g., <S3_ID>, <S3_KEY> in file .s3cfg)

mi-app-backup -l db

backup database only

mi-app-backup -k2

only keep the last 2 backups


1.2 Restore Your Metric Insights Instance

The **mi-app-restore** tool will read a backup file generated by **mi-app-backup** and restore the machine to the state contained in the backup file. To restore a backup file, there are many available options. The four common ones are:

- Full restore
- Restore when database resides on remote server
- Restore with retained configuration files
- Restore database only

PRE-REQUISITES:

- You must have previously used **mi-app-backup** to [Backup Your Metric Insights instance](#)
- The machine on which you run **mi-app-restore** needs to already have the MetricInsights application installed on it.
- You will need root privileges to do the following commands. So either sign in as root, or do each command prefixed with "sudo".
- The **mi-app-restore** will restore the database to the location configured in `/opt/mi/config/insight.conf` on the machine you run the restore. So before restoring on a machine, make sure its `/opt/mi/config/insight.conf` points to the location of the database to which you will restore.

 For Version 6 forward:

1. You need to run the restore commands **inside** the web container (run 'mi-console')
2. Make sure the backup tarball is in **/opt/mi/backup** on the host (/opt/mi/backup is mounted as a volume inside the Web container)

1. Execute a full Restore process

To restore Metric Insights, including overwriting any configuration files you might have on the system on which the restore is executed, use the **mi-app-restore** command:

```
mi-app-restore PATH_TO_BACKUP_FILE
```

2. Execute a Restore when the database resides on a

remote server

If the application database resides on a remote server (i.e., not the Metric Insights application server), you can use the following command:

```
mi-app-restore -U admin_user -P admin_pass PATH_TO_BACKUP_FILE
```

...where `admin_user` and `admin_pass` are the admin credentials for the remote database server

3. Execute a Restore while retaining Configuration files

If you wish to keep your configuration files and only restore application state, you can use the following command:

```
mi-app-restore --no-config PATH_TO_BACKUP_FILE
```

4. Restore only the database

If you wish to only restore the database, you can use the following command:

```
mi-app-restore --include 'db' PATH_TO_BACKUP_FILE
```

5. Usage

To see all usage options:

```
mi-app-restore -h
```

```
usage: mi-app-restore [-h] [--dry-run] [--verbose] [--version] [--force]
                        [--no-config] [--db-user DB_USER] [--db-pass DB_PASS]
                        [--user USER] [--password PASSWORD] [--ssh-key SSH_KEY]
                        [--include TYPE] [--convert]
                        src_uri
```

Restore Metric Insights data from the given `DEST_URI`.

positional arguments:

`src_uri` Location of the backup file. This can point to a local file or a remote scp/ftp/s3 backup.

optional arguments:

`-h, --help` show this help message and exit

`--dry-run, -n` Dry run. Print what would happen

`--verbose, -v` Be verbose. More v's, more verbose

`--version, -V` show program's version number and exit

`--force, -f` Don't ask for confirmation, just do the restore

`--no-config` Don't restore the config files in the backup

`--db-user DB_USER, -U DB_USER`

The DB user to use when loading the MI database. Default: root

`--db-pass DB_PASS, -P DB_PASS`

The DB password to use when loading the MI database

`--user USER, -u USER` Optional user for logging into remote host

`--password PASSWORD, -p PASSWORD`

Optional password for logging into remote host

`--ssh-key SSH_KEY, -i SSH_KEY`

ssh key file to use for remote server

`--include TYPE, -I TYPE`

What to include from the backup. Choose from 'db', 'files', or 'full'. Default: full

`--convert, -c` Convert older backup data to be compatible with the newer installed version

6. Examples

Examples:

```
mi-app-restore /some/dir/my_file.tar.gz
```

```
mi-app-restore file:///some/dir/my_file.tar.gz
```

restore MI from the given backup

```
mi-app-restore ssh://machine.example.com/home/cru/backups/my_file.tar.gz
```

read the backup from the remote machine machine.example.com. This will use the ~/.ssh/id_rsa

ssh key by default if it exists. Use -i SSH_KEY to modify this.

```
mi-app-restore -u <user> -p <pass> ftp://ftp.example.com/upload/backups/my_file.tar.gz
```

backup from the file from ftp.example.com in the /upload/backups directory.

```
mi-app-restore -u <user> -p <pass> rsync://machine.example.com/path/to/my_backup.tar.gz
```

```
mi-app-restore -u <S3_ID> -p <S3_KEY> s3://my-bucket/dir/my_file.tar.gz
```

```
mi-app-restore -u <S3_ID> -p <S3_KEY> s3://@my.s3.endpoint/my-bucket/dir/my_file.tar.gz
```

read backup file from Amazon S3 bucket my-bucket. The @endpoint/bucket syntax will work for RIAK-CS and other s3-compatible cloud storage services.

6.1. Example: Restore Amazon EC2 instance with RDS

1. spin up new Amazon EC2
2. spin up new Amazon RDS

On new EC2 instance:

3. Move EC2 local db to RDS

```
mi-db-move <rds host> <rds db admin> <rds db password>
```

(This will also rename the dashboard db to the "hostname/ip address" of the machine.

Note, you must define the mysql parameters appropriately for the remote db server. Please see <http://kb.metricinsights.com/m/44498/l/412310-fine-tuning-mysql-parameters> for more information.)

4. Optional: Rename db on RDS to be the same as what is in the restore

```
mi-db-rename -d <dashboard db name> -D <old dashboard db name> -U <rds db admin> -P  
<rds db password>
```

5. Get the backup file to restore from

```
scp root@<old EC2 host>:/var/backups/mi-app-backups/<backup file name> /var/backups/mi-  
app-backups/
```

6. Do the restore (This will upgrade, then restore)

```
mi-app-restore -U <rds db admin> -P <rds db password> /var/backups/mi-app-  
backups/<backup file name>
```

1.3 Clear Metric Insights Data

1. Obtain a Fresh Install

Install a new base Metrics Insight application instance.

Obtaining a new instance is beyond the scope of this document. See [Install a New Instance of Metric Insights](#) or consult your MetricsInsight.com contact if you have any questions

2. Backup / Restore

Once you have the new, clean, application instance up and running, take a backup from the instance you want to clone and “restore” it on the new instance.

See the following articles that describe how to use the mi-app-backup and mi-app-restore tools for how to complete this task:

[Backup your Metric Insights Instance](#)

[Restore your Metric Insights Instance](#)

3. Set New Sources

This step is specific to your metrics.

1. Log into the new instance, which should now look identical to the instance you cloned,
2. Reconfigure the metric data sources to point to the new locations.

For instance, if you were collecting data from a MySQL instance called **mysql.customer-a.mycompany.com**, you will want to change the data source to **mysql.customer-b.mycompany.com**.

Should you have any questions about this, consult your MetricsInsight technical contact.

4. Reset and Collect New Data

Now that the new data sources have been configured you will run a command to clear out all old data in your application from the cloned instance, and fetch new data from the new data source.

Log into the instance and execute the following:

```
# cd /var/www/iv/data/bin && sudo ./instance_recollect.sh
```

NOTE: This is a simple command, but it can take a long time (several hours) to complete, depending on all the data to be collected.

2. Managing your Metric Insights Instance

2.1 Whitelist needed to Deploy or Upgrade Metric Insights - CentOS

Whether you host Metric Insights on VMware or install a CentOS version on bare metal, you will need access to various servers to update Metric Insights.

This applies to CentOS linux. This does not apply to Metric Insights hosted in Amazon EC2, running on Debian linux.

1. Deploy Metric Insights

To deploy a new version of Metric Insights you will need access some Metric Insights files that are pulled from Amazon S3, so you will need access to S3.

<https://s3.amazonaws.com> (port 443)

2. Yum repositories

From time to time, it may also be necessary to update the basic components of the VM, e.g., Linux, Apache, etc. In these cases, the VM will need access to appropriate yum repositories. If you maintain your own repositories behind your firewall, you can add your own repo config file to the /etc/yum.repos.d directory. Otherwise, you might need to enable the VM to connect to one of the following external repositories:

<http://apt.sw.be>

<http://mirrorlist.centos.org>

<https://mirrors.fedoraproject.org>

3. Options

1) For all on-premise installs (vmware + bare-metal), you will need to access Amazon S3

<https://s3.amazonaws.com> (port 443)

2) For on-premise bare-metal installs, you will need ssh / https access to adam.metricinsights.com (or uma.metricinsights.com)

3) For all on-premise installs, you will need https access to the official centos (or redhat) yum package repository for OS updates. This external access can be via a proxy server, or by external firewall rules for the MI server. Â

If external access to the official repositories are **not** available, you will need an internal package repository for Redhat / CentOS rpms. If an internal package repository is still not available for OS updates, the final method for upgrades is to download a new, updated VMware instance and restore the data from a backup. This backup/restore method is as follows:

- a) on current VMware instance, run `mi-app-backup`
- b) download new VMware appliance from Metric Insights
- c) start a new VMware instance from new VMware appliance
- d) on new VMware instance, run `mi-app-restore --convert <backup_location>`

Here, `<backup_location>` can be a local file, remote file, s3 file, or location on an ftp server. See `mi-app-restore -h` and `mi-app-backup -h` for more info.

4. Check list

- 1) For install on-premise hardware (not VMWare image), access to adam
- 2) Access for OS package updates
 - a) How to test if access is there
 - b) Options for MI upgrades (to support MI upgrades)
 - i) Open internet access
 - ii) Proxy server
 - iii) Internal package repository for OS upgrades
 - vi) mi-deploy with upgrade in-place option (when ready)

2.2 How to Replace an OVA

This article explains the steps needed to replace an old OVA with a new one.

High level summary:

1. get a new OVA (version x.y.z)
2. get an application backup (ie, db) of Metric Insights (version a.b.c)
3. give your VM management team the new OVA (version x.y.z)
4. your VM management team takes "Snapshot" of the existing VM
5. your VM management loads the new OVA (x.y.z) into VM
6. restore application backup to new VM (x.y.z) using -c (convert) flag
7. test login to MI

1. Obtain a copy of new OVA

Contact Metric Insights to request access to download new OVA.

2. Connect to your existing VM and create backup file

```
mi-app-backup
```

Run the above command from a shell prompt:

This will create backup file in the /var/backups/mi-app-backups/ directory.

More details on [backing up your instance](#)

3. Copy this backup file to your new VM

```
Dan's MacBook Pro:~ dancouvillon$ scp mi-full-backup-MetricInsights-Centos-64-bit-v3.3.101-20151117093636.tar.gz root@10.111.0.54:/var/backups/mi-app-backups/  
root@10.111.0.54's password:  
mi-full-backup-MetricInsights-Centos-64-bit-v3.3.101-20151117093636.tar.gz      100%  53MB  53.4MB/s   00:00
```

You can do this with the **scp** command

4. Connect to your new VM and restore your backed up data

```
[root@MetricInsights-Centos-64-bit mi-app-backups]# mi-app-restore -c /var/backups/mi-app-backups/mi-full-backup-MetricInsights-Centos-64-bit-v3.3.101-20151117093636.tar.gz
Stopping crond: [ OK ]
Stopping httpd: [ OK ]

-----

Current Host:      MetricInsights-Centos-64-bit
Current MI Version: 3.3.105
Restore Version:   3.3.101
Restored From Host: MetricInsights-Centos-64-bit
Data Available:    full
Requested Restore type: full

This will convert the older database schema in the backup to be compatible
with Metric Insights version 3.3.105
Convert? (y/n): y
```

Run the this command from a shell prompt:

```
mi-app-restore -c /path/to/backup_file
```

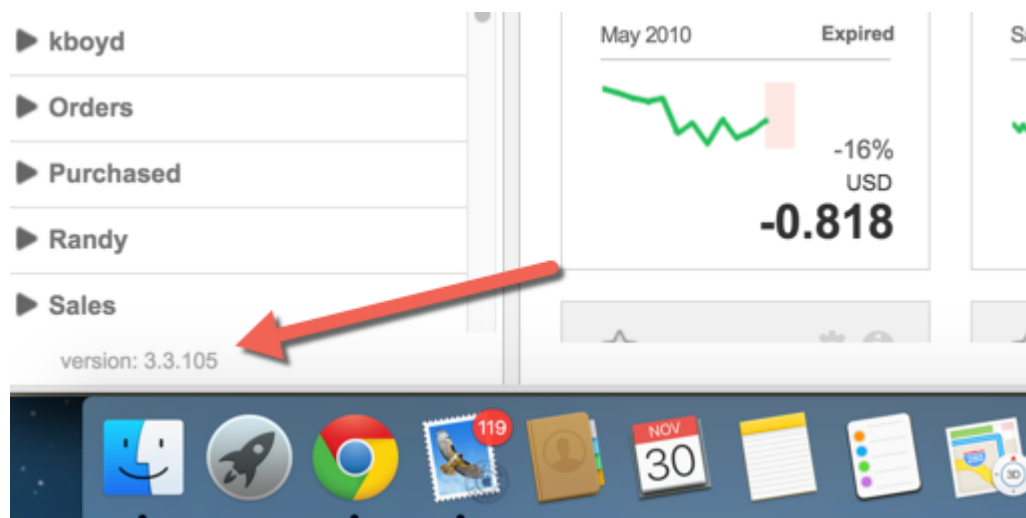
The '-c' flag will cause the backup file to be upgraded to the same version as the new VM.

When prompted, enter 'Y' to convert and upgrade.

Test log in to Metric Insights

Try logging into the user interface.

