

# Navicat Monitor

Version 1 User Guide

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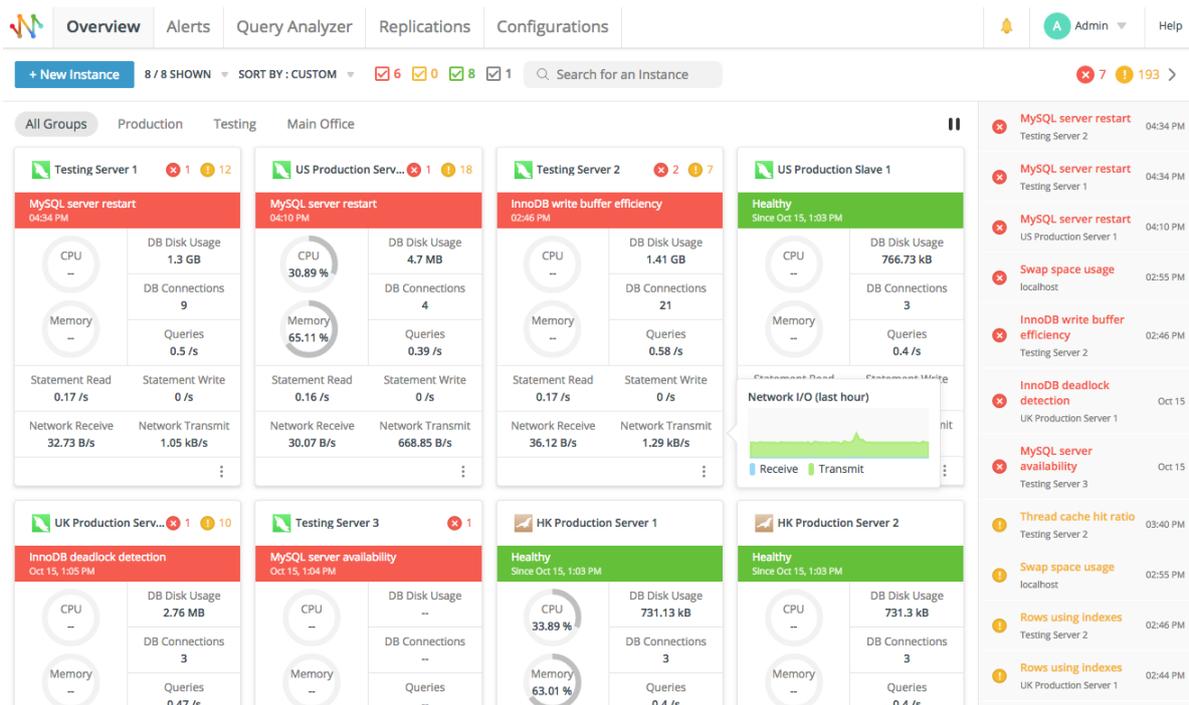
# Chapter 1 - Introduction

## About Navicat Monitor

**Navicat Monitor** is a safe, simple and agentless remote server monitoring tool that is packed with powerful features to make your monitoring effective as possible. Monitored servers include MySQL and MariaDB, and compatible with cloud databases like Amazon RDS, Amazon Aurora, Oracle Cloud, Google Cloud, Microsoft Azure and Alibaba Cloud. Navicat Monitor is a server-based software which can be accessed from anywhere via a web browser. With web access, you can easily and seamlessly keep track of your servers around the world, around the clock.

Here are some highlights of Navicat Monitor:

- Real-time instance performance monitoring
- Getting alert notification and setting alert policies
- Query analyzer for identifying slow queries
- Monitoring replications
- Comparing and printing charts



For details, visit our website: <https://www.navicat.com>

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# Chapter 2 - Getting Started

## Requirements

### Supported Platforms for Installing Navicat Monitor

#### Windows

- Microsoft Windows 8, Windows 8.1, Windows 10, Server 2008, Server 2012, Server 2016
- 64-bit

#### macOS

- Mac OS X 10.10 Yosemite, Mac OS X 10.11 El Capitan, macOS 10.12 Sierra, macOS 10.13 High Sierra
- 64-bit

#### Linux

- Red Hat Enterprise Linux 6.6 or later, CentOS 6.6 or later, Oracle Linux 6.6 or later, Fedora 20 or later, Debian 8.0 or later, SuSE Linux Enterprise 12 or later, openSUSE 42.x, Ubuntu 14.04 LTS, 16.04 LTS or 18.04 LTS, Amazon Linux 2
- 64-bit

#### Docker

- Docker 17 or later
- 64-bit

#### FreeBSD

- FreeBSD 10.4 or later
- 64-bit

### Hardware Requirements for Installing Navicat Monitor

#### Minimum hardware requirements

- 2-core CPU
- 2GB RAM

#### Recommended hardware requirements

- 4-core CPU or more

- 8GB RAM or more
- RAID-1 disk mirroring

#### **Disk space minimum requirements**

- 4GB/opt

#### **Supported Web Browsers**

- Firefox (Latest Version)
- Chrome (Latest Version)
- Internet Explorer 11 or later
- Microsoft Edge 39 or later
- Safari 9.1.3 or later

#### **Supported Servers for Monitoring**

- MySQL 5.1.73 or later
- MariaDB 10.0 or later

#### **Supported Repository Databases**

- MySQL 5.1.73 or later
- MariaDB 10.0 or later
- PostgreSQL 9.5.1 or later
- Amazon RDS

## **Installation**

### **Offline Installation**

Offline Installation is available for all platforms supported by Navicat Monitor, except Amazon Linux 2 and Docker container.

#### **Windows**

Follow the steps below to install Navicat Monitor on Windows:

1. Download Navicat Monitor Windows version.
2. Open the **.exe** file.

3. Click **Next** at the Welcome Screen.
4. Read the License Agreement. Accept it and click **Next**.
5. Accept the location of the program by clicking **Next**. If you wish to change the destination of the folder, click **Browse**.
6. Follow the remaining steps.
7. After the installation, Navicat Monitor starts automatically. Configure the [Initial Settings](#) in the pop-up browser.

## macOS

Follow the steps below to install Navicat Monitor on macOS:

1. Download Navicat Monitor macOS version.
2. Open the **.dmg** file.
3. Drag Navicat Monitor to your Applications folder to install.
4. After the installation, Navicat Monitor starts automatically. Configure the [Initial Settings](#) in the pop-up browser.

## Linux

Follow the steps below to install Navicat Monitor on Linux:

1. Download Navicat Monitor Linux version installation package for your OS version.
2. Open Terminal. Execute the following commands as "root".
3. Install Navicat Monitor:

OS Version	Command
RHEL 6.6 or later, CentOS 6.6 or later, Oracle Linux 6.6 or later	yum localinstall navicatmonitor-x.y.z.rpm
RHEL 7.x, CentOS 7.x, Oracle Linux 7.x	yum localinstall navicatmonitor-x.y.z.rpm
Fedora 20 or later	yum localinstall navicatmonitor-x.y.z.rpm
Ubuntu 14.04, Ubuntu16.04, Ubuntu 18.04	dpkg -i navicatmonitor
Debian 8.x, Debian 9.x	dpkg -i navicatmonitor
openSUSE 42.x, SuSE 12 or later	zypper in navicatmonitor-x.y.z.rpm

4. Start Navicat Monitor:  
`sudo /etc/init.d/navicatmonitor start`
5. After Navicat Monitor is started, you can configure the [Initial Settings](#) through a browser at `http://your-ip-address:3000`.

## FreeBSD

Follow the steps below to install Navicat Monitor on FreeBSD:

1. Download Navicat Monitor FreeBSD version.
2. Open Terminal. Execute the following commands.
3. Install Navicat Monitor:  

```
pkg add -f navicatmonitor-1.6.0-0.txz
```
4. Start Navicat Monitor:  

```
/etc/rc.d/navicatmonitor start
```
5. After Navicat Monitor is started, you can configure the [Initial Settings](#) through a browser at `http://your-ip-address:3000`.

## Online Installation

Online Installation is only available for macOS and Linux platforms and Docker container.