Confirm that you see **"version: n.n.nnn"** in the lower left-hand corner of your *Home Page*



2.3 Confirm that Login Credentials Were Not Corrupted During Upgrade

Metric Insights login credentials are stored in a MySQL table within the Metric Insights application. They are not changed during the upgrade process, and should remain exactly as they were before you applied the upgrade. If you happen to be running two Metric Insights servers (a realistic scenario if you need a production environment as well as a test environment) and find that you can no longer login to one of them following the upgrade, you can compare credentials between the two servers to see if anything has gotten corrupted.

Get Credentials from the Application

To get Metric Insights login credentials from the application, connect to the server by ssh and run the following command from the shell prompt:

```
mysql -u root -pm3tr1c dashboard
```

That will log you in to the MySQL client and select 'dashboard' as the database to be used for queries. Then run the following SQL code:

```
Select username, password from user where username = 'admin';
```

Note: The 'where' clause is optional. We included it in this example in case you want to check a particular user.

The results should look like this:

```
username: admin
```

```
password: f37812bd32e42082a236a6ec1583377b
```

The 'password' entry is actually a 'hash' of the real password. You can use it to verify that you've got the right password, for instance, by comparing the hash values between your Production and Test servers. (You **cannot** use the hash in place of the real password.)

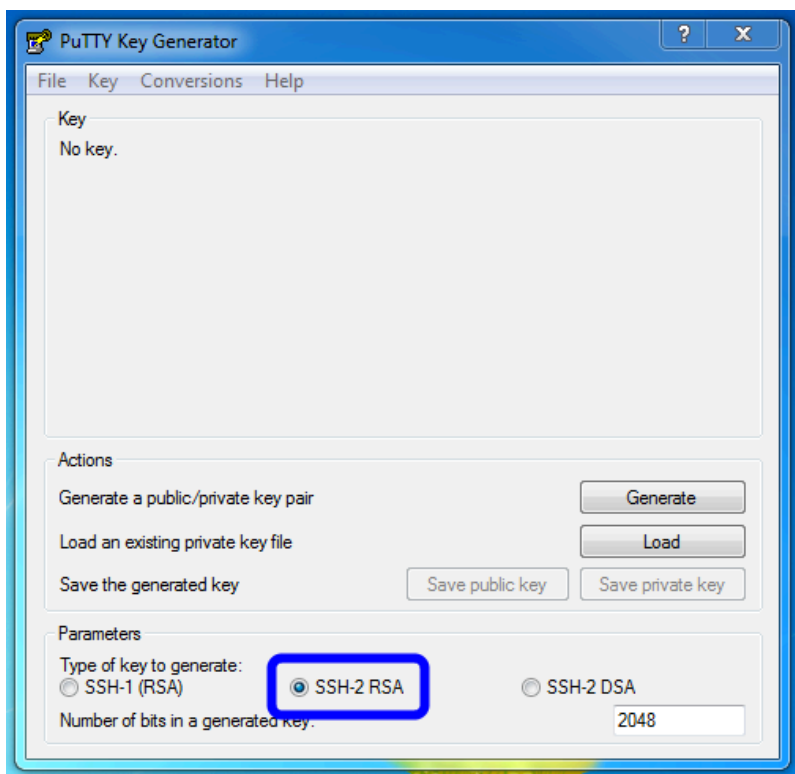
2.4 Connect to Metric Insights server from Windows

In order to connect to your Metric Insights server from Windows, you will need to install an SSH client such as PuTTY. This article assumes that you will use PuTTY.

1. Download PuTTY and PuTTYgen

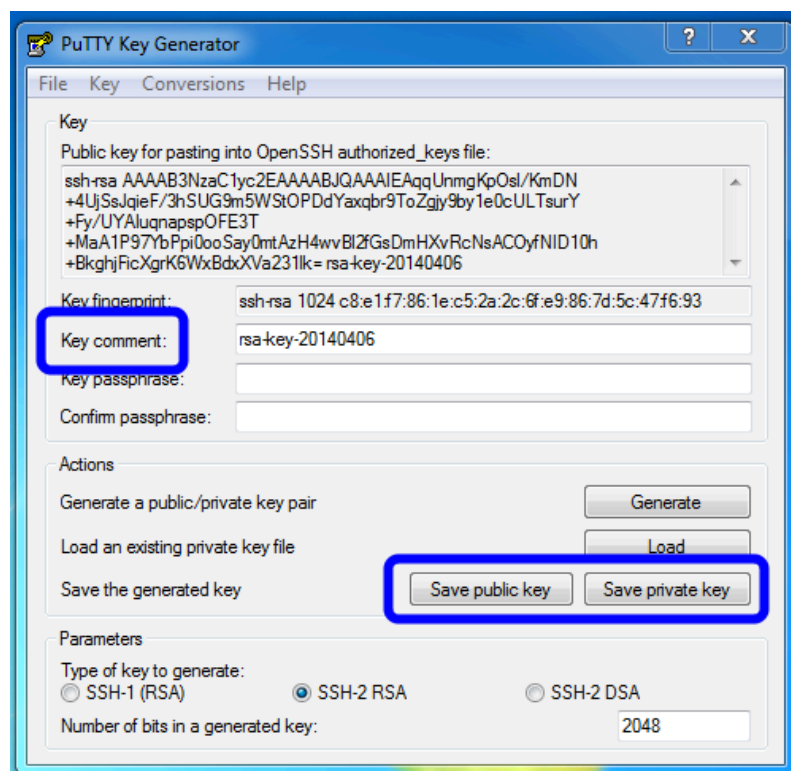
PuTTY and PuTTYgen can be downloaded from <http://www.putty.org>. They are executable files -- no installation is required.

2. Use PuTTYgen to generate a public/private key pair



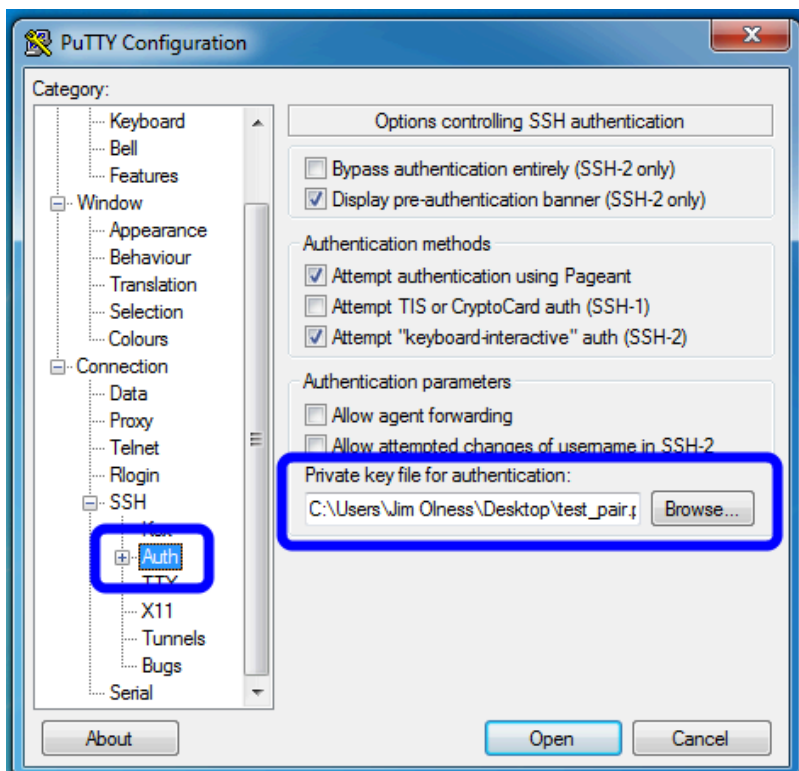
Start PuTTYgen and generate a public/private key pair. The key-type should be SSH-2 RSA. We recommend keys with at least 2048 bits.

3. Save your public and private keys



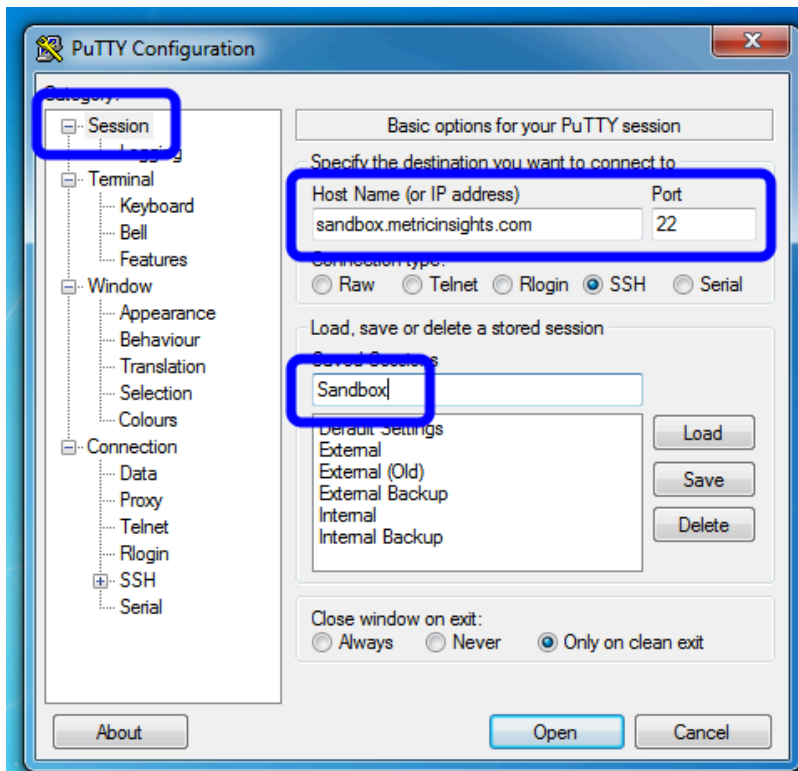
Enter a "key comment" that will help you to remember the purpose of the key-pair, then save the public and private keys that you generated. Send the public key to the person who administers your Metric Insights server. Keep the private key to yourself -- treat it like a secret password. (You can protect your private key with a "key passphrase" if you like.)

4. Create a new SSH connection



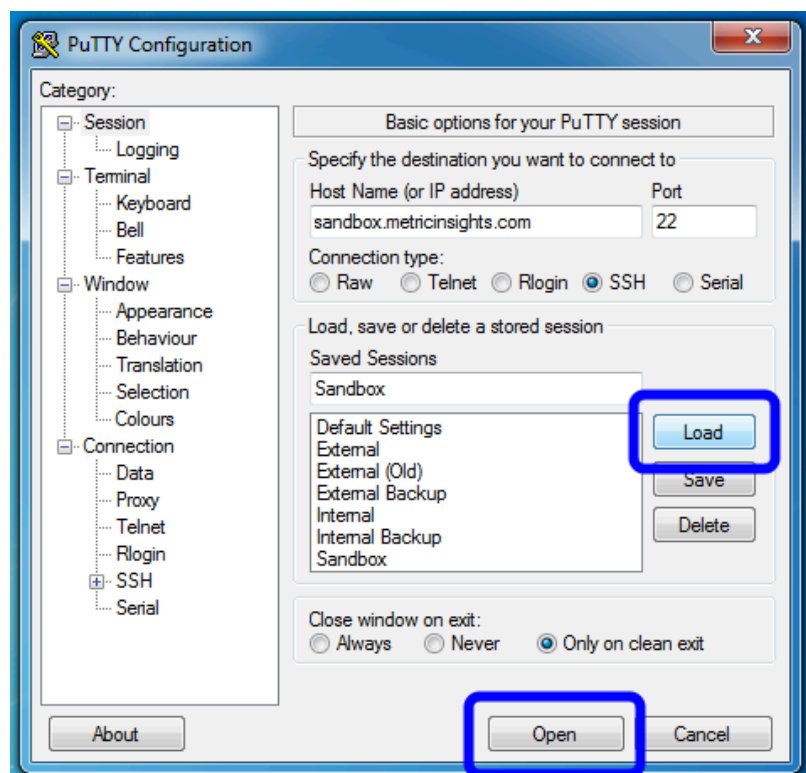
Start PuTTY and select Connection => SSH => Auth in the category navigator, then enter the path and name of your private key file in the text box.

4.1. Enter the hostname for your Metric Insights server



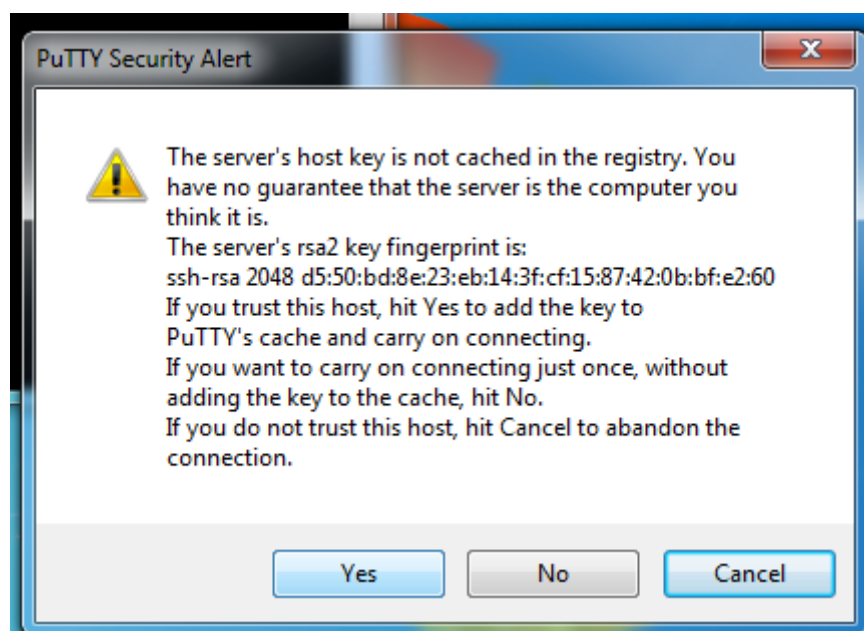
Select 'Session' in the category navigator, then enter the hostname for your Metric Insights server. The port number should be set to 22. (That's the default port for SSH connections.) Enter a name for your new SSH connection and click 'Save'.

5. Connect to your Metric Insights server



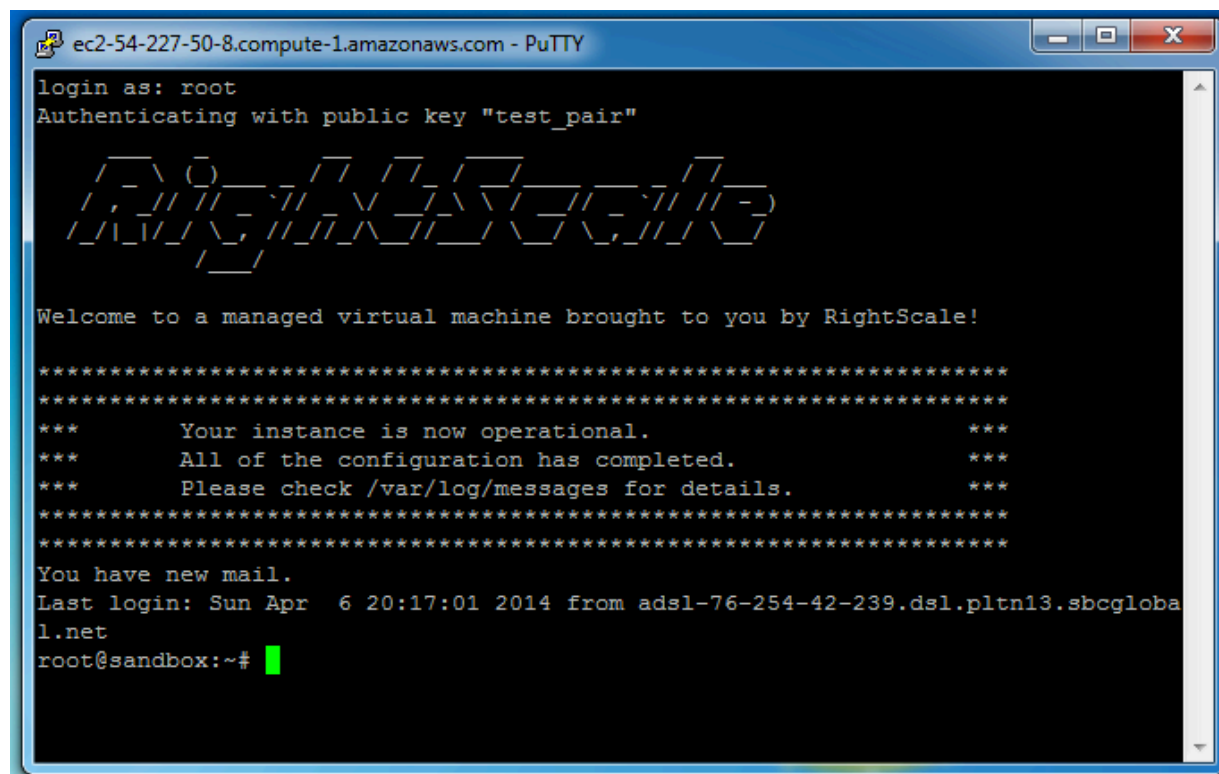
Load the connection that you created in the previous step, then click 'Open'.

5.1. Ignore the warning message



If this is the first time you're connecting to your Metric insights server, you may receive a warning message. Assuming that you've entered the correct hostname for your server, you can ignore the warning.

6. Login as root



```
ec2-54-227-50-8.compute-1.amazonaws.com - PuTTY
login as: root
Authenticating with public key "test_pair"

Welcome to a managed virtual machine brought to you by RightScale!

*****
*****
***      Your instance is now operational.      ***
***      All of the configuration has completed.  ***
***      Please check /var/log/messages for details.  ***
*****
*****
You have new mail.
Last login: Sun Apr  6 20:17:01 2014 from adsl-76-254-42-239.dsl.pltn13.sbcglobe.net
root@sandbox:~#
```

Enter 'root' at the login prompt. Assuming that your Metric Insights administrator has correctly installed your private key, you will not be prompted for a password.

2.5 Moving the MI database to a remote DB server

This article provides a step-by-step guide on how to move the Metric Insights **dashboard** database from the application server to a remote database server.

PREREQUISITES

There are a few things you must have ready before migrating the Metric Insights database to a new remote DB server:

- MySQL 5.5+ with root username and password
- Root username and password for host
- Open port 3306 for SQL connections
- Remote DB server specs
- MySQL parameters that are appropriate for the remote DB server based on those specs (Refer to [this article](#) for more information)

Once you have the information above, you are ready to proceed with moving the database.

1. Stop cron service on the application server

2. Create a backup of Metric Insights prior to moving the database

```
mi-app-backup -v
```

4. Move local DB on the application server to the remote DB server

```
mi-db-move -v <remote host> <remote db admin> <remote db password>
```

For example, moving EC2 local db to RDS.

NOTE: For additional migration options please see `mi-db-move -h` (Step 9 below)

Important: If you are moving the database to Amazon RDS, you must set the following first before moving the DB:

```
log_bin_trust_function_creators = 1
```

5. (Optional) Rename database on remote DB server to some other desired name

```
mi-db-rename -v -d <dashboard db name> -D <old dashboard db name> -U <remote db admin> -P <remote db password>
```

6. Fine Tune MySQL Parameters

Once the move is complete on the remote DB server, follow the instructions [in this article](#) to update the MySQL parameters.

7. Set the timezone on the remote database server

8. Start cron service on the application server

9. Confirm the database move is successful by checking the following:

- Homepage loads properly
- Status Monitor page shows the correct server time
- Dashboard DB data source profile shows host is set to remote DB; use *test connection* to confirm
- Data Collection Triggers are running without errors
- Elements sourced against Existing Metrics/Reports validate without error

mi-db-move options

```
# mi-db-move -h
```

USAGE:

```
mi-db-move [-hvnxlN -f FILE -p PORT] <DB_HOST> <ADMIN_USERNAME> <ADMIN_PASSWORD>
```

Move the MI instance database configured in `/opt/mi/config/insight.conf` to another database server.

NOTES:

The current machine's MI instance will be updated to point to the new database server unless the you explicitly request no config updates with the `-N` option.

OPTIONS	
-h	This screen.
-v	Be verbose.
-n	Dry run.
-N	Don't update local config files to point to new database.
-f FILE	Backup file to create (or reuse).
-x	Prune unnecessary log files from database in DB dump.
-l	Restrict database users to only allow them to connect from localhost.
-p PORT	Destination DB port (default: 3306).

2.6 Common Problems running Metric Insights virtual machine on Laptops

Occasionally, it may be convenient to run a Metric Insights virtual appliance on your laptop. You might do this, for instance, if you want to try out our application and aren't able to obtain access to a suitable server. While this is certainly possible, please be advised of the following pitfalls.

Insufficient Resources

The Metric Insights virtual appliance should be thought of as a full blown server with many moving components that require system resources. At least 2-4G of RAM should be allocated to the MI virtual appliance, as well as 1-2 CPU cores.

Improper Shutdown

Time skew

On some older VMware instances, pausing the Virtual Machine frequently could cause system clock time errors. Please make sure ntpd is running with:

```
# chkconfig --level 3 ntpd on
```

```
# service ntpd start
```

MySQL Table Crash

Sometimes, if you force shutdown your virtual machine (either directly or indirectly by your laptop losing battery, for example) on reboot the MySQL database files can be in a crashed and corrupted state. MySQL will attempt to recover this at startup, but this could result in system outage until the database is completely recovered.

Networking Issues

Changing IP addresses / Networks with Bridged Networking

By default, it is recommended to use 'bridged' networking for the virtual machine's network adapter. This means that the virtual network adapter will try to get another DHCP address and act just like another machine on your local network. If you move your laptop from one network to another, the virtual appliance is not smart enough to get a new IP address. If you change networks or temporarily lose network connectivity, you may need to force the Virtual Machine

to get a new IP address. A simple way to fix this is to reboot the Virtual Machine, or you can login to the VM and run the following commands:

```
# service network restart && /etc/rc.local
```

This will print out the new IP address of your MI virtual machine. One other solution to this problem is to use NAT networking, but see **NAT Networking** below for more information.

VPN Connectivity with Bridged Networking

If you have a VPN client running on your laptop, and the Virtual Machine is set up to use Bridged Networking, then your MI virtual machine will not be able to contact your VPN network. In order to get the network routing to work correctly, you will need to use NAT networking (see below) or install another VPN client on the virtual linux system, which could be quite involved depending on your VPN solution. Consult your local network administrator to see if this is possible.

Limitations of NAT networking (sharing laptop's network connection with the virtual machine)

Setting the virtual machine's network adapter to use NAT networking will cause the Virtual Machine to share your laptop's network address. This allows you to take advantage of your laptop's VPN client and not suffer from problems when you change your laptop's IP address or network.

If you choose to use NAT networking, there is one big limitation, and that's that you will only be able to view the ip address that the Virtual Machine supplies at startup from your laptop. So, under NAT networking, when you see this in your virtual machine startup message:

```
=====
```

Welcome to the Metric Insights Demo!

Please point your browser to:

```
*****
```

192.168.220.130

```
*****
```

The IP address is only accessible from your laptop. If you want to be able to access your Metric Insights virtual machine from another machine (for sharing with a colleague, for example), you will need to do some extra legwork and setup port forwarding as described here:

http://help.metricinsights.com/m/Deployment_and_Configuration/I/104502-expose-metric-insights-on-vmware-when-using-nat-networking

In order to share MI with your colleagues, then, you will need to use your laptop's IP address, not the IP address reported by Metric Insights (there is unfortunately no way for the virtual machine to get your laptop's IP address).

2.7 Applying hot fixes with the Patcher

Metric Insights 6.2.0 introduces the Patcher, a utility designed specifically for Container Orchestrated environments that require code changes (often referred to as hot fixes). Orchestrated Docker environments present unique challenges in terms of hot fixing that do not exist in more basic Virtual Machine or bare metal setups. While VM or bare metal environments allow direct filesystem changes that will persist if the machine is restarted, Docker images in orchestrated environments revert to the default state of the Docker image, pulling a fresh image from the Docker Registry—any code changes to the container are lost.

To solve this, we created a utility that will automatically check for required patches any time the container is started, move the files to the correct location, and proceed with normal operation. Any time the container is restarted, the same checks occur.

When a new Docker image is built for a future release (for example, 6.2.1), these hotfixes are baked into the Docker images and this process is no longer necessary until the next set of new patches need to be applied, which will later be baked into the next release (6.2.2)

 The Patcher is included in all Metric Insights containers, with the exception of MySQL.

Patcher Overview

The Patcher can be used to apply patches to existing code, or add new files into a container/service. For the **web** service/container, the tool will check for new patches every 60 seconds and apply them automatically. *Other services must be manually restarted.*

This same method will work in **Kubernetes, Azure AKS, OpenShift, Amazon ECS** and **Docker Swarm**.

To apply patches, place the updated file (e.g. `file.php` or `script.js`) or a .patch file (a bundle of changes) in the following location on a shared NFS mount connected to all containers:

```
/opt/mi/patch/<service name>/<container internal path>/<updated file>
```

The services available are:

1. web
2. seed
3. dataprocessor
4. monitoring

5. data-analyzer

(the mysql service is not supported)

For example, to update a `.jar` file in the Data Processor, place the file here:

```
/opt/mi/patch/dataprocessor/app/plugins/mi-plugin-splunk-4.1.0.jar
```

Necessary Steps

1. Determine the internal path inside the container
2. Create the same directory structure at this path:

```
/opt/mi/patch/<service>/
```

3. Move the updated file or patch to this path.

3. Managing Multiple Instances

3.1 Scripted Migration Utility

New in Release 6.1: [Learn more about how end-users can mark content they would like to have migrated.](#)

As of Release 5.6.0, it is possible to Migrate Content using our Export/Import Migration Scripts. This enables System Admins to setup a content migration pipeline wherein, at a specified time each day (setup via something like *cron*), all content is migrated from a staging environment to a production environment.

The Scripted Migration process includes two main stages:

- [Content Export](#) via `insightdump.py`
- [Content Import](#) via `insightload.py`

This article details how to move a Category and all included elements from one server to another. The process of exporting individual Objects or Elements is essentially the same. See this [article](#):

Migration Capabilities

 **Note:** Root privileges are required to run Migration.

MI Elements and Objects	Scripted Migration	Details
Metrics	<i>can be migrated</i>	BEFORE MIGRATION , on the new instance make sure to: <ol style="list-style-type: none">1. Recreate Dimensions for all dimensioned Elements that are migrated.2. Recreate Dimensions for all Elements with Filters mapped to Dimensions.3. Establish connectivity to all BI tools (<i>by creating respective connection profiles</i>) that serve as Data Sources for migrated Elements/Objects.
Reports	<i>can be migrated</i>	
External Reports	<i>can be migrated</i>	
Datasets/Users Maps	<i>can be migrated</i>	
Categories	<i>can be migrated</i>	

Folders	<i>can be migrated (6.2.1 and beyond)</i>	
Dimensions	<i>NOT SUPPORTED</i>	ALL OBJECTS AND ENTITIES that cannot be migrated directly have to be rebuilt on the new instance.
Plugin Data Sources	<i>NOT SUPPORTED</i>	

Key Migration Dependencies

Migration Dependencies	
Element/Object IDs	<ul style="list-style-type: none"> Object/Element IDs are preserved unless there are identical IDs on the new server. In case of existing duplicates, migrated Objects and Elements will be assigned new IDs.
Data Sources	<ul style="list-style-type: none"> If the migrated content was sourced from a Dataset, the Dataset will be imported as well. External Connections to other systems (BI tools) have to be recreated manually on the new server.
Technical/Business Owners	<ul style="list-style-type: none"> Migrated Objects and Elements will retain their Technical/Business Owners if these Users exist on the new instance. Search for User matches is performed first by email and, if there are no hits, by Username. If there are no matching Users, Migrated Objects/Elements will be assigned a new Owner (<i>the first admin that is found on the new server</i>).