### macOS

- [Install on macOS with Homebrew](#)

### Linux

- [Install on Red Hat Enterprise Linux 6.6, CentOS 6.6 or Oracle Linux 6.6 or later with Yum](#)
- [Install on Red Hat Enterprise Linux 7.x, CentOS 7.x or Oracle Linux 7.x with Yum](#)
- [Install on Fedora 20 or later with Yum](#)
- [Install on Debian 8.x or Debian 9.x with Apt](#)
- [Install on Ubuntu 14.04 LTS or Ubuntu 16.04 LTS or Ubuntu 18.04 LTS with Apt](#)
- [Install on Amazon Linux 2 with Yum](#)
- [Install on openSUSE 42.x or SuSE Linux Enterprise 12 or later with Zypper](#)

### Docker

- [Install on Docker container](#)

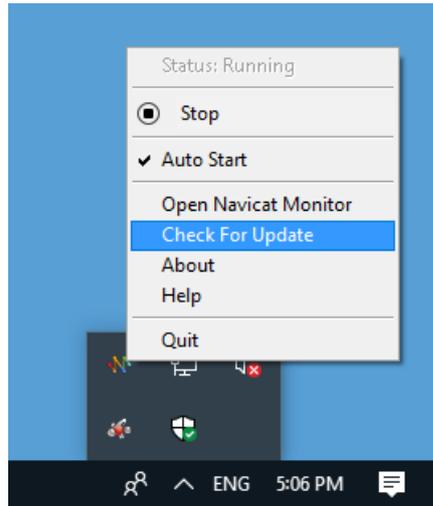
## Upgrade

Before you upgrade Navicat Monitor, we recommend that you back up your current Navicat Monitor settings. See [Migration / Backup](#) for details.

### Windows

Follow the steps below to upgrade Navicat Monitor on Windows:

1. In the notification area, right-click  and choose **Check For Update**.

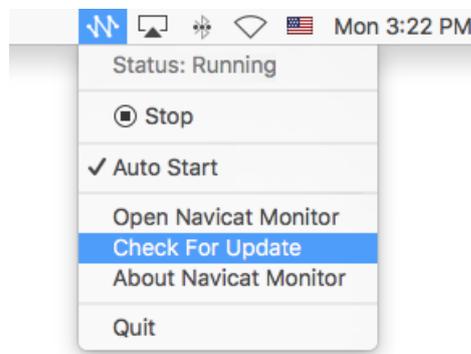


2. If a new version is available, click **Install**.
3. After the upgrade is finished, Navicat Monitor starts automatically.

## macOS

Follow the steps below to upgrade Navicat Monitor on macOS:

1. In the menu bar, click  and choose **Check For Update**.



2. If a new version is available, click **Install Update**.
3. After the download is finished, click **Install**.
4. After the upgrade is finished, Navicat Monitor starts automatically.

## Linux

Follow the steps below to upgrade Navicat Monitor on Linux:

1. Open Terminal. Execute the following commands as "root".

2. Stop Navicat Monitor:

```
sudo /etc/init.d/navicatmonitor stop
```

3. Update Navicat Monitor:

OS Version	Command
Red Hat Enterprise Linux, CentOS, Oracle Linux, Fedora	yum clean all; yum update navicatmonitor
Ubuntu, Debian	apt-get upgrade
SUSE	zypper refresh; zypper update navicatmonitor

4. Start Navicat Monitor:

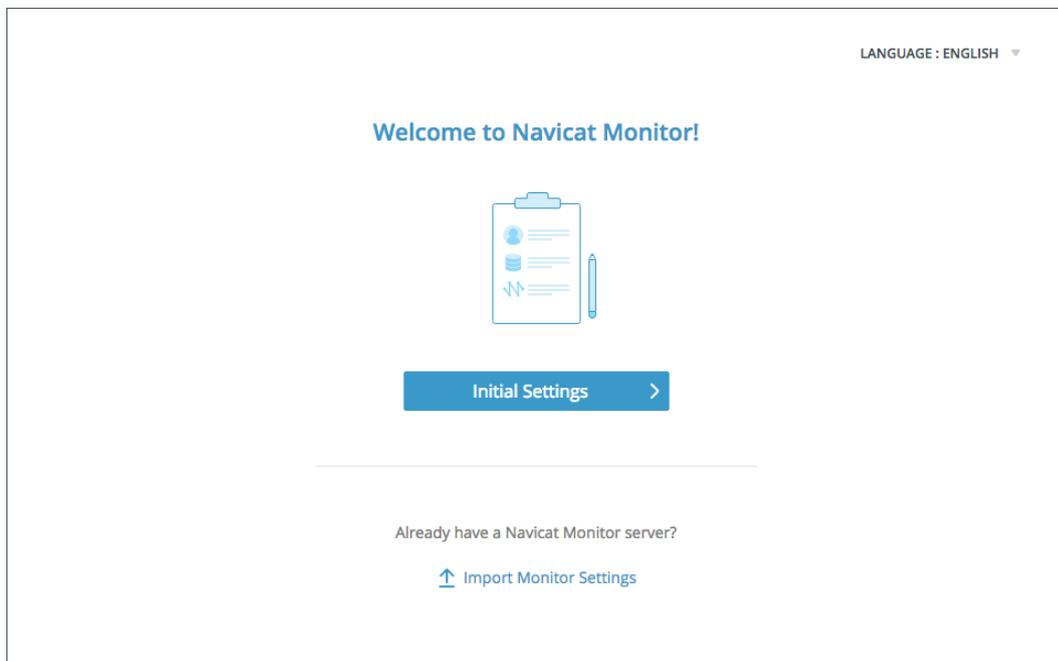
```
sudo /etc/init.d/navicatmonitor start
```

## Initial Setup

After you have installed Navicat Monitor and start it for the first time, a browser will pop up and open the URL **http://<your\_ip\_address>:<port\_number>** of your Navicat Monitor. You need to complete the basic configuration of Navicat Monitor in the Welcome page.

**Note:** <your\_host\_address> is the host name of the system that installed Navicat Monitor, and <port\_number> is 3000 by default. For Linux version, you need to open the browser and go to **http://<your\_ip\_address>:<port\_number>** manually.

If you want to import Navicat Monitor configuration settings, see [Migration / Backup](#) for details.



### Create Superuser Account

Superuser is a local user (Manager) account which has unlimited access to Navicat Monitor functionalities.

1. In the Welcome page, click **Initial Settings**.

2. Enter the profile information of the superuser: USERNAME, PASSWORD, FULL NAME, EMAIL, MOBILE.

Initial Settings  
**Superuser Profile**

<p><b>USERNAME*</b></p> <input type="text" value="admin"/>	<p><b>FULL NAME*</b></p> <input type="text" value="Mary Brown"/>
<p><b>PASSWORD* ?</b></p> <input type="password" value="....."/>	<p><b>PREFERRED LANGUAGE</b></p> <input type="text" value="English"/>
<p><b>CONFIRM PASSWORD*</b></p> <input type="password" value="....."/>	<p><b>EMAIL ?</b></p> <input type="text" value="marybrown@xxx.com"/>
	<p><b>MOBILE ?</b></p> <input type="text" value="+1 12345678"/>

3. Click **Next**.

### Set Repository Database

Repository database stores alerts and performance metrics data for historical analysis. It can be either a MySQL database, MariaDB database, PostgreSQL database or Amazon RDS instance. We do not recommend setting the repository database to an instance that you plan to monitor or a production database.

**Note:** Manager can change the repository database anytime after the initial setup, see [Repository Database](#) for details.

1. Choose the **DATABASE TYPE** of the repository database.
2. Enter the connection information to connect the repository database.

HOST NAME	The host name or IP address of the database server.
PORT	The TCP/IP port for connecting to the database server.
DATABASE NAME	The name of the repository database. It can be either an empty existing database or a new database created by Navicat Monitor.
USERNAME	<p>User name for connecting to the database server. The user account must have the following privileges:</p> <p><b>MySQL / MariaDB</b> - SELECT, INSERT, UPDATE, DELETE, CREATE, DROP, INDEX, ALTER, CREATE TEMPORARY TABLES, CREATE VIEW on all database objects</p> <p><b>PostgreSQL</b> - Can login, Can create database and Superuser</p>
PASSWORD	Password for connecting to the database server.

Initial Settings  
**Repository Database**

DATABASE TYPE: MySQL

DATABASE NAME\*: monitor\_en

HOST NAME\*: 192.168.1.68

USERNAME\*: root

PORT\*: 3355

PASSWORD: .....

Back Test Connection Next >

3. Click **Next**.

### Set Application Information

1. Edit the application information if necessary.

PORT	The port number that Navicat Monitor will listen.
WEB URL	The website URL of Navicat Monitor that will be used in Alert emails.
IP ADDRESS	If the machine has been assigned multiple IP addresses, you can specify an IP address for users to access Navicat Monitor. <b>0.0.0.0</b> means all IPv4 addresses on the machine. <b>::</b> means all IPv4 and IPv6 addresses on the machine.

Initial Settings  
**Application**

HOST NAME: Admin-iMac.local

IP ADDRESS ? : 0.0.0.0

PORT\*: 3000

IPV6: Enabled

WEB URL\*: http://admin-imac.local:3000

DNS SERVER: 192.168.1.1

Back Test Connection Next >

2. Click **Next**.

### Confirm Settings

Confirm the configuration information, and click **Finish**. Initial configuration process may take a few minutes for setting up the repository database.

Initial Settings  
**Confirmation**

Superuser	Repository Database	Application
USERNAME admin	DATABASE TYPE MySQL	PORT 3000
FULL NAME Mary Brown	HOST NAME 192.168.1.68	WEB URL http://admin-imac.local:3000
EMAIL marybrown@xxx.com	PORT 3355	IP ADDRESS 0.0.0.0
MOBILE 12345678	DATABASE NAME monitor_en	
PASSWORD *****	USERNAME root	
	PASSWORD *****	

[Back](#) [Finish](#)

## Log in Navicat Monitor

After the configuration completed successfully, a login page will be displayed and you can log in Navicat Monitor with the manager user account.

LANGUAGE : ENGLISH ▾

**Registration Success!**  
**Sign In & Get Started Now**

USERNAME

PASSWORD

Keep me signed in

[Sign In](#)

## User Interface

### Main Toolbar



### ① Navigation Menu

The Navigation Menu allows you to access basic features, such as Overview, Alerts, Query Analyzer, Replications and Configurations.

## ② Bell Icon

When an upgrade is available, a dot next to the bell icon lets you know there are notifications to view. Click the bell icon to view the notification.

## ③ User Menu

The User Menu allows you to open your own profile page, change the UI language and log out the current user's session. If you have enough privileges, you can open the Activation page.



## ④ Selected Instances

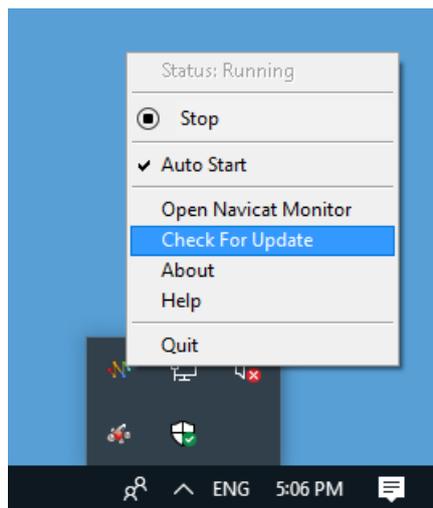
The selected instances on the left instance pane are shown. Click it to show or hide the Instance pane.

## ⑤ Location Breadcrumb

The Location Breadcrumb shows the position of the current page. Click on a level to jump to that page.

## Navicat Monitor Application

Navicat Monitor Application is a small utility that provides quick access to Navicat Monitor, shows the status information of the Navicat Monitor service, notifies you any changes and updates. It is only available in Windows and macOS versions.



Status	The current status of the Navicat Monitor service.
Start / Stop	Start or stop the Navicat Monitor service.
Auto Start	Automatically start the Navicat Monitor service when you turn on your computer and start Navicat Monitor Application when you login your computer.

Open Navicat Monitor	Launch Navicat Monitor in a browser.
Check For Update	Check for an update, and prompt to install the latest version if any.
About Navicat Monitor	Show the version number of your Navicat Monitor.
Quit	Exit Navicat Monitor Application. It does not stop the Navicat Monitor service.

## Create Instances

Once you have finished the Initial Settings and have logged in Navicat Monitor, you can create the instances you want to monitor. Navicat Monitor uses an agentless architecture to monitor your database servers and collect data at regular intervals. It does not require installing any agent software on the servers being monitored.

You can create new instances on the following pages by clicking **+ New Instance** and selecting the server type.

- [Overview](#)
- [Configurations](#)

**Note:** Currently, you can create up to 1000 instances.

In the New Instance window, enter a friendly name to best describe your instance in **INSTANCE NAME** and select the **GROUP** of your instance. If you want to add a new group, click **New Group**. Then, provide the following information to connect your server.

**New Instance**
✕

---

INSTANCE NAME\*

GROUP Production ▼ [+ New Group](#)

Navicat Monitor      Database

### Connect Gateway Server

Navicat Monitor can connect the database server over a secure SSH tunnel to send and receive monitoring data. It allows you to connect your servers even remote connections are disabled or are blocked by firewalls.

1. In the **Gateway Server** section, enable **Connect to gateway server through SSH tunnel**.
2. Enter the following information:

HOST NAME	The host name of the SSH server.
PORT	The port where SSH server is activated, by default it is 22.
USERNAME	A user on SSH server machine. (It is not a user of database server.)
AUTHENTICATION	The SSH authentication method: Password or Public Key.

METHOD	
PASSWORD	[Password Authentication] Password for login SSH server.
PRIVATE KEY	[Public Key Authentication] It is used together with your public key. The private key should be readable only by you.  <b>Note:</b> Put your private key file in Navicat Monitor > Private Key folder.
PASSPHRASE	[Public Key Authentication] A passphrase is exactly like a password, except that it applies to the keys you are generating and not an account.

### Enter Instance Connection Details

1. In the **MySQL Server** or **MariaDB Server** section, enter the following information:

HOST NAME	The host name or IP address of the database server.
PORT	The TCP/IP port for connecting to the database server.
USERNAME	A monitoring user for connecting to the database server. We recommend creating a separate account for the monitoring user which does not causes load on the monitored instance. You should grant REPLICATION CLIENT, SUPER, PROCESS, SELECT and INDEX on all database objects to the monitoring user.
PASSWORD	The login password of the monitoring user.
SERVER TYPE	The type of the server: Unix-like or Windows.

2. Click **New**.

### Login SSH / SNMP to Access System Metrics

Navicat Monitor works over SSH / SNMP to access and collect server's system performance metrics such as CPU and memory resources. If you do not provide this login, you can still monitoring your server without the system performance metrics shown.

#### Unix-like Servers

1. In the **CPU & Memories** section, enable **Login SSH to access data of CPU & Memories**.
2. Enter the following information:

PORT	The port where SSH server is activated, by default it is 22.
USERNAME	A user on SSH server machine. (It is not the user of database server.)
AUTHENTICATION METHOD	The SSH authentication method: Password or Public Key.
PASSWORD	[Password Authentication] Password for login SSH server.
PRIVATE KEY	[Public Key Authentication] It is used together with your public key. The private key should be readable only by you.

	<b>Note:</b> Put your private key file in Navicat Monitor > Private Key folder.
PASSPHRASE	[Public Key Authentication] A passphrase is exactly like a password, except that it applies to the keys you are generating and not an account.

3. Click **New**.

### Windows Type Servers

1. In the **CPU & Memories** section, enable **Login SNMP to access data of CPU & Memories**.
2. Enter the following information:

COMMUNITY	The SNMP community string (acts as a password) that is assigned on the server for authentication.
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3. Click **New**.

**Note:** When you connect a Windows type server using a gateway, Navicat Monitor cannot access system metrics.

# Chapter 3 - Configurations

## Activation

When the trial period of an instance is finished, Navicat Monitor requires tokens to continue monitoring that instance. Tokens can be bought as a perpetual license or on a subscription basis. To manage your tokens and license your instances, go to **Configurations -> Activate Tokens & License Instances**.

**Note:** Perpetual License and Subscription Plan cannot be used at the same Navicat Monitor. Before changing the activation method, you need to deactivate the token key or sign out your Navicat ID.

### Perpetual License

If you have purchased a perpetual license, you will receive a token key for activating the purchased tokens in Navicat Monitor.

In the **Perpetual Plan** section, paste your token key into the **ENTER TOKEN KEY NUMBER** text box and click the **Activate** button. Navicat Monitor contacts our licensing server to activate the token key. If the activation process is successful, the token key details are displayed.

### Offline Activation

Offline activation is available when your computer does not have an internet connection. You will need another computer with an internet connection to complete this activation process.

1. In the No Internet Connection dialog, click **Offline Activation**.
2. Copy the Request Code in the **Copy the Request Code Here:** box.
3. Open web browser on a computer with an internet connection and then go to [https://customer.navicat.com/manual\\_activate.php](https://customer.navicat.com/manual_activate.php).
4. Paste/Enter the Request Code into the left box.
5. Click **Get Activation Code**.
6. Copy the generated Activation Code in the right box.
7. Go back to the computer where you are activating Navicat Monitor.
8. Paste the Activation Code into the **Paste the Activation Code Here:** box.
9. Click **Activate**.