1. Exporting Content

Exporting content involves creating a **.json** file with information on all migrated Elements/Objects that can later be uploaded to a different server.

- The **insightdump.py** script is used to export a Category.

- All associated Documents can be exported in an archive as separate files.

To initiate export, run the following command:

```
sudo /opt/mi/.python/bin/python /opt/mi/generator/insightdump.py -c 86 -f
/<directory>/<archive name>.tar.gz -a
```

where:

1. **/opt/mi/.python/bin/python** is a Python Interpreter (*installed during the installation of the MI application*)
2. **/opt/mi/generator/insightdump.py** is a path to the `insightdump.py` script
3. **-c 86** is a Category parameter followed by Category ID
4. **-f** parameter allowing Users to create a `.json` file or a `.tar.gz` archive
5. **<directory>** where the dump file will be created
6. **<archive name>.tar.gz** is a user-defined archive name
7. **-a** is an archive parameter
 - archived export allows for migration of [Documents](#) that are associated with the migrated Elements/Objects
 - **-a** parameter is optional; if Document files do not need to be migrated, a single `.json` file can be exported

```

az: ~
Using username " ".
Authenticating with public key " ".

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Mon Aug 12 11:45:04 2019 from ip-10-15-1-4.ec2.internal
yana.byalkivska@docs-az:~$ sudo su
root@docs-az:/home/users/ # sudo /opt/mi/.python/bin/python /opt/mi/generator/insightdump.py -c 86 -f /home/users/ /by_migration.tar.gz -a
Saved category docs-az-86
Saved dashboard element [external report] docs-az-108028
Saved dashboard element [metric] docs-az-108034
Saved dataset element docs-az-2334
{"dashboard_element": {"108034": {"status": "OK", "children": {"category": [1, 86], "dataset": [2312]}}, "108028": {"status": "OK", "children": {"category": [86]}}, "category": {"86": {"status": "OK"}, "documents": [12], "dataset": {"2334": {"status": "OK", "children": {"category": [86]}}}}
root@docs-az:/home/users/ # sudo ls /home/users/
by_migration.tar.gz
root@docs-az:/home/users/ # tar tvf by_migration.tar.gz
-rw-r--r-- root/root      63594 2019-08-12 11:50 data.json
-rw-r--r-- www-data/www-data 274376 2019-08-12 11:49 documents/12
root@docs-az:/home/users/ #

```

To export a Category:

1. Run `insightdump.py` with the desired parameters

2. Check the response for errors
3. In output, review export details
4. [Optionally] verify that the Category was saved to the `.json` file or `tar.gz` archive with the name you specified
5. [Optionally] view the contents of the exported `tar.gz` archive
 - In an archive, Documents are stored by Number IDs (This IDs are archive-relevant only)
 - The actual Document names are stored inside a `.json` file

1.1. Optional Parameters for export

The list of arguments to use at export	
<code>-h, --help</code>	Show help message and exit
<code>-f FILENAME, --file FILENAME</code>	Output file name
<code>-c CATEGORY_IDS, --category CATEGORY_IDS</code>	Category ID to dump
<code>-e ELEMENT_IDS, --element ELEMENT_IDS</code>	Element IDs to dump (comma-separated)
<code>-d DATASET_IDS, --dataset DATASET_IDS</code>	Dataset IDs to dump (comma-separated)
<code>--exclude-access-maps</code>	Do not import any dependent access maps.
<code>-a, --archive</code>	Make tar.gz archive with related documents

2. Importing content

Importing content involves uploading it to the required server.

- The **insightload.py** script is used to import Elements and Objects.

PREREQUISITES:

- Before running the import script, copy the saved `.tar.gz` archive or `.json file` to the server where your content needs to be imported.

To initiate import, run the following command:

```
sudo /opt/mi/.python/bin/python /opt/mi/generator/insightload.py -f
/<directory>/<archive name>.tar.gz -b ~/.
```

where:

1. **/opt/mi/.python/bin/python** is a Python Interpreter (*installed during the installation of the MI application*)
2. **/opt/mi/generator/insightload.py** is a path to the `insightdump.py` script that dumps data
3. **-f** parameter allowing Users to specify a `.json` file or a `.tar.gz` archive that will be uploaded to the new server
4. **<directory>** from which the upload will be run
5. **<archive name>.tar.gz** is a user-defined archive name
6. **-b** is a backup parameter

```

yana.byalkivska@stg55-1: ~
Using username "yana.byalkivska".
Authenticating with public key "yana.bialkivska@DESKTOP-UIKQQ8D"

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Mon Aug 12 13:33:31 2019 from ip-10-15-1-4.ec2.internal
yana.byalkivska@stg55-1:~$ sudo su
root@stg55-1:/home/users/yana.byalkivska# sudo /opt/mi/.python/bin/python /opt/mi/generator/insightload.py -f /home/users/yana.byalkivska/by_migration.tar.gz -b
~/
Saved dashboard element [external report] stg55-1-108028
Dashboard_element record updated (element_id=108028) based on element docs-az-108028
Restoring external filters for element 108028...
Saved dataset element stg55-1-2312
Dataset record updated (element_id=2312) based on element docs-az-2312
Restoring dataset tables for element 2312...
...completed.
Validating dataset 2312
Saved dashboard element [metric] stg55-1-108034
Dashboard_element record updated (element_id=108034) based on element docs-az-108034
Restoring overlay tables for element 108034...
Dataset record created (dataset_id=3383) based on element docs-az-2334
Restoring dataset tables for element 3383...
...completed.
Validating dataset 3383
{"dashboard_element": {"108034": {"status": "OK", "children": {"category": [123, 254], "dataset": [2312]}}, "108028": {"status": "OK", "children": {"category": [254]}}, "category": {"254": {"status": "OK"}}, "documents": {"12": 73, "dataset": {"3383": {"status": "OK", "children": {"category": [254]}}}}}
root@stg55-1:/home/users/yana.byalkivska#
  
```

To import a Category:

1. Run `insightload.py`
2. Check the response for errors
3. In output, see export details

2.1. Optional Parameters for import

The list of arguments to use at import	
-h, --help	Show this help message and exit
-m, --match	Load matching elements
-b BACKUP, --backup BACKUP	Backup elements before replacing

The list of arguments to use at import	
-f FILENAME, --file FILENAME	File to load elements from
-n, --no-preserve	Do not preserve IDs
-s, --strict	Delete elements in the target category if they are not in the source category
--preserve-access-map	Do not overwrite access map configuration

3. Verify Migration Results

Upon successful Migration, all migrated content will be accessible from the UI.

Migrated FROM

← → ↻ <https://docs.metricinsights.com/editor/category/edit/id/86>

Categories / Sales (from docs.instance)

Info Elements Datasets & User Maps

Elements

Name ▲

BY_Sales Operations (for migration)

BY_Total Sales (for migration)

Change element visibility

Migrated TO

← → ↻ <https://stg55.metricinsights.com/editor/category/edit/id/254>

Categories / Sales (from docs.instance)

Info Elements Datasets & User Maps

Elements

Name ▲

BY_Sales Operations (for migration)

BY_Total Sales (for migration)

Change element visibility

4. If Migration runs with errors

 In case Migration runs with errors:

1. Verify that all the Migration Prerequisites have been met (*For details, check the Script Response and Output*).
2. Having eliminated the cause of errors, rerun the upload script to update Migration results.

3.2 Set Migration for Categories, Folders, Elements, Datasets/User Maps or Portal Pages via their Editors

Metric Insights 6.1.x introduces Scripted Migration that can be activated via the application user interface, preventing admins from having to pass in specific Category/Element ID's. The script will automatically pick up any Categories, Elements and Portal Pages (new in 6.1.1) that have been selected for inclusion in the next scheduled migration. In 6.2.1, the ability to Migrate Folders, Datasets and User Maps is supported.

This article will show how easily this is done.

💡 Note that the Scripted Migration utility introduced in 5.6 has been updated to handle this new option. Please see this article for more information [Scripted Migration Utility](#)

1. Migrate all elements in a Category: Category Editor > Info tab

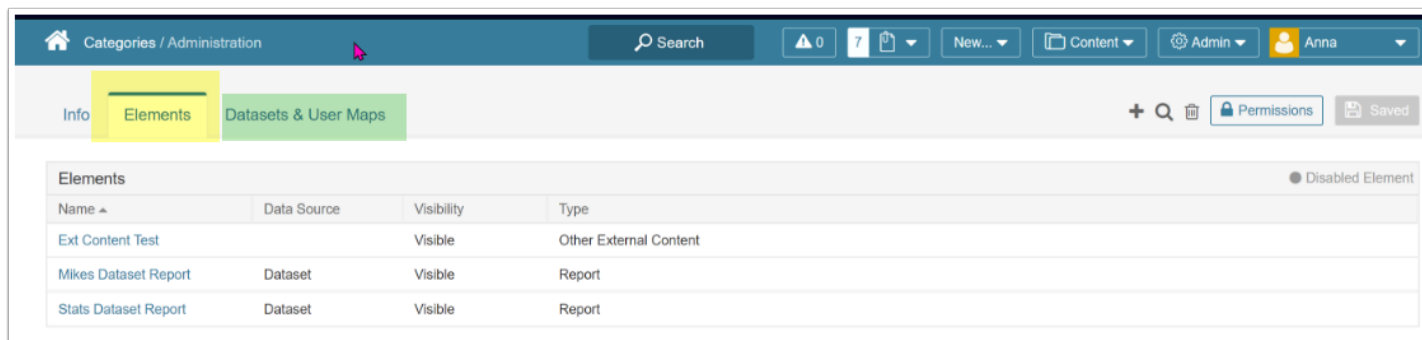
The screenshot shows the 'Categories / Administration' page in Metric Insights. The 'Info' tab is selected, and the 'Include Category in next scheduled migration' checkbox is checked. An arrow points from the 'Info' tab to the checkbox. Below the checkbox are fields for 'Category name' (Administration) and 'Parent category' (---).

Simply check the 'Include Category in next scheduled migration' option

Save

Caution: Beginning in Rel 6.2.1, the configuration parameter **DISPLAY_MIGRATION_OPTION_FOR_CATEGORIES** must be set to "Y" for this setting to appear on the Category Editor.

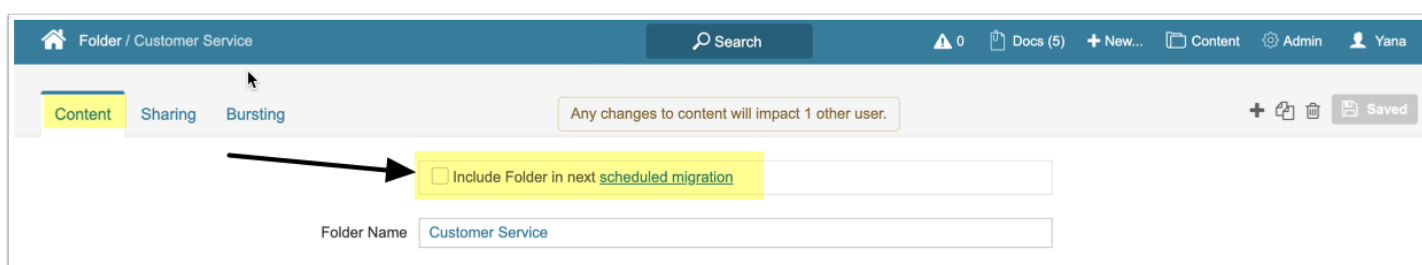
1.1. "Elements" related to this Category will be scheduled for migration



Name	Data Source	Visibility	Type
Ext Content Test		Visible	Other External Content
Mikes Dataset Report	Dataset	Visible	Report
Stats Dataset Report	Dataset	Visible	Report

💡 Datasets & User Maps are **not** included in the scheduled Category migration but may be migrated according to Section 3 below.

2. Migrate Folders: Folder Editor > Content tab



Any changes to content will impact 1 other user.

☐ Include Folder in next [scheduled migration](#)

Folder Name:

Simply activate the checkbox to include the Folder in next scheduled migration. Included are the basic settings of the Folder and related elements; sharing settings and related Bursts are not migrated at present.

Save

💡 6.2.2 release also supports the migration of Smart Folders

3. Migrate Datasets and User Maps: Dataset/User Map Editor > Info tab

The screenshot shows two panels. The top panel is for 'Datasets / CNN Daily News' and the bottom panel is for 'User Maps / Country, channel, category (UM: Wildcard by user name)'. Both panels have an 'Info' tab selected. In the 'Info' tab, there is a checkbox labeled 'Include [Dataset/User Map] in next scheduled migration'. An arrow points to this checkbox. Below the checkbox is a 'Measured' dropdown menu set to 'Daily'. The 'Update Data' button is visible in both panels.