### Deactivate Token Key

In the # **Local Activated Tokens** section, click the **Deactivate** button next to the token key you want to deactivate. Navicat Monitor contacts our licensing server to deactivate the token key. If the deactivation process is successful, the token key details are removed from the list.

If there is not enough available tokens for deactivating your token key, you may need to unlicense your instances to release some tokens. Otherwise, the **Deactivate** button will not be enabled.

### Subscription Plan

If you have subscribed a plan, you can sign in your Navicat ID to use tokens during the subscription term.

**Note:** Navicat ID is the Email address that you used to subscribe the plan.

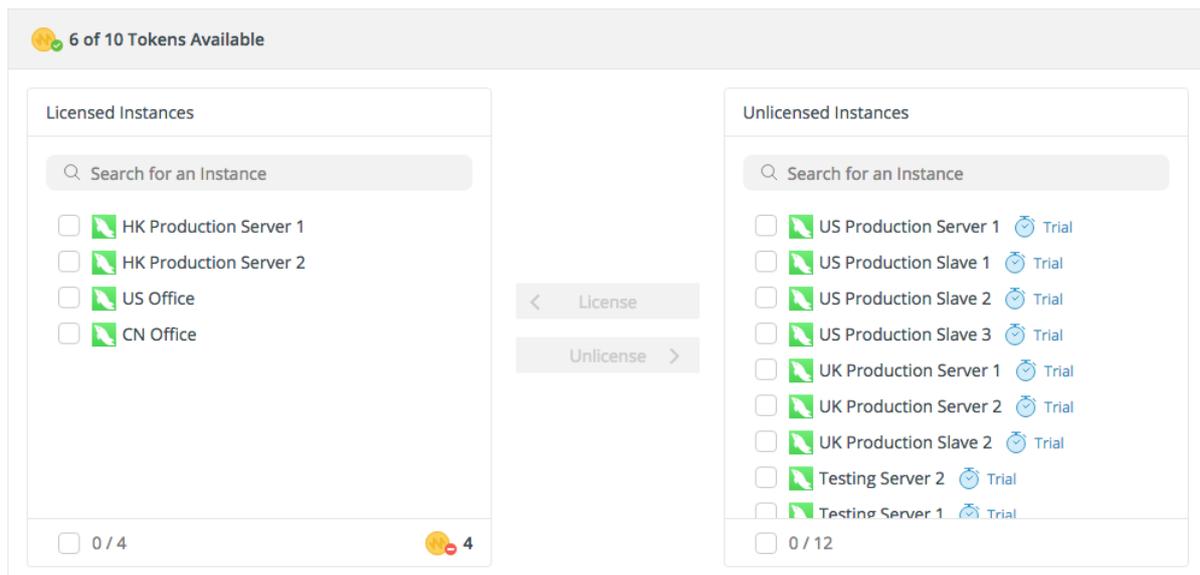
In the **Subscription Plan** section, provide your **NAVICAT ID** and **PASSWORD**. After signed in, the subscription plan details are displayed.

Navicat Monitor contacts our licensing server once per hour to auto reload the plan by default. If you have updated your plan in the portal site, you can use the **Reload Plan** button to force reloading the new plan.

**Note:** Each Navicat ID can connect to only one Navicat Monitor. If you sign in your Navicat ID in another Navicat Monitor, you will be signed out from the current Navicat Monitor and all instances will be unlicensed automatically.

### Allocate Tokens

In the # of # **Tokens Available** section, all unlicensed instances are displayed in the **Unlicensed Instances** list and all licensed instances are displayed in the **Licensed Instances** list. You can allocate available tokens to your unlicensed instances, select an unlicensed instance and click the **License >** button. If you want to release tokens for licensing other instances, select a licensed instance and click the **< Unlicense** button.



**Note:** When the trial period expires, Navicat Monitor stops monitoring and collecting data from all unlicensed instances, and will not raise alerts for them.

# Repository Database

Migrating an existing repository database to a different database can include moving to a different database type (for example, MySQL to PostgreSQL), or migrating to a database on a different operating system (for example from Windows to macOS).

If you want to migrate your Repository Database, follow these steps:

1. Stop the Navicat Monitor service by executing [command](#) or using the icon in the notification area / menu bar.
2. In your database management tool, copy your current repository database (all tables with both structure and data) to your new repository database.
3. Start the Navicat Monitor service and launch Navicat Monitor in your browser.
4. Go to **Configurations**.
5. Click **Repository Database**.
6. Click **Edit Settings**.
7. Edit the repository database settings.

DATABASE TYPE	The type of the database server.
HOST NAME	The host name or IP address of the database server.
PORT	The TCP/IP port for connecting to the database server.
DATABASE NAME	The name of the repository database.
USERNAME	User name for connecting to the database server. The user account must have the following privileges: <b>MySQL / MariaDB</b> - SELECT, INSERT, UPDATE, DELETE, CREATE, DROP, INDEX, ALTER, CREATE TEMPORARY TABLES, CREATE VIEW on all database objects <b>PostgreSQL</b> - Can login, Can create database and Superuser
PASSWORD	Password for connecting to the database server.

8. Restart the Navicat Monitor service to resume monitoring.

# Application

You can view or change the application settings of Navicat Monitor, such as Port, Web URL and IP Address. To configure the application settings, go to **Configurations** -> **Application**.

The application settings of Navicat Monitor is listed.

PORT	The port number that Navicat Monitor will listen.
WEB URL	The website URL of Navicat Monitor that will be used in the Alert emails.

IP ADDRESS	If the machine has been assigned multiple IP addresses, you can specify an IP address for users to access Navicat Monitor. <b>0.0.0.0</b> means all IPv4 addresses on the machine. <b>::</b> means all IPv4 and IPv6 addresses on the machine.
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**Note:** Once you have changed the above settings, you should restart the Navicat Monitor service for it to take effect.

## Migration / Backup

### Export Monitor Settings

Exporting Navicat Monitor settings can be useful if you want to migrate application server or for backup purposes. The exported zip file includes Token Keys, Instance Settings, Repository Database Settings and all the files necessary for the restoration.

1. Go to **Configurations**.
2. Click **Export Monitor Settings**.
3. In the Export Monitor Settings window, click **Download Monitor Settings Zip**.
4. If you are migrating the application server, you must deactivate all Token Keys in the [Activation](#) page before activating them in a new application server.

### Import Monitor Settings

After you installed Navicat Monitor on a new server, you can import the Monitor Settings file (the exported zip file) in **Initial Settings**.

**Note:** You can only migrate settings within the same major and minor release. For example, Navicat Monitor v1.1.x only accept v1.1.y zip file.

1. Start and open Navicat Monitor.
2. Click **Import Monitor Settings**.
3. Drop or browse the zip file to upload it.
4. After the settings are imported, click **Continue**.
5. Modify the repository database settings if necessary.
6. Click **Restore Monitor Settings**.
7. If the restoration is successful, click **Continue**.
8. All existing tokens are listed. Click **Activate** if you want to activate them now. And then, click **Continue**.
9. Allocate the activated tokens to license the existing instances.

10. Click **Finish**.

## General Settings

You can configure the security, date & time, log, LDAP and Active Directory settings. To configure the basic settings of Navicat Monitor, go to **Configurations -> General Settings**.

### Security

You can change the complexity requirements of the user passwords to increase the password strength and enforce all other user sessions to log out.

If you want to use encrypted connections (HTTPS sessions) between Navicat Monitor and clients, you can configure Navicat Monitor to use the SSL/TLS protocol. Click **+ Add Certificate** and configure the following information:

NAME	Enter the name of the certificate.
CERTIFICATE	Paste the contents of the certificate file.
PRIVATE KEY	Paste the contents of the private key file.
CERTIFICATE CHAIN	Paste the contents of the certificate chain file.

### Date & Time

The date and time information of Navicat Monitor is listed. You can enable the **Use a 24-hour clock** to use the 24 hour system.

### Log House Keeping

Navicat Monitor logs the detailed server errors and messages for tracking down any problems occurred in the servers. You can control the build retention policy for logs by specifying both the **MAXIMUM SIZE OF EACH BUILD** and the **MAXIMUM NO. OF BUILDS TO KEEP**.

### LDAP Settings

Navicat Monitor is able to authenticate users via an externally hosted LDAP server. To use LDAP authentication, configure the following information:

LDAP SERVER HOST NAME	Enter the host name, IP address or URL of your LDAP server.
ENCRYPTION	Select the encryption method for communicating with your LDAP server.
PORT	Enter the port for connecting your LDAP server.
LDAP server allows anonymous bind	Turn on this option if your LDAP server allows anonymous binds.
USER SEARCH BASE	Enter the search base filter to search for the user. (For example: If your users are located in "domain.com", then the search base filter would be dc=domain,dc=com)
USER DN	Enter the user distinguished name to bind to your LDAP server if it

	does not allow anonymous binds. (For example: If your user name is admin, then the User DN would be cn=admin,dc=domain,dc=com)
PASSWORD	Enter the password for the <b>USER DN</b> specified.
Test Settings	Click this button to test the connection between Navicat Monitor and your LDAP server.
AUTHENTICATION MODE	Select the authentication mode to use for authenticating the user with your LDAP server.
[Comparison Authentication] PASSWORD ATTRIBUTE NAME	Enter the attribute name that contains the password-based authentication mechanism name.
[Comparison Authentication] PASSWORD DIGEST MECHANISM	Select the password-based authentication mechanism.
USER SEARCH ATTRIBUTE	Enter the attribute name that contains the user login name.

## Microsoft AD Settings

You can configure Navicat Monitor to authenticate users with Microsoft Active Directory (AD) credentials. To use Active Directory authentication, configure the following information:

AD SERVER HOST NAME	Enter the host name or IP address of your AD server.
USER SEARCH BASE	Enter the search base filter to search for the user. (For example: If your users are located in "domain.com", then the search base filter would be dc=domain,dc=com)
USER DN	Enter the user distinguished name to bind to your AD server. (For example: If your user name is admin, then the User DN would be cn=admin,dc=domain,dc=com)
PASSWORD	Enter the password for the <b>USER DN</b> specified.
Test Settings	Click this button to test the connection between Navicat Monitor and your AD server.

## Users & Roles

### Manage Users

Navicat Monitor allows creating local users, or creating external users using LDAP or AD authentication. To configure users, go to **Configurations -> Users**.

**Note:** The manager user account created during [Initial Setup](#) cannot be changed to LDAP or AD user.

**Hint:** You can view or edit your own profile by clicking your user icon on the top right corner and selecting **My Profile**.

## Create New Users

You can create new users by clicking **+ Create New User** in the left pane.

### To create local users

1. Select the **Local User** tab.
2. Enter the **USERNAME** and **NAME**.
3. Assign a **ROLE** to the new user.
4. Enter the **PASSWORD, CONFIRM PASSWORD**.
5. Click the  icon and enter user's email and phone number.
6. Repeat Step 2 - 5 to add another new user.
7. Click **Create User**.

### To create LDAP users

1. Select the **LDAP User** tab.
2. Enter the **LDAP USERNAME** and **NAME**.
3. Assign a **ROLE** to the new user.
4. Click the  icon and enter user's email and phone number.
5. Repeat Step 2 - 4 to add another new user.
6. Click **Create User**.

**Hint:** To set the LDAP settings, you can go to [General Settings](#).

### To create AD users

1. Select the **AD User** tab.
2. Enter the **AD USERNAME** and **NAME**.
3. Assign a **ROLE** to the new user.
4. Click the  icon and enter user's email and phone number.
5. Repeat Step 2 - 4 to add another new user.
6. Click **Create User**.

**Hint:** To set the Microsoft AD settings, you can go to [General Settings](#).

## Manage Existing Users

### To edit a user

1. In the left pane, select a user.
2. Modify the user profile.
3. Click **Update Profile**.

### To delete a user

1. In the left pane, hover over a user..
2. Click the  icon and select **Remove User**.

## Manage Roles & Privileges

Roles are collections of privileges to which users are assigned. By default, Navicat Monitor includes three predefined roles for you to assign to different users for restricting their access. It also allows you to create new roles with customized privileges settings. To configure roles and their privileges, go to **Configurations -> Roles & Privileges**.

Each predefined roles has different privileges:

Role	Privileges
Manager	Can access all pages with full control. The privileges of this role are non-editable.
DBA	Can access all pages, <b>except</b> the following features: <ul style="list-style-type: none"><li>- Activate Token Keys, and License / Unlicense instances</li><li>- Edit General Settings, Repository Database, Data Purge</li><li>- Retrieve all log files</li><li>- Edit Alert Notification Settings</li><li>- Add / Remove / Edit Users' Profiles, Roles &amp; Privileges</li></ul>
Operator	Can access all pages, <b>except</b> the following features: <ul style="list-style-type: none"><li>- End Process in Query Analyzer</li><li>- All configuration changes</li></ul>

### Set IP Address Restrictions

As a manager, you can restrict login access at the role-level to prevent users from logging in to Navicat Monitor from any unauthorized locations. If IP address restrictions are defined for a role, the restrictions impacts all users belong to that role. To set a range of IP addresses or a single IP address to restrict for a role:

1. In the left pane, select a role.
2. In the **IP Address Restrictions** section, click **+ Add Range**.
3. Choose the **TYPE** of the IP address: IPv4 / IPv6.

4. Enter the **SUBNET**.
5. Click **Save**.

### Create New Roles

You can also create new roles to suit the access control needs of users. Based on their needs, you can create customized roles which can be assigned to the desired users to empower them to perform tasks within the specified boundaries.

1. In the left pane, click **+ New Customized Role**.
2. Enter the **ROLE NAME**.
3. In the **IP Address Restrictions** section, click **+ Add Range** if you want to restrict the access of the new role from an IP Address range.
4. In the **Privileges** section, turn on the privileges that you want to grant to the role.
5. Click **Save**.

### Manage Existing Roles

#### To edit a role

1. In the left pane, select a role.
2. Modify the role settings: Role Name (only for customized roles), IP Address Restrictions settings or Privileges.
3. Click **Save**.

#### To duplicate a role

1. In the left pane, hover over a role.
2. Click the  icon and select **Duplicate**.
3. The newly created role is named **role\_name Copy**.

#### To delete a customized role

1. In the left pane, hover over a role.
2. Click the  icon and select **Delete**.

# Instances & Groups

## Manage Instances & Groups

Navicat Monitor can monitor multiple servers. You can create instances, categorize your instances into groups, and assign members. To configure instances and groups, go to **Configurations -> All Instances**.

To create a new instance to monitor your server, click **+ New Instance** and select the server type. Then, enter the appropriate information in the New Instance window. See [Create Instances](#) for details.

### Manage Instances

#### To edit an instance

1. Select an instance.
2. Click **Edit Instance**.
3. Modify the instance settings.
4. Click **Edit**.

**Hint:** To change the group of instances, simply drag-and-drop selected instances from a group to another.

#### To suspend monitoring an instance

1. Select an instance.
2. Click **More Action** and select **Pause Monitoring**.

#### To change the group of an instance

1. Drag and drop an instance into a group in the left pane.

#### To delete an instance

1. Select an instance you want to delete.
2. Click **More Action** and select **Delete Instance**.

**Hint:** Deleting multiple instances is supported.

### Manage Groups & Members

Groups allow you to organize your instances into collections. Each group is shown as a tab label in the Overview page for filtering the instances quickly. You can also assign users to specific groups as members. If alert notification has configured, Navicat Monitor will send notifications to all members in the group at once when a alert is raised.

All groups are displayed on the left pane and the members of the selected group are displayed on the right pane.

### To create a new group

1. Click **+ New Group**.
2. Enter the name of the new group.
3. Click **New**.

### To rename a group

1. In the left pane, hover over a group.
2. Click the  icon and select **Rename Group**.
3. Enter a new group name.
4. Click **Rename**.

### To add members to a group

1. In the left pane, hover over a group.
2. Click the  icon and select **Add Members to Group**.
3. Enter the name or username of users.
4. Click **Add to Group**.

### To remove a member from a group

1. In the left pane, hover over a group.
2. Click the  icon and select **Add Members to Group**.
3. Click the  icon next to the member that you want to remove and select **Remove from Group**.

### To delete a group

1. In the left pane, hover over a group.
2. Click the  icon and select **Delete**.

## Set Maintenance Windows

If you have to do maintenance work on your servers regularly, you may want to suspend monitoring and stop receiving alerts from Navicat Monitor during maintenance. Navicat Monitor provides the ability for you to set maintenance window time periods to disable monitoring selected instances. During that period, no alerts are raised and no notifications are sent out. To set the maintenance windows of instances, go to **Configurations -> All Instances**.

**Note:** You can also suspend monitoring on an individual instance manually. See [To suspend monitoring an instance](#).

### To set maintenance window

1. Find the relevant instance.
2. Click the **Set Maintenance Window** button in the **Maintenance Window** column.
3. Enter / select the date and time that you want the maintenance window to start, its duration and recurrence pattern.

**Set Maintenance Window** ✕

Start Date & Time

Duration

Hours  Minutes

Recurrence

None  Daily  Weekly  Monthly

Day  of every  Months

The   of every  month(s)

4. Click **Save**.

**Hint:** Click **More Action** and select **Set Maintenance Window** to set maintenance window for all selected instances.