Simply activate the checkbox to include the Dataset or User Map in next scheduled migration
Save

4. Migrate a single Element: Element Editor > Info tab

The screenshot shows the 'External Reports / Tableau Sales Analysis' interface. The 'Info' tab is selected. There is a checkbox labeled 'Include External Report in next scheduled migration'. An arrow points to this checkbox. Below the checkbox are fields for 'Name' (Tableau Sales Analysis) and 'Description' (Daily sales analysis data). The 'Update Data' button is visible.

Simply activate the checkbox to include the [element type] in next scheduled migration
Save

5. Portal Pages

Follow the same steps as Elements, shown above.

3.3 Migrate Elements / Datasets / User Maps from one Metric Insights instance to another (manual version)

The **Import/Export Utility** is a tool to push elements and their related objects from one Metric Insights instance to another. The idea is you have a development instance for creating and testing new elements. Once those elements are ready for production you can push them from the development system to one or more production systems. This utility can also be used to copy elements between multiple production instances.

The only caveat when using this function is that the **data source** for the migrated element must exist in both environments.

This article covers:

- [Export Procedure](#)
- [Import Procedure](#)

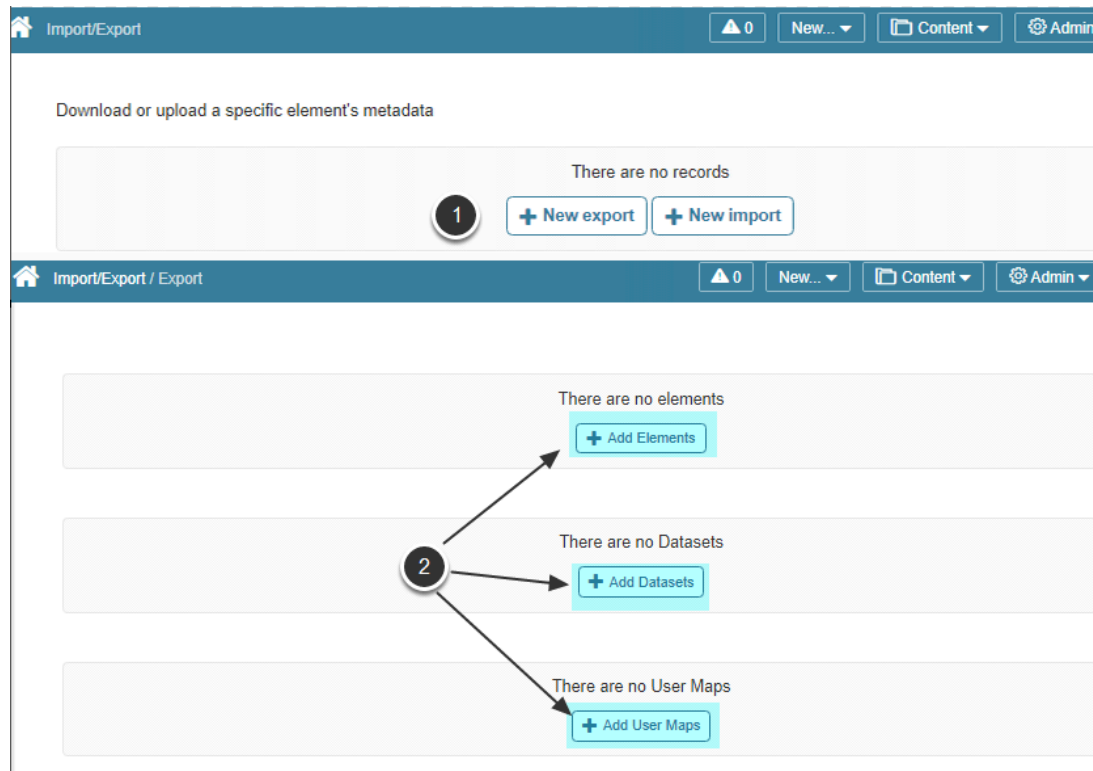
Export Procedure - from MI Instance

1. Access Admin > Utilities > Import / Export

Migration is a two step process:

1. **Export** ('dump') the element definition from the **source** instance (for example, development environment) to a gzip compressed tar archive.
2. **Import** ('load') the Element definition to the **target** instance (for example, production environment) from the gzip compressed tar archive.

2. Create an Export file with all the necessary data (Elements, Datasets, User Maps)



1. In the *Import/Export* screen click **[+ New export]**
2. Next, you have a choice of adding elements, Datasets, User Maps for export.

The *Add Elements to Export Package List* pop-up opens.

2.1. Selecting Element(s)

Add Elements to Export Package List

1. Filter results

Category: All | Dimension: All | Data Source: All

Select all | Select none

<input type="checkbox"/>	Daily Anomalies (Daily Sales)
<input type="checkbox"/>	Daily Anomalies Row Count
<input checked="" type="checkbox"/>	Daily Anomalies Row Count (Version 2)
<input checked="" type="checkbox"/>	Daily Answered Calls
<input checked="" type="checkbox"/>	Daily Answered Calls (dimensioned by Agents)
<input type="checkbox"/>	Daily Answered within Service Level (dimensioned by Agents)
<input checked="" type="checkbox"/>	Daily Call Details (dimensioned by Teams)
<input checked="" type="checkbox"/>	Daily Call Details Row Count (dimensioned by Teams)
<input type="checkbox"/>	Daily COGS (dimensioned by Region)

3. **Add to list** or cancel

1. You may filter filter results by keywords, **Category**, **Dimension** or **Data Source**
2. Check the boxes for the elements to be exported
3. Click **Add to list**

2.1.1. Selecting Datasets

Add Dataset to Export Package List

1. Profit Data

Elements

<input type="checkbox"/>	Element Name
<input checked="" type="checkbox"/>	Monthly Profit (dimensioned by Country)
<input checked="" type="checkbox"/>	Profit by Country (dimensioned by Country)
<input type="checkbox"/>	Sales Amount

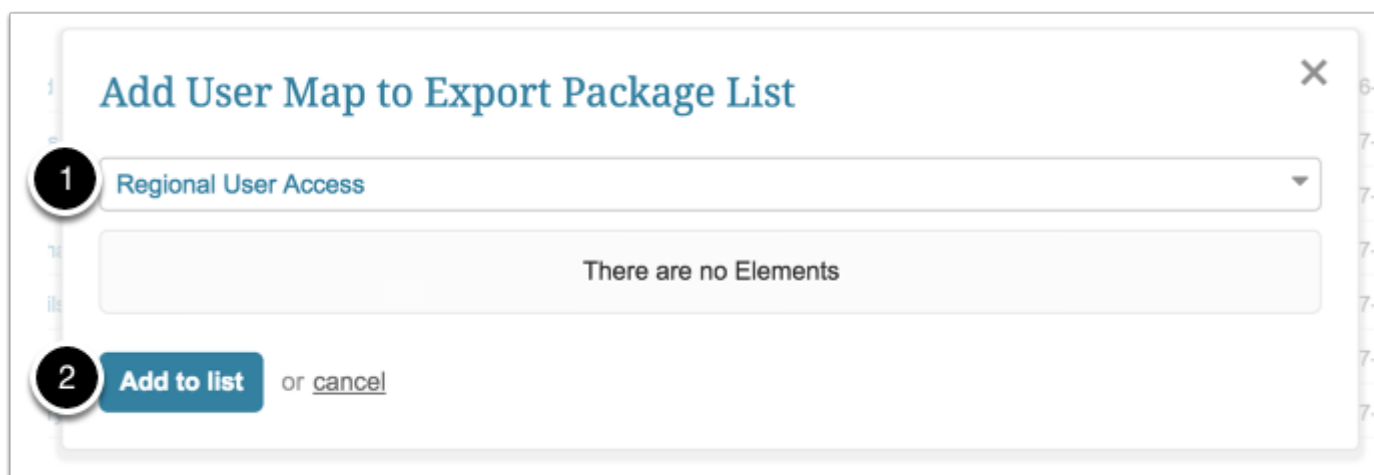
3. **Add to list** or cancel

Along with the Dataset itself, you also choose which elements built from this Dataset should be included in the export.

1. Choose the Dataset from the drop-down list at the top of the pop-up.
2. Check the boxes for the elements to be exported.
3. Click **Add to list**. The Dataset is to be added to the Export list.

To add more Datasets, repeat the procedure.

2.1.2. Selecting User Maps



Along with the User Map itself, you also choose which elements to which this User Map is applied should be included in the export.

In the given example, there are no elements to which this User Map is applied, but we still want to export it for further usage.

1. Choose the User Map from the drop-down list at the top of the pop-up.
2. Click **Add to list**. The User Map is to be added to the Export list.

To add more User Maps, repeat the procedure.

3. Creating the Export

Import/Export / Export ▲ 2 New... Content Admin Julia

<input type="checkbox"/>	File name	ID	Fetch Method	Last Modified
<input type="checkbox"/>	Daily Answered Calls (dimensioned by...	124	Metric	Existing Repor...
<input type="checkbox"/>	Daily Answered Calls	267	Metric	Plug-in
<input type="checkbox"/>	Daily Anomalies Row Count (V...	653	Metric	Single Existing...
<input type="checkbox"/>	Sales Elements	768	Report	Datasets
<input type="checkbox"/>	Sales Exception Data (Sales Exception Data)	769	Report	Datasets
<input type="checkbox"/>	Daily Call Details Row Count (d...	806	Metric	Single Existing...
<input type="checkbox"/>	Monthly Profit (dimensioned by...	821	Metric	Datasets
<input type="checkbox"/>	Profit by Country (dimensioned...	823	Metric	Datasets

+ Add Elements ✕ Remove selected

<input type="checkbox"/>	File name	ID	Fetch Method	Last Modified
<input type="checkbox"/>	Qlikview Data	30	Plug-in	2017-09-26 00:23:52
<input type="checkbox"/>	Profit Data	40	Plug-in	2017-09-19 00:14:11

+ Add Datasets ✕ Remove selected

<input type="checkbox"/>	File name	ID	Fetch Method	Last Modified
<input type="checkbox"/>	Regional User Access	37	Manual Data Entry	2017-07-05 09:02:35

+ Add User Maps ✕ Remove selected

< Back Start exporting

1. Note that selected Elements, Datasets, User Maps appeared in the respective sections
2. Click **Start exporting** at the bottom of the page

4. Download the Archive

Export Result

1

Success! The following were successfully exported

Element for export		
#	Name	Message
1	Element: Daily Anomalies Row Count (Version 2)	success
2	Element: Daily Answered Calls	success
3	Element: Daily Answered Calls	success
4	Element: Daily Call Details	success
5	Element: Daily Call Details Row Count	success
6	Element: Monthly Profit	success
7	Element: Profit by Country	success
8	Element: Sales 100% greater than previous day Report (QV)	success
9	Element: Sales greater than \$350000 Report	success
10	Dataset: Profit Data	success
11	Dataset: Qlikview Sales Dataset	success
12	User Map: Regional User Access	success

2

Download your export(s):

1. export-https://ec2-54-157-149-167.compute-1.amazonaws.com-101.0.1430.staging-2017-09-26.tar.gz

Done

Download again

3

1. Once the export is generated, the success message with the list of elements is shown
2. The file is automatically downloaded to your machine
3. Optionally, download the archive for use in the Metric Insights instance where you would like to import the content

Import Procedure

1. Import the Archive to a new Instance

Import/Export

New... Content Admin Alex@metricinsights.com

Download or upload a specific element's metadata

There are no records

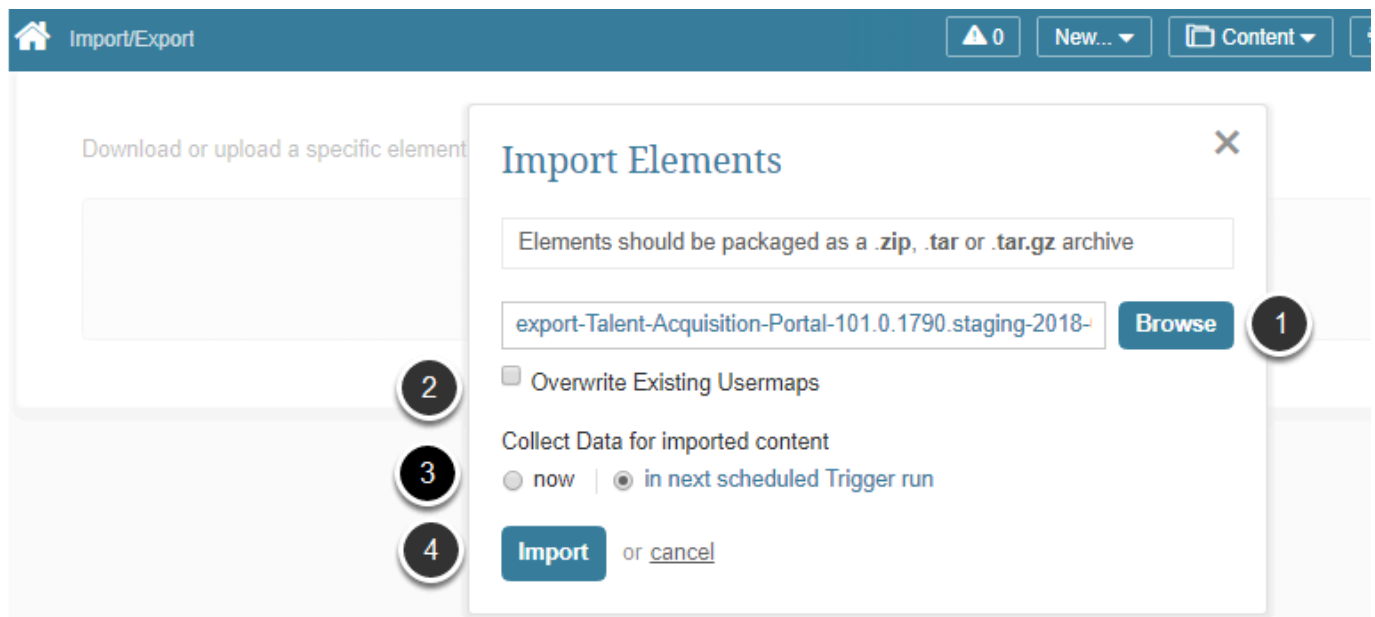
+ New export

+ New import

1. Now open the instance of Metric Insights where you would like to *import* the elements and navigate to *Admin > Utilities > Import/Export*
2. Click **[+ New import]**

The *Import Elements* pop-up opens.