### To edit the maintenance window

1. Find the relevant instance.
2. Click the **Edit** button in the **Maintenance Window** column.
3. Modify the time period.
4. Click **Save**.

### To delete the maintenance window

1. Find the relevant instance.
2. Click the **Delete** button in the **Maintenance Window** column.

**Hint:** Click **More Action** and select **Delete Maintenance Window** to delete maintenance window for all selected instances.

# Alerts

## Adjust Alert Policy

Alert is triggered when a monitored metric value crosses a specified threshold for a certain duration. You can enable or disable alerts and change their thresholds and inherit settings. To configure the alert policy, go to **Configurations** -> **Alert Policy**.

The Alert Type table displays all available alerts and their details. There are three types of alerts: System, Security and Performance.

<input type="checkbox"/> ALERT TYPE	INHERIT FROM	ENABLED	THRESHOLD	NOTIFICATION & RECIPIENT
<input type="checkbox"/> SYSTEM ALERTS				
<input type="checkbox"/> CPU Usage	Parent	✓	> 90 % > 70 % 5m	Email, SNMP, SMS, Slack All Users
<input type="checkbox"/> Maximum allowed packet	Parent	✓	< 32 0m	Email, SNMP, SMS, Slack All Users
<input type="checkbox"/> Memory usage	This level	✓	> 90 % > 70 % 5m	Email, SNMP, SMS, Slack All Users
<input type="checkbox"/> MySQL replication availability	Parent	✗	Critical 0m	Email, SNMP, SMS, Slack All Users
<input type="checkbox"/> MySQL server availability	Parent	✓	Critical 0m	Email, SNMP, SMS, Slack All Users
<input type="checkbox"/> MySQL server restart	This level	✓	Warning 0m	Email, Slack All Users
<input type="checkbox"/> Swap space usage	Parent	✓	> 90 % > 70 % 5m	Email, SNMP, SMS, Slack All Users

## Change Inherit Settings

By default, when you open the Alert Policy page, you are at the All Instances level. You can select a level on the left pane to view its alert policy settings. Those alerts that have been customized at the selected level are marked as **This level** in the **INHERIT FROM** column.

1. In the left pane, select a level.
2. In the Alert Type table, check the box of an alert.
3. Click **Configure Alerts**.
4. Choose **INHERIT SETTINGS FROM:**

Parent	Inherit the Alert Settings and Notification Settings from its parent level.
Customize for this level and level below	Apply customized Alert Settings and Notification Settings for the selected level and all levels below it.

5. Click **Save**.

**Hint:** Changing inherit settings for multiple alerts is supported.

## Enable / Disable Alerts

When Navicat Monitor is first installed, all alerts are enabled by default to identify any potential problems with your instances.

1. In the left pane, select a level.
2. In the Alert Type table, check the box of an alert.
3. Click **Configure Alerts**.
4. Turn **Enable Alert** to ON or OFF.
5. Click **Save**.

**Hint:** Enabling or disabling multiple alerts is supported.

### Set Alert Thresholds

Navicat Monitor raises alerts when certain thresholds are reached. Each alert has its default thresholds. You can adjust the settings to suit your case.

1. In the left pane, select a level.
2. In the Alert Type table, check the box of an alert.
3. Click **Configure Alerts**.
4. In the **Alert Settings** section, configure the following information:

RAISE THIS ALERT WHEN:	Set the threshold that triggers the alert.
Critical	If the monitored value crosses the defined value, Navicat Monitor will raise a Critical alert.
Warning	If the monitored value crosses the defined value, Navicat Monitor will raise a Warning alert.
for longer than	Set the duration that the monitored value crosses the defined value.

5. Click **Save**.

### Set Notification Settings

Navicat Monitor can send notifications to recipients each time an alert is triggered. You can set who will receive the notifications when an alert is triggered.

1. In the left pane, select a level.
2. In the Alert Type table, check the box of an alert.
3. Click **Configure Alerts**.
4. In the **Notification Settings** section, configure the following information:

SEND NOTIFICATION	Select the alert statuses (raised, ended) you want to send
-------------------	--

WHEN:	notifications.
VIA:	Select the methods (Email, SMS, SNMP, Slack) you want to send notifications.
RECIPIENT (EMAIL & SMS):	Select users and/or specific email addresses you want to notify.

5. Click **Save**.

**Note:** Notification is generated when the alert is "Enabled" and [the channels](#) to receive notifications must be configured.

**Hint:** Changing notification settings for multiple alerts is supported.

### Edit Manager Note

Managers and users who have permission assigned to their roles can create manager notes to help other users investigate alerts. It will show in the [Alert Details](#) page when the alert is triggered. With manager notes, users can understand the status of an alert, or help resolve problems identified by the alert.

1. In the left pane, select a level.
2. In the Alert Type table, check the box of an alert.
3. Click **Configure Alerts**.
4. Enter a note for that alert in the **MANAGER NOTE:** text box.
5. Click **Save**.

## Set Up Notifications

Navicat Monitor provides 4 channels (emails, SNMP traps, Slack notification and SMS messages) to send notifications whenever an alert is raised in your monitoring. To configure the alert notifications, go to **Configurations** -> **Notifications**.

### Email Notifications

1. In the **Email** section, enable **Alert raised**.
2. Configure the following information:

SMTP SERVER	Enter your Simple Mail Transfer Protocol (SMTP) server for outgoing messages.
PORT	Enter the port number you connect to your outgoing email (SMTP) server.
Require a secure (TLS) connection	Enable this option if your SMTP server requires a secure encrypted connection.
Mail server requires a	Enable this option if your SMTP server requires authorization to send

username and password	email. Enter <b>ACCOUNT USERNAME</b> and <b>PASSWORD</b> .
SEND FROM EMAIL ADDRESS	Enter an email address that used in the "From" field for all notification emails sent by Navicat Monitor.
SEND TEST EMAIL TO THIS EMAIL ADDRESS / Send Test Email	Enter an email address to send a test email for checking your configuration.

3. Click **Save**.

### SNMP Notifications

1. In the **SNMP v2c** section, enable **Alert raised**.
2. Configure the following information:

SNMP TARGET ADDRESS	Enter the IP address of your server which receive the SNMP traps.
SNMP TARGET PORT	Enter the Port number of your server which receive the SNMP traps.
SNMP COMMUNITY STRING	Enter the SNMP community string (acts as a password) that is assigned on your server for authentication.
Download MIB file	Download the MIB file provided by Navicat Monitor and load it into your server.
Send Test Trap	Send a test trap to the target and port you specified.

3. Click **Save**.

### Slack Notifications

1. In the **Slack notification** section, enable **Alert raised**.
2. Configure the following information:

SLACK WEBHOOK	Enter the incoming Webhook URL copied from Slack.
SLACK CHANNEL	Enter the name of the channel that want to send message to.
Send Test Message	Send a test message to the channel you specified.

3. Click **Save**.

### SMS Notifications

1. In the **SMS** section, enable **Alert raised**.
2. Configure the following information:

SERVICE PROVIDER	Select the SMS service provider based on your requirement: Clickatell, Twilio or Others.
API KEY	[Clickatell] Enter the unique API Key of your Clickatell account.
ACCOUNT SID	[Twilio] Enter the unique Account SID of your Twilio account.

AUTH TOKEN	[Twilio] Enter the unique Auth Token of your Twilio account.
SEND SMS FROM	[Twilio] Enter the sender's Twilio phone number or messaging service SID.
HTTP API URL	[Others] Enter the URL of the HTTP-API for sending SMS messages.
Post / Get	[Others] Choose to send SMS messages using a HTTP POST or HTTP GET request.
MESSAGE KEY	[Others] Enter the parameter name of the text of the SMS message.
RECIPIENT MOBILE NO. KEY	[Others] Enter the parameter name of recipients' mobile number.
OTHER KEY(S)	[Others] Enter the other parameter names required for sending messages through your SMS provider, e.g. username, password.
VALUE	[Others] Enter the value of the parameter you specified.
SEND TEST SMS TO THIS PHONE NUMBER / Send Test SMS	Select a country and enter a phone number to send a test SMS message for checking your configuration.

3. Click **Save**.

## Data Purging

The repository database stores all data collected by Navicat Monitor during monitoring process. It might consume large amounts of your hard disk space. To prevent the database from growing too large or use all your hard disk space, you can set a regular automatic data purge. To configure the data purging settings, go to **Configurations -> Data Purging**.

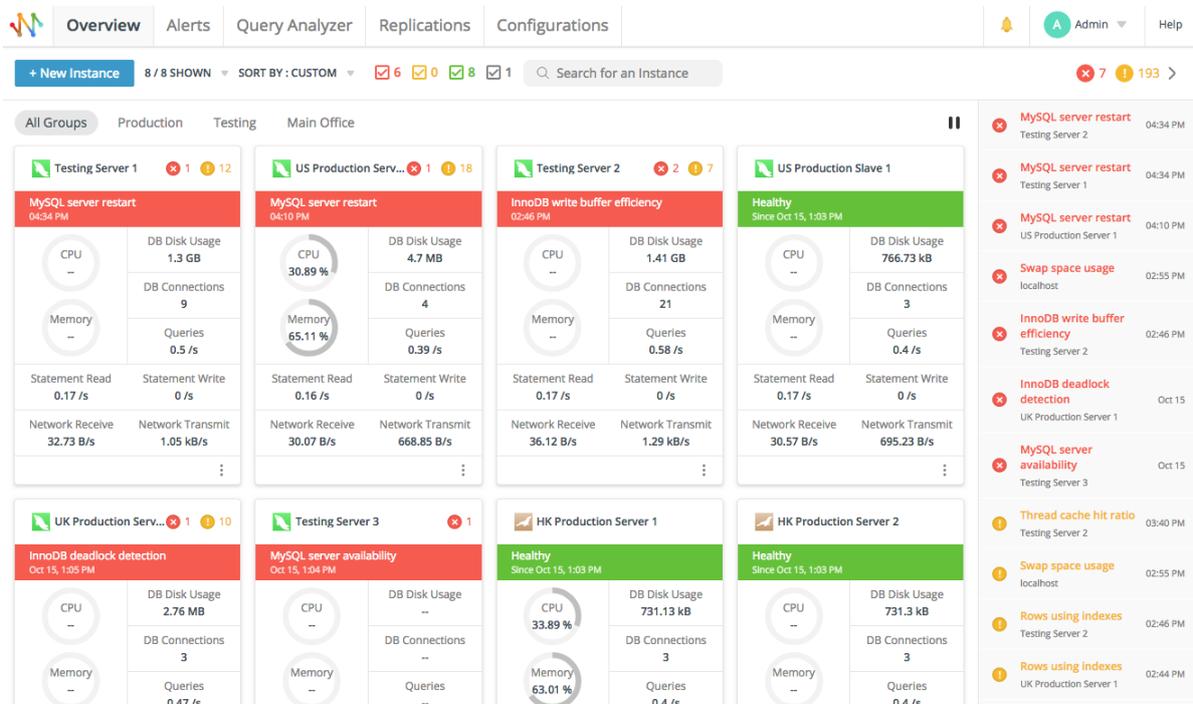
Data is stored in two categories: alert and performance data. Alert Data is displayed on various sections of Overview, Alert History and Alert Details pages and Performance Data is displayed on various sections of Overview, Instance Details and Chart pages.

You can choose how long to keep data in each categories. 'Do Not Purge' is set as default. It means data will be stored indefinitely in the Repository Database. To change this setting, select a time option from the **PURGE DATA OLDER THAN** drop-down menu and click **Save**.

# Chapter 4 - Overview

## Overview Dashboard

The **Overview** dashboard page shows all instances that are monitored by Navicat Monitor. You can get a high-level summary information and the healthy status of your instances, identify instances which require critical attention.

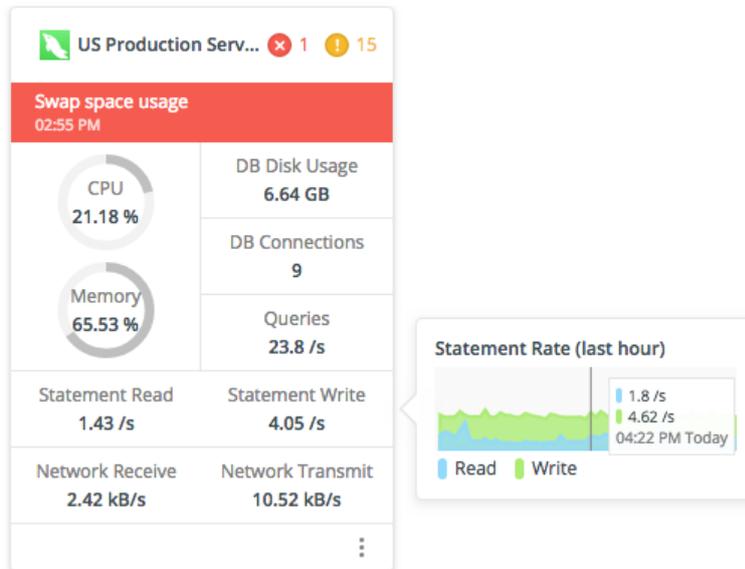


### Instance Cards

The instance cards let you identify the server status and system resource usage. To create a new instance to monitor your server, click **+ New Instance** and select the server type. Then, enter the appropriate information in the New Instance window. See [Create Instances](#) for details.

By default, instance cards show all available system resource usages. Click **X / Y Show** and uncheck the metrics that you are not interested in. You can change the display style that works best for you by choosing **Compact View** or **Comfortable View**. Comfortable View shows the selected metrics on the cards, while Compact View hides all metric information.

Hover over a metric in a card to bring up a small chart. Move the mouse pointer over on the chart to show the time and the values at that point.



You can click on an instance to view its [details and metrics](#).

### Pause monitoring an instance

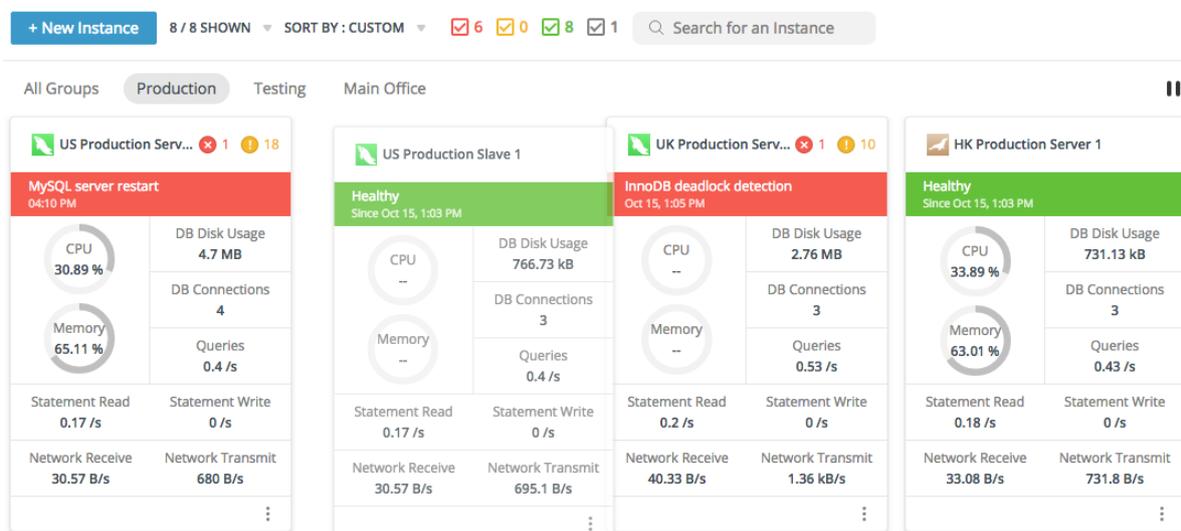
You may want to pause monitoring a specific instance temporarily. Click the ⋮ icon and select **Pause Monitoring**. Navicat Monitor stops collecting information from the server until the monitoring resumes. To start monitoring again, select **Resume Monitoring** from ⋮.

### Stop refreshing metrics

Navicat Monitor refreshes the metrics on the dashboard every 60 seconds. To stop or start refreshing the metrics, click the ⏸ or ▶ icon. Server data collection does not stop during the stop period.