1.1. Choose a file for download



1. Click **Browse** and choose the archive exported from another instance to your local machine.
2. **Overwrite Existing Usermaps:** If this import archive includes User Maps with names identical to the ones on the current instance, should the User Maps on the current instance be overwritten?
3. Select when Data for these elements is to be next collected.
4. Click **Import** and the elements / Datasets / User Maps will be uploaded into your new instance.

1.1.1. Check for Imported Elements

id a

Import Result

Failure. 3 of selected were imported.

Elements for import		
#	Name	Message
1	Element: Daily Call Details	Cannot create element demo-beta.int.metrici
2	Element: Daily Answered Calls	Cannot create element demo-beta.int.metrici
1	3 Element: Daily Answered Calls	Import successful. Data will be collected whe
4	Element: Daily Anomalies Row Count (Version 2)	Import successful. Data will be collected whe
2	5 Element: Sales 100% greater than previous day Report (QV)	Failed to load element: u'DataCollector return
6	Element: Sales greater than \$350000 Report	Failed to l
7	Element: Daily Call Details Row Count	Cannot cr
8	Element: Monthly Profit	Cannot cr
9	Element: Profit by Country	Cannot cr
10	Dataset: Qlikview Sales Dataset	Failed to l
11	User Map: Regional User Access	Import successful. Data will be collected whe
12	Dataset: Profit Data	Cannot create element demo-beta.int.metrici

Done

Failed to load element: u'DataCollector returned error:
All data collectors configured to process this fetch
command are currently down or inaccessible. Last
message from data collector was received on 2017-
09-25 15:51:58

Fetch command:
fields = calendar_date, country, channel,
product_category, Daily Sales\nfilter = calendar_date
== :measurement_time\n

Variables:

measurement_time: 2015-04-22 00:00:00'

1. Once the import is generated, the success message with the list of elements is shown.
2. If the entity could not be imported, hover over the error message to see the error.

We recommend navigating to the element list and ensuring that the migrated elements have no errors. The reason being that there may be inconsistencies between available data sources across staging and production environments which will cause the element to have an error when attempting to refresh.

Logic of overriding matching elements

When elements are imported from one instance to another, the system searches for the matching records by comparing data in the **source_system_name** and **source_system_element_id** columns of the instance database table and import file. If there is matching data, the element is over-ridden with a version from the import file.

If there is data mismatch in **source_system_name** and **source_system_element_id** but the **element_id** on the import instance has been already reserved, the element is imported with a new vacant **element_id**.

[illegible]

4. Monitoring Metric Insights

4.1 Status Monitor Page

The *Status Monitor* page provides details on how your Metric Insights system is functioning, as explained below.

Version 6 - Access Admin > Status Monitor

The screenshot shows the Status Monitor page with the following components:

- Top Bar:** Status Monitor, Search, 1 Alert, 2 Docs, + New..., Content, Admin, BK.
- Notification Bar (1):** Notifications OFF system-wide · Monday - April 20, 2020 System 21:37 UTC(UTC +00:00)
- Tabs:** Status (selected), Nodes, Errors & Logs, Bulk Change History.
- Data Collection Section:**
 - Elements with Errors (2):** 731 elements (63% of total) encountered errors on Data Collection.
 - Aborted Data Collection (3):** 6 data collection processes were aborted. [See details](#)
 - Elements running (4):** 2 Data Collection: 2 User Requested: 0
 - Overdue Triggers (5):** 0 No overdue Data Collection Trigger(s)
- Messages Section:**
 - Email server (6):** Sending Email: OK [Send Test Email](#)
 - Notifications OFF system-wide (7):** by BK Kennedy (bk) on April 20, 2020 at 21:32
 - Queued Emails (8):** 4 [See details](#) [Delete queued items](#) [Send emails now](#)
- System Configuration Section:**
 - LDAP Enabled (9):** Checking connectivity...
 - Hostname (10):** HOSTNAME variable corresponds to the host name.
 - Logging (11):** rsyslog sending logs as expected
 - MySQL Parameters (12):** innodb_buffer_pool_size=2GB innodb_log_file_size=1GB max_allowed_packet=1GB
 - Tableau (13):** [Test Tableau Trusted Auth](#)
- System Stats Section:**
 - Basic monitoring (14):** Navigate to the [Nodes](#) tab
 - Node Monitoring Service (15):** A separate service is available via user/pass and host name defined when configuring Metric Insights.
 - Mounted Volumes (16):**

Volume	Used
/opt/mi/data	19%
/opt/mi/data/opt/mi/log	1%
/opt/mi/data/opt/mi/ssl	1%

1. Setting the **Notifications** to **off** stops all system notifications (Alerts, Bursts, Favorite Digests; described at [My Notifications \(Overview, Set up, turn on / off\)](#) from being sent to any User.

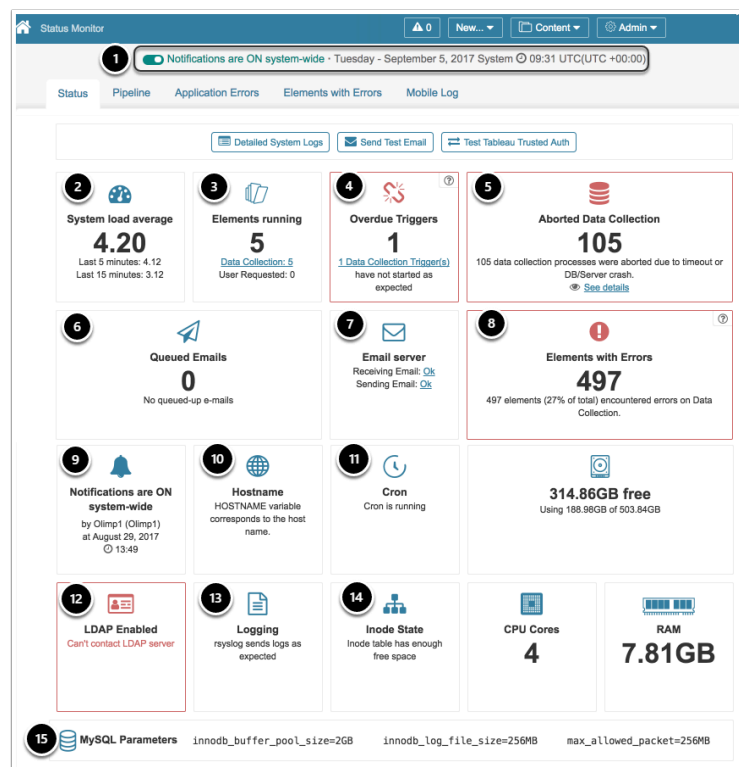
! The tiles which are colored in **red** represent certain error and should be fixed.

Number assigned on a screen	Title	Description
1		Setting the Notifications to off stops all system notifications (Alerts, Bursts, Favorite Digests; described at My Notifications


Number assigned on a screen	Title	Description
		(Overview, Set up, turn on / off) from being sent to any User.
2	Elements with Errors	Elements that are throwing errors during data collection. Fix recommendations: Elements with Error
3	Aborted Data Collection	Data collection processes were aborted due to timeout or DB/Server crash. To find out which of the Data Collection processes have been aborted, click See Details . To increase the data collection timeout, access <i>Data Collection Editor > Trigger Configuration > Expire data collection after _ minutes</i> .
4	Elements running	The elements where data is currently collected.
5	Overdue Triggers	Check out the Data Collection Triggers to see Fix recommendations: Overdue Trigger
6	Email server	Metric Insights can both send and receive emails. To set up both of them, go to <i>Admin > Utilities > Config Variables</i> and enter the following keywords for the respective result: <ul style="list-style-type: none"> • RECV_MAIL - 6 variables • SEND_MAIL - 6 variables
7	Notifications ON/OFF system-wide	Know <i>who</i> changed them and <i>when</i> system-wide Notifications changed. For more details: My Notifications (Overview, Set up, Turn on / off)
8	Queued Emails	Even if caused by one common event (Alert, Report, etc.), email notifications are not sent all at once. They are sent in portions with up to a couple of minutes intervals. The number of emails queued for sending are displayed on this tile.
9	LDAP Enabled	To set up LDAP in Metric Insights, refer to: Configuring LDAP Authentication
10	Hostname	Hostname variable at <i>Admin > Utilities > Config Variables</i> should correspond to the actual hostname.

Number assigned on a screen	Title	Description
11	Logging	Indicates whether the logging is performed correctly.
12	MySQL Parameters	These are the key MySQL parameters which indicate server activity. These parameters may be requested by the Metric Insights support team.
13	Tableau	If you are using Tableau, test that your Tableau instance is setup correctly for Trusted Auth
14	Nodes	Link to open the Nodes tab
15	Node Monitoring Service	An external service for monitoring all nodes that comprise a full Metric Insights environment. This tool is most useful when dealing with an orchestrated deployment that has a multiple of the <i>web</i> node.
16	Mounted Volumes	All mounted volumes needed for Metric Insights to operate.

Version 5 - Access Admin > Status Monitor



1. Setting the **Notifications** to **off** stops all system notifications (Alerts, Bursts, Favorite Digests; described at [My Notifications \(Overview, Set up, urn on / off\)](#) from being sent to any User.

 The tiles which are colored in **red** represent certain error and should be fixed.

Number assigned on a screen	Title	Description
2	System load average	An estimate of system load across CPU, disk, and other resources. Values are generated from Linux's "load average" data and can be monitored in the console by running the "uptime" command. Higher numbers represent a problem or an overloaded machine.
3	Elements running	The elements where data is currently collected.
4	Overdue Triggers	Check out the Data Collection Triggers to see Fix recommendations: Overdue Trigger
5	Aborted Data Collection	Data collection processes were aborted due to timeout or DB/Server crash. To find out which of the Data Collection processes have been aborted, click See Details . To increase the data collection timeout, access <i>Data Collection Editor > Trigger Configuration > Expire data collection after _ minutes</i> .
6	Queued Emails	Even if caused by one common event (Alert, Report, etc.), email notifications are not sent all at once. They are sent in portions with up to a

Number assigned on a screen	Title	Description
		couple of minutes intervals. The number of emails which queued for sending is displayed in this tile.
7	Email server	Metric Insights offers an ability to send and receive system emails on different servers. To set up both of them, go to <i>Admin > Utilities > Config Variables</i> and enter the following keywords for the respective result: <ul style="list-style-type: none"> • RECV_MAIL - 6 variables • SEND_MAIL - 6 variables
8	Elements with Errors	This box informs you how many of your elements are throwing errors during data collection. Fix recommendations: Elements with Error
9	Notifications are ON / OFF	Know who and when changed the system-wide settings for Notifications last. For more details: My Notifications (Overview, Set up, Turn on / off)
10	Hostname	Server name. Hostname variable at <i>Admin > Utilities > Config Variables</i> should correspond to the actual hostname.
11	Cron	Make sure that the task scheduler is running.
12	LDAP Enabled	To set up LDAP in Metric Insights, refer to: Configuring LDAP Authentication
13	Logging	This tile indicates whether the logging is performed correctly.

Number assigned on a screen	Title	Description
14	INode State	Defines whether there is enough space for file name descriptors.
15	MySQL Parameters	These are the key MySQL parameters which indicate server activity. These parameters may be requested by Metric Insights support team.

4.2 System notifications for disk and database health

We have a few different system health related email notifications. These notifications were designed for system administrators to prevent situations that could cause a system to crash, or to notify when a database has gone offline.

The goal of the help doc is to help admins understand the settings they have available.