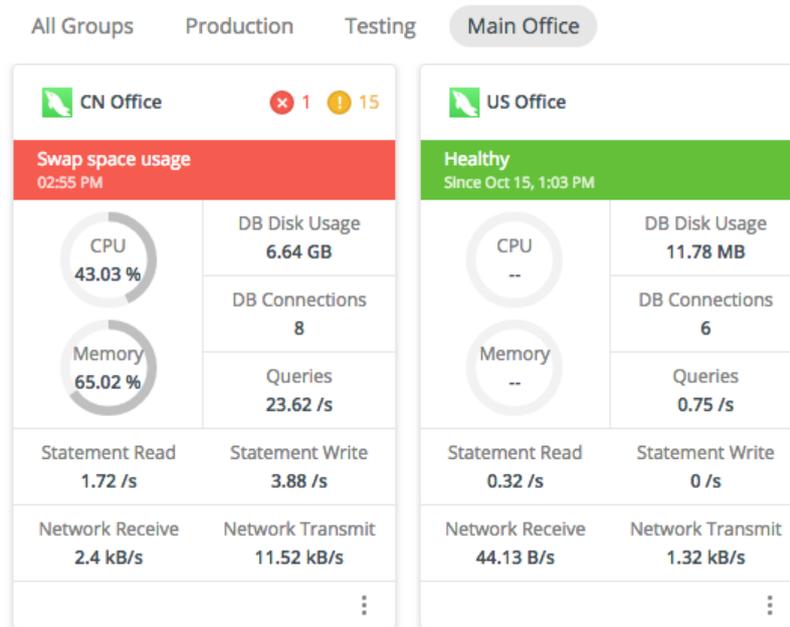
### Change the order of instances

Click **SORT BY** and select a sorting option. If you choose **Alert Severity**, the instance cards will be sorted by the severity level from critical to low. To customize the position, click and hold the connection icon on an instance card and then drag-and-drop the card to the desired position. Navicat Monitor automatically remembers your custom order.



## Filter instances

When creating a new instance, you are allowed to assign it to an availability group. Click on a group name label to shows all instances that belong to it.



You can also filter instances by their health states. The colored tags show the total number of servers having critical alerts (red), servers having warnings (orange), healthy servers (green), and servers that have paused or stopped monitoring (grey). Click on a tag to filter the instances by states in the selected group.



## Search instances

If you are monitoring many instances, you can find the instances you want easily by the search feature. Enter a search string in the **Search for an Instance** text box. Instance cards will be filtered by the search string immediately.

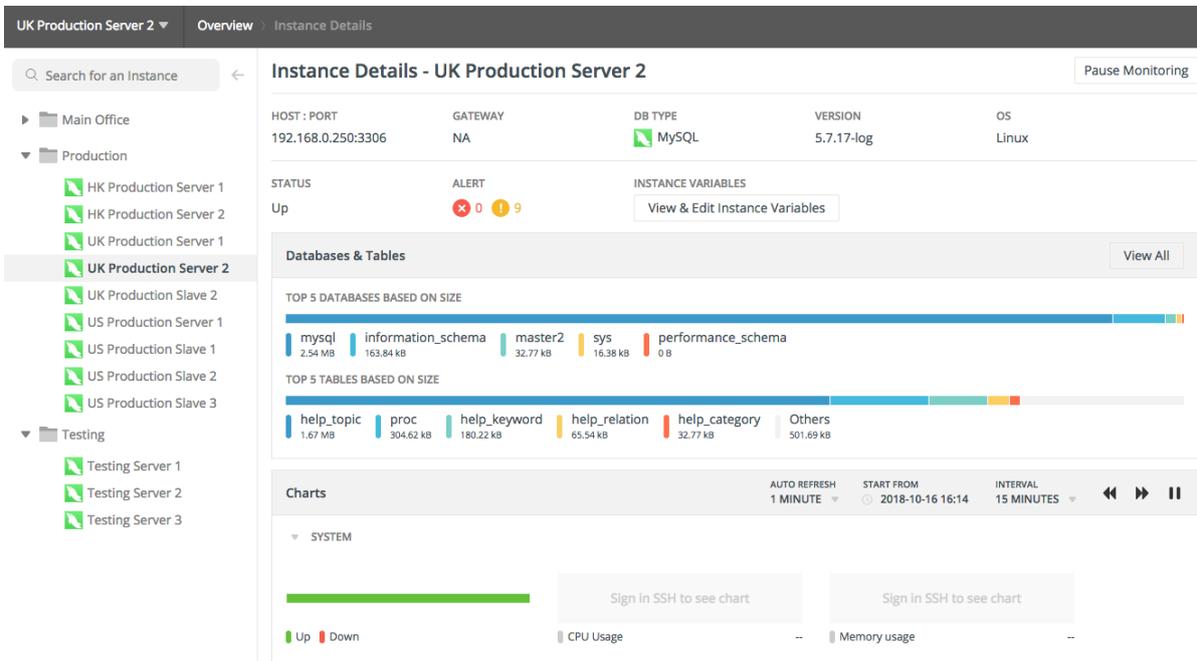
## Latest Alerts

The right pane displays the recent alerts raised in Navicat Monitor. It can be hidden by clicking the > icon. Click on an individual alert, you will be redirected to its details page, or click **View All History** to open the [Alerts](#) page.

## Instance Details

### View Instance Details

In the Overview page, click on an instance card to open its **Instance Details** page. It shows the server parameters and metrics visually, gives you a quick view of the server load and performance. You can pause and resume monitoring the instance here by using the **Pause Monitoring** and **Resume Monitoring** buttons. Navicat Monitor stops collecting information from the server until the monitoring resumes.



All monitored instances are shown in the left pane. Select an instance to view information related to it.

## Information on Instance Details Page

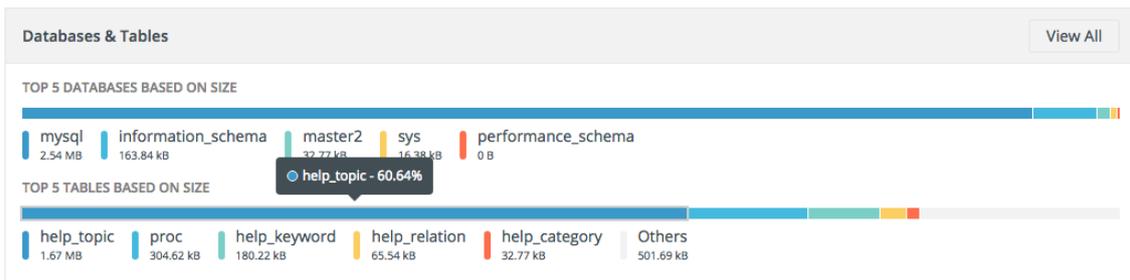
### Summary

It displays host information about the server, server properties, alerts and status. To view or edit the [instance variables](#), click **View & Edit Instance Variables**. If an alert is raised, click on it to open the [alert](#) page.

### Databases & Tables

It displays the top five databases or tables by size, and a sixth category called "Others" that groups the remaining databases or tables. It is a quick and easy way to see which databases and tables on your server are the largest.

You can hover over each segment to show the size percentage. To view [size information](#) of all databases and tables in the instance, click **View All**.



### Charts

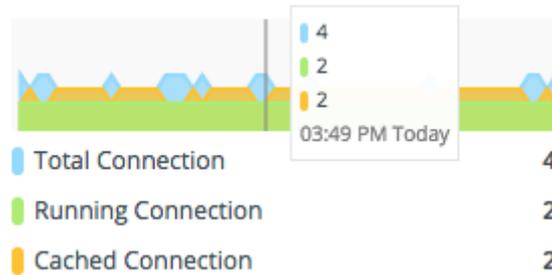
Navicat Monitor displays server performance metrics in the form of visualizations that are represented as small charts. The charts track and refresh the data at the certain intervals, displays related metrics using different predefined colors and symbols. In the small charts, the axis scales and labels are not printed.

The time interval (X-axis) and refresh options are configurable, use the **AURO REFRESH** drop-down menu, the **START FROM** datetime picker, the time **INTERVAL** drop-down menu and the panning arrows.

AUTO REFRESH: 1 MINUTE ▼  
 START FROM: 2018-10-16 16:14  
 INTERVAL: 15 MINUTES ▼

⏪ ⏩ ⏸

You can move the mouse pointer a point on the chart to read the values. To view the details of an individual chart or more charts, click on a chart to open the [Chart](#) page.



## View & Edit Instance Variables

In the Instance Details page, click **View & Edit Instance Variables** to view or edit the server variables. The **Instance Variables** page displays the server variables, allows you to compare variables of multiple servers to determine why the performance of one server is not as well as the others in the same condition.

Select multiple instances on the left pane to compare their variables. The values are listed side-by-side, differences can be clear at a glance. Inapplicable variables are marked as *N/A*.

UK Production Server 2, US Production Server 1 ▾ Overview Instance Details Instance Variables

Search for an Instance ←

- Main Office
  - Production
    - HK Production Server 1
    - HK Production Server 2
    - UK Production Server 1
    - UK Production Server 2
    - UK Production Slave 2
    - US Production Server 1
    - US Production Slave 1
    - US Production Slave 2
    - US Production Slave 3
  - Testing
    - Testing