Key notifications about system health are setup by default with every deployment--they address the following:

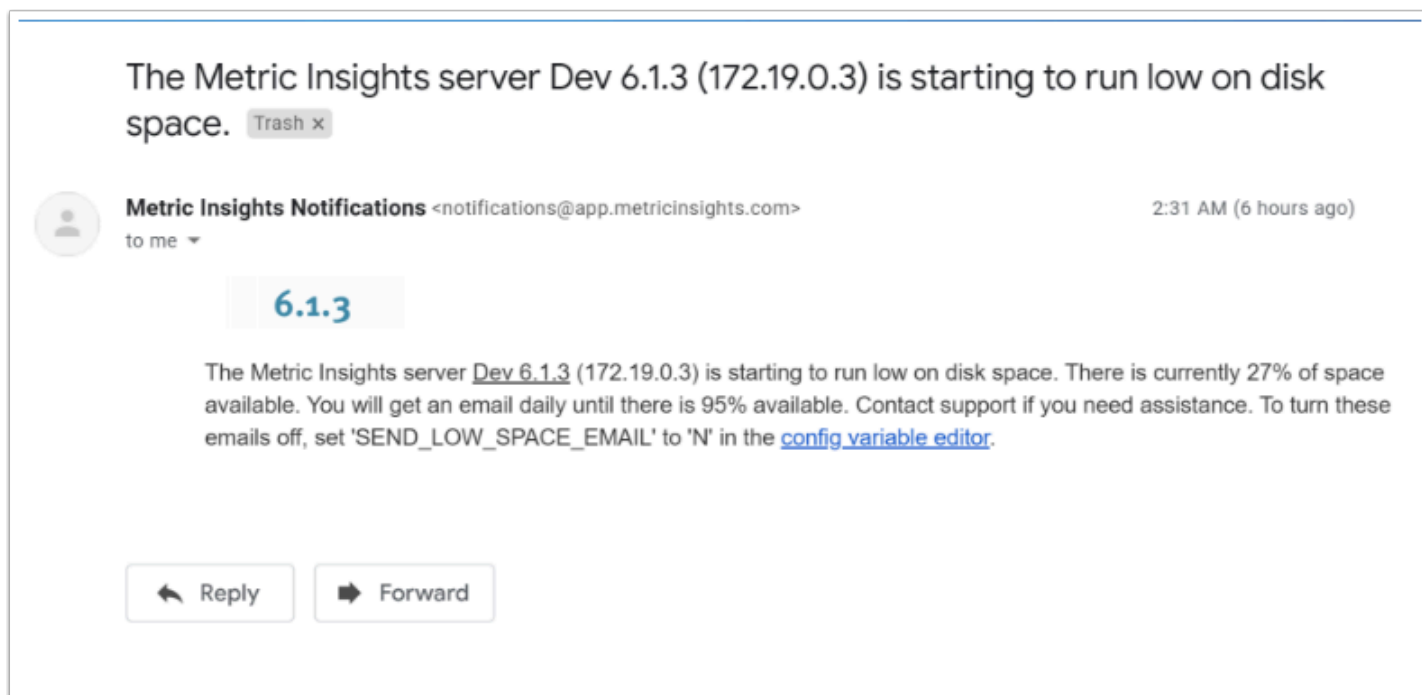
1. Low disk space on primary web server
2. Low inode space on primary web server
3. [Version 6.1.x] Low disk space in dataset storage engine
4. [Version 6.1.x] Dataset storage downtime

Prior to Release 6.2.1, emails were being sent to all Admins. In 6.2.1, new settings on an Admin's User Editor > Info tab allow the individual Admin **to elect** to receive messages about:

1. Access Notifications
2. System Notifications

See Section 3 below for more information.

Example email



1. System variables controlling Disk and Inode notifications options

Occasionally files on your Metric Insights server will become numerous, utilizing precious disk space. By default, the system is set to notify Support Admin users when disk space goes below the percent set via these variables:

System Config				
System Variables				
Change advanced system settings. Changes are not applied until they are committed.				
System Variables				
Variable Name	Assigned Value	Valid Values	Description	
AUTO_FIX_DEPENDENCIES	Y	Y,N	Automatically fix broken External Report refere...	
CHECK_HTTP_ORIGIN	Y	Y,N	Enables checking of HTTP origin for POST req...	
CUSTOM_SCRIPT_ENABLED	Y	Y,N		
DASHBOARD_DATA_URI_FOR_IE	Y	Y,N		
DEFAULT_DATASET_TEXT_COLUMN_SIZE	400		Default size for dataset text columns	
ENABLE_FAVORITE_SHARING	Y	Y,N	Allow sharing for Favorites	
ENABLE_SMART_FOLDERS	Y	N,Y	Smart Folders allow you to populate a Folder b...	
LIMIT_OWNERS_TO_LOGGED_IN_USERS	N	Y,N		
MAX_USED_DISK_SPACE_PERCENT	90		Set the percent of disk space usage before a w...	
MAX_USED_INODE_PERCENT	90		Set the percent of inode usage before a warnin...	
PORTAL_MAX_TABS	2		The maximum number of Tabs that will be visib...	
SEND_ALERTS_ON_VALUE_UPDATE	Y	Y,N	Send alerts on value update	
SEND_LOW_INODE_SPACE_EMAIL	Y	Y,N	Must be set to Y to send low inode space email...	
SEND_LOW_SPACE_EMAIL	Y	Y,N	Must be set to Y to send low space emails to a...	
SLACK_IMAGE_RETENTION_DAYS	90		Slack images retention interval in days	

1. **MAX_USED_DISK_SPACE_PERCENT** - Set this field to the maximum percentage that your System Disk space can use before Notifications are sent (controlled by #4)
2. **MAX_USED_INODE_PERCENT** - Set this field to the maximum percentage that your INODE Disk space can use before Notifications are sent (controlled by #3)

Example Disk Space Notification emails:

2. System variables controlling Storage Health notification options

As of 6.x versions, database status (admins will be notified if the database goes down) and low disk space notifications will send via email. Interval can be set via these variables:

System Config				
System Variables				
Change advanced system settings. Changes are not applied until they are committed.				
Application Variables				
health				
System Variables				
Variable Name	Assigned Value	Valid Values	Description	
1 SEND_STORAGE_HEALTH_EMAIL	Y	Y,N	Must be set to Y to send dataset storage healt...	
2 STORAGE_HEALTH_CHECK_INTERVAL	300		Determines interval (in seconds) that Data Sto...	

1. **SEND_STORAGE_HEALTH_EMAIL** - set to 'Y' in order for System Admin to receive notifications

2. STORAGE_HEALTH_CHECK_INTERVAL - set to the interval (in seconds) for system to check Health of all your Data Storage systems

3. Admin Options: Admin User Editor > Info tab

Users / blrpalms

Search

0 Docs (5)

Info Group Membership Other Access

User Settings Notification Settings Mobile Change Password

Username

User is ☒ enabled | ☐ disabled

LDAP User ☐ yes | ☒ no

First name Yana

Last name

Type Administrator

Email

1 ☐ Receive Access Notifications

2 ☐ Receive System Notifications

1. **[Receive Access Notifications]** When checked, sends the Admin emails about problems such as access denied to a page or, missing Privileges and any related Access Request emails
2. **[Receive System Notifications]** When checked allows Admins to receive emails about such problems as low disk space, low inode space, and data storage health

More help?

How do I check Health and Status online? See [Status Monitor Page](#)

4.3 Elements with Error

One of the error boxes you may see on the *Status Monitor* page of your Metric Insights instance is the **Elements with Error** box. This box informs you how many of your elements are throwing errors during data collection.

This article is not intended to be a specific step-by-step procedure; however, if the *Status Monitor* indicates that you have **Elements with Error(s)**, you can use the information presented herein to guide you in investigating the problem.

IMPORTANT: If you complete the investigative process in this article and you are still not clear as to the nature of the problem or require additional assistance, contact Metric Insights at support@metricinsights.com.

NOTE: The format of the *Status Monitor* is slightly different in Version 3.

1. Go to Admin > Status Monitor

2. Review Status Overview

The screenshot shows the Metric Insights Status Monitor interface. At the top, there's a navigation bar with 'Metric Insights Status Monitor' and 'Monitor' tabs, along with 'New', 'Admin', and 'Firstly' buttons. Below this, a toggle switch indicates 'Notifications are on'. The main content area has tabs for 'Status', 'Application Errors', 'Elements with Errors', and 'Mobile Log'. The 'Overview' section displays the 'Application Time' as '2016-03-22 06:17:56'. There are three buttons: 'See detailed monitoring stats', 'Send Test Email', and 'Test Tableau Trusted Authentication'. Below these, there are two boxes: 'Aborted Data Collection' and 'Elements with Error'. The 'Aborted Data Collection' box shows '35 data collection processes were aborted due to timeout or DB/Server crash.' with a 'See details' link. The 'Elements with Error' box shows '187 elements (15% of total) encountered errors on data collection (see below for details)' with a 'How do I fix this?' link. A red box highlights the 'Elements with Error' box, and a circular callout with the number '1' points to it.

1. If you find a similar message, there is something wrong with the element definition that is not allowing Metric Insights to collect data for an element

3. Check Elements with Error table

Metric Insights Status Monitor
Monitor
New
Admin
Firstly

1
Notifications are on

Status
Application Errors
Elements with Errors
Mobile Log

2

ID	Error Time	Data Collection Trigger	Element Name	Dimension Name	Data Source	Error
3773	2016-03-22 01:54:29	daily-metric-ref...	msft / msftTF		Tableau - ...	Error retrieving workbook/view at https://tableau-t
3705	2016-03-22 01:54:29	daily-metric-ref...	MI-1268		Tableau - ...	Error retrieving workbook/view at https://tableau-t
4492	2016-03-22 01:24:09	daily-metric-ref...	Total Daily Sales EK Bug (dimensi...	France	Demo DB...	date, numeric value<\b> This is what was returned:Australia, 2014-11-09 00:00:00, 726646.46 Australia, 2014-11-10 00:00:00, 726646.46 Australia, 2014-11-11 00:00:00, 623777.91<\b> date, numeric value This is what was returned: Australia, 2014-11-09 00:00:00, 584377.73 Australia, 2014-11-10 00:00:00, 726646.46 Australia, 2014-11-11 00:00:00, 623777.91
18	2016-03-22 01:24:09	daily-metric-ref...	Daily Profits		Web Servi...	handshake alert: unrecognized_name Fetch command: https://adam.metricinsights.com/service/index/gi
2025	2016-03-22 01:24:09	daily-metric-ref...	RT SEC Daily Sales (dimensioned...	Germany	Demo DB...	Updating Report 2025's failed. No report instanc

Page 3 of 38
Show on Page: 5
Displaying records 11 - 15 of 186

1. Open the *Elements with Error* tab
2. Review the **Error** column display of the error message and fetch command

4. Analyze SQL or Fetch command Error

Metric Insights Status Monitor

Monitor

New

Admin

Firstly

Notifications are on

Status

Application Errors

Elements with Errors

Mobile Log

Elements with Error

ID	Error Time	Data Collection Trigger	Element Name	Dimension Name	Data Source	Error
3773	2016-03-22 01:54:29	daily-metric-ref...	msft / msftTF		Tableau - ...	Error retrieving workbook/view at https://tableau-t
3705	2016-03-22 01:54:29	daily-metric-ref...	MI-1268		Tableau - ...	Error retrieving workbook/view at https://tableau-t
4492	2016-03-22 01:24:09	daily-metric-ref...	Total Daily Sales EK Bug (dimensi...	France	Demo DB...	date, numeric value<\b> This is what was returned:Australia, 2014-11-09 Australia, 2014-11-10 00:00:00, 726646.46 Australia, 2014-11-11 00:00:00, 623777.91<\b> date, numeric value This is what was returned: Australia, 2014-11-09 00:00:00, 584377.73 Australia, 2014-11-10 00:00:00, 726646.46 Australia, 2014-11-11 00:00:00, 623777.91
18	2016-03-22 01:24:09	daily-metric-ref...	Daily Profits		Web Servi...	handshake alert: unrecognized_name Fetch command: https://adam.metricinsights.com/service/index/ge
2025	2016-03-22 01:24:09	daily-metric-ref...	RT SEC Daily Sales (dimensioned...	Germany	Demo DB...	Updating Report 2025's failed. No report instanc

1

⏮

◀

Page 3 of 38

▶

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Show on Page: 5

Displaying records 11 - 15 of 186

1. Click the element **Name** link to open the element Editor

4.1. Review your SQL or Command syntax

SQL statement

```
Select country, calendar_date ,sum(total_amount) total_sales
From daily_order_summary
Where calendar_date > now()-interval 500 day
group by 1,2
```

1

Validate

SQL builder

Data was last collected for 2015-11-09 00:00:00

Recollect data

Delete existing Metric values

Enter a SQL statement that returns the following 2 columns:

1) measurement datetime (in the format "%Y-%m-%d %H:%i:%s")

2) measurement value

You must include :bulk_country as a bind variable in the where clause of your SQL statement.

* You may also include

:last_measurement_time as a bind variable to specify that only new data points should be fetched.

1. **Validate** your statement/command. If the error persists, contact Metric Insights at support@metricinsights.com

5. Investigate Connectivity Error

Metric Insights Status Monitor

Monitor

NewAdminFirstly

Notifications are on

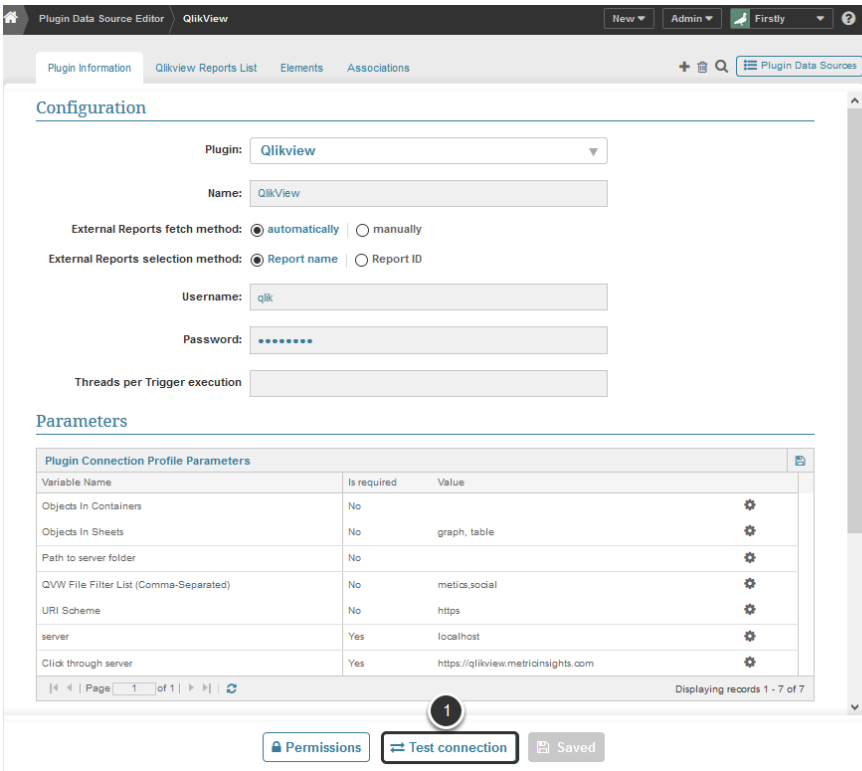
StatusApplication ErrorsElements with ErrorsMobile Log

ID	Error Time	Data Collection Trigger	Element Name	Dimension Name	Data Source	Error
4832	2016-03-22 02:2...	daily-reporti...	Test Home Sales (dimensione...	Pierce	Tableau - Sam...	Error retrieving workbook/view at https://tabl Fetch command: ?County=Pierce Variables:
2487	2016-03-22 02:2...	daily-reporti...	Number of Tweets		Qlikview - Qlik...	The object id must not be null!
4832	2016-03-22 02:2...	daily-reporti...	Test Home Sales (dimensione...	Snohomish	Tableau - Sam...	Error retrieving workbook/view at https://tabl Fetch command: ?County=Snohomish Variabl
4832	2016-03-22 02:2...	daily-reporti...	Test Home Sales (dimensione...	King	Tableau - Sam...	Error retrieving workbook/view at https://tabl Fetch command: ?County=King Variables:
3752	2016-03-22 01:5...	daily-metricor...	Daily Sales 1% change except...			Updating Report 3752's failed. No report in:

Page 2 of 38 | Show on Page: 5 | Displaying records 6 - 10 of 187

1. Click the *Data Source Name* link to go to the *Data Source Editor*

5.1. Review the Plug-in Information and Parameters



1. Click **Test Connection** to test your Data Source connection to confirm connectivity.

5.2. Check Remote Connection

The screenshot shows the 'Plugin Data Source Editor' for 'QlikView'. The 'Parameters' section displays a table of connection profile parameters:

Variable Name	Is required	Value
Objects In Containers	No	
Objects In Sheets	No	graph, table
Path to server folder	No	
QVW File Filter List (Comma-Separated)	No	metrics,social
URI Scheme	No	https
server	Yes	localhost
Click through server	Yes	https://qlikview.metricsights.com

Below the parameters, the 'Remote Collectors' section shows a table with one entry:

Name	Last Heartbeat Time
QlikView RDC on Fred	2016-03-22 06:55:36

The entry 'QlikView RDC on Fred' is highlighted with a pink background, indicating it is inactive. A red box labeled '1' points to this entry. A blue box labeled '2' points to the '+ New Remote Collector' button.

At the bottom of the interface, there are buttons for 'Permissions', 'Test connection', and 'Saved'.

1. Page down to **Remote Collectors** section
2. If the remote data collector is shown in **pink**, it is inactive; the heartbeat is more than 2 minutes old and it is not working properly. If the remote data collector is shown in **white**, it has an active heartbeat. It might still have problems but further investigation will be needed

Please see [Troubleshooting a Remote Data Collector](#) for more information

4.4 Overdue Trigger

One of the error boxes you may see on the [Status Monitor](#) page of your Metric Insights instance is the **Overdue Triggers** box. This lets you know one or more Data Collection Triggers has not fired when it was expected.

This article is not intended to be a specific step-by-step procedure; however, if the Status Monitor indicates that you have **Overdue Trigger(s)**, you can use the information presented herein to guide you in investigating the problem.

If you complete the investigative process in this article and you are still not clear as to the nature of the problem or require additional assistance, contact Metric Insights at support@metricinsights.com

NOTE: The format of the *Status Monitor* page is slightly different in Version 3.

1. Status Overview Error

The screenshot shows the 'Metric Insights Status Monitor' interface. At the top, there's a dark header with a home icon, 'Metric Insights Status Monitor', and a 'Monitor' tab. Below this is a light gray bar with a toggle switch for 'Notifications are on'. A navigation bar contains 'Status', 'Application Errors', 'Elements with Errors', and 'Mobile Log'. The main content area is titled 'Overview' and shows 'Application Time 2016-03-23 05:47:41'. There are two buttons: 'See detailed monitoring stats' and 'Send Test Email'. Below these are two boxes: 'Overdue Triggers' and 'Receiving Email'. The 'Overdue Triggers' box has a red border and contains the text '1 data collection trigger(s) have not started as expected' with a link 'How do I fix this?'. The 'Receiving Email' box has a red border and contains the text 'Connectivity could not be established to your email server to receive email messages.' with a link 'See details'. A black arrow points to the '1 data collection trigger(s)' link in the 'Overdue Triggers' box.

1. Click the **# data collection trigger(s)** link to open the *Overdue Triggers* pop-up

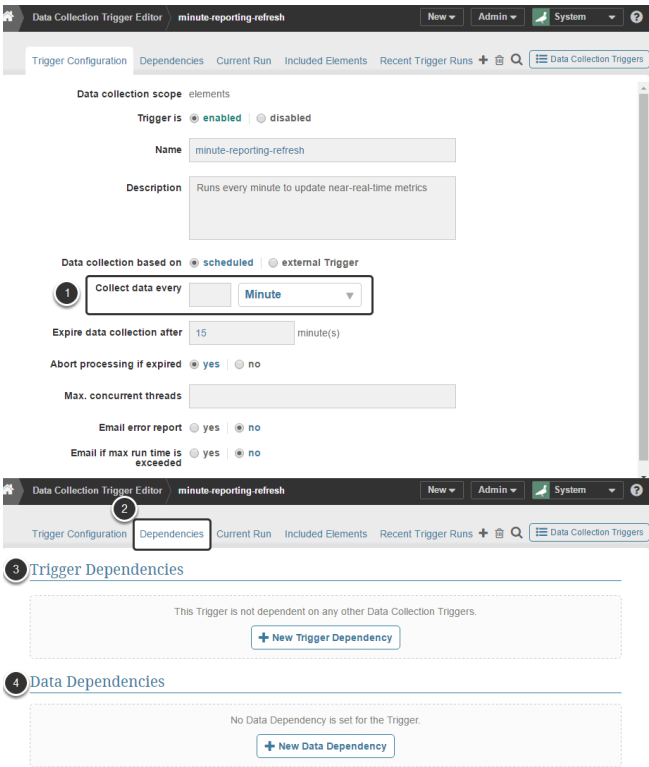
1.1. Review grid of Overdue Triggers



This pop-up box lists the Triggers that have not fired when they were expected to.

1. Click the **Name** link to open the selected *Data Collection Trigger Editor*

1.2. Review settings



1. Check the **Collect data every** field that determines the schedule for the trigger
2. Open the *Dependencies* tab

- 3. Make sure that all **Trigger Dependencies** have been met if there are any
- 4. Verify that all **Data Dependencies** have been satisfied if there are any

1.3. Review Trigger History

Data Collection Trigger Editor

minute-reporting-refresh

NewAdminSystem

1

Recent Trigger Runs

Trigger Configuration

Dependencies

Current Run

Included Elements

Recent Trigger Runs

Data Collection Triggers

2

Trigger Run History

Request Time	Start Time	Finish Time	Timed Out?	Ab...	Abo... by	Suc... Count	Error Count	Manual Run Request	Data...
2016-03-23 05:4...			N	N		0	0		Det...
2016-03-23 05:4...	2016-03-23 05:4...	2016-03-23 05:4...	N	N		1	0		Det...
2016-03-23 05:4...	2016-03-23 05:4...	2016-03-23 05:4...	N	N		1	0		Det...
2016-03-23 05:4...	2016-03-23 05:4...	2016-03-23 05:4...	N	N		1	0		Det...
2016-03-23 05:4...	2016-03-23 05:4...	2016-03-23 05:4...	N	N		1	0		Det...
2016-03-23 05:3...	2016-03-23 05:4...	2016-03-23 05:4...	N	N		1	0		Det...
2016-03-23 05:3...	2016-03-23 05:3...	2016-03-23 05:3...	N	N		1	0		Det...

- 1. Open the *Recent Trigger Runs* tab
- 2. Review the **Trigger Run History** grid to see how long it has been since this trigger ran

2. Determine if this is an External Trigger

Data Collection Trigger Editor minute-reporting-refresh New Admin System ?

1 Trigger Configuration Dependencies Current Run Included Elements Recent Trigger Runs + - Q Data Collection Triggers

Data collection scope elements

Trigger is ☒ enabled | ☐ disabled

Name minute-reporting-refresh

Description Runs every minute to update near-real-time metrics

Data collection based on ☐ scheduled | ☒ external Trigger

Trigger URL https://192.168.10.222/service/event/queueevent/?event_name=minute-reporting-refresh

Collect data every Minute

If the above steps have not led to a resolution of the problem, this may be an external trigger:

1. Open the *Trigger Configuration* tab
2. Review the **Data collection based on** setting: if the 'external Trigger' option is selected, you will have to investigate further to find a reason why the external trigger was not fired

4.5 Cron is not running

One of the error boxes you may see on the *Status Monitor* page of your Metric Insights instance is the *Cron* box. This box is displayed when **cron** is not running on your Metric Insights server.

This article is not intended to be a specific step-by-step procedure; however, if the *Status Monitor* indicates that **Cron is not running**, you can use the information presented herein to guide you in investigating the problem.

IMPORTANT: If you complete the investigative process in this article and you are still not clear as to the nature of the problem or require additional assistance, contact Metric Insights at support@metricinsights.com

1. Status Overview Error

The screenshot shows the 'Metric Insights Status Monitor' interface. On the left is a sidebar with navigation links: 'Status Overview' (highlighted with a blue arrow), 'Status Information', 'Application Errors', and 'Elements with Error'. The main content area is titled 'Status Overview' and contains two panels. The 'Cron' panel, which is highlighted with a black border, displays the message 'Cron is **not running**'. The 'Elements with Error' panel shows '41 elements (2.5% of total) encountered errors on data collection (see below for details)'.

To correct this problem:

- Log on to your Metric Insights server and re-start **cron** using:
 1. **Debian**
sudo service cron start
 2. **Centos**
sudo service crond start

4.6 Memory Tables

One of the error boxes you may see on the *Status Monitor* page of your Metric Insights instance is the *Memory Table* box. This box appears when there is a problem with the memory cache table populating.

This article is not intended to be a specific step-by-step procedure; however, if the *Status Monitor* indicates that you have issues with **Memory Tables**, you can use the information presented herein to guide you in investigating the problem.

IMPORTANT: If you complete the investigative process in this article and you are still not clear as to the nature of the problem or require additional assistance, contact Metric Insights at support@metricinsights.com

1. Status Overview Error

The screenshot shows the 'Metric Insights Status Monitor' interface. On the left is a sidebar with navigation links: 'Status Overview' (highlighted), 'Status Information', 'Application Errors', and 'Elements with Error'. The main content area is titled 'Status Overview' and contains two panels. The 'Memory Tables' panel, which is highlighted with a black border, displays the message: 'Home Page Memory Cache is **not populated**'. The 'Elements with Error' panel shows: '42 elements (2.6% of total) encountered errors on data collection (see below for details)'.

The *Memory Tables* error:

- Can appear when:
 1. Metric Insights has been restarted
 2. The underlying MySQL database has been restarted
- It should go away after about 5 minutes after either of the above two events occur
- **IF** this message persists, it means there is a problem with inserting to the `user_dashboard_element_info` table. Contact support@metricinsights.com

4.7 How to track users clicking on links from emails

I want to know when a user clicks on a link from a Metric Insights email and logs into my third-party application like Tableau or QlikView. How do I do that? In **version 3.2** and newer, when you click on a link from a Metric Insights email we log your user ID, time, and element (among other items) in our database. This is logged even when users click on a link to an external application.

Tracking Setting

System Config

System Variables

Change advanced system settings. Changes are not applied until they are committed.

All tracking

Variable Name	Assigned Value	Valid Values	Description
ALLOW_EXT_LINK_TRACKING	Y	Y,N	Set to Y to track links to 3rd party reporting too...

Uncommitted Changes

Discard Changes Commit Changes

Tracking is enabled by default.

1. If you want to turn tracking off set this parameter in **Config Variables** to 'N'
2. And **Commit Changes**

Where data is the stored?

```

element_id: 656
segment_value_id: 0
user_id: 65
view_time: 2015-01-23 17:31:51
api_access_ind: N
email_sent_date: 2015-01-23 15:57:05
email_type: favorite digest

```


The data is stored in the 'dashboard_element_view_log_detail' table in the 'dashboard' database.

Reporting

username	name	element id	view time
grayson	% Monthly Projects On Track	164	2012-11-27 15:18:28
admin	% Monthly Projects On Track	164	2013-09-08 22:43:55

You can then build metrics and report using the table. For example, to get this sample above use:

```
select username,name,e. element_id, view_time from dashboard_element e, user u,  
dashboard_element_view_log_detail d where u.user_id=d.user_id and e.element_id=d.  
element_id
```

 **Note:** we capture unique clicks on an element restarting every 15 minutes. For example, if I click on a link from an email twice within 15 minutes, we only record it as once. If you click on it after 15 minutes it is recorded again.

5. Mail Clients and Browsers supported

5.1 Mail Clients and Browsers supported

Browsers

				
Chrome	FireFox	Safari	Internet Explorer	Opera
Version 57.0 and above	Version 52.0 and above	Version 10.0.2 and above	Version 11.0 Edge: Version 25 and above	Not Supported

Mail Clients

		
Gmail	Outlook 2010 2013	iOS Native Client
Desktop Windows MacOS	Desktop Windows	Desktop MacOS
Mobile Android iOS		Mobile iOS

NOTE: We are not currently supporting Thunderbird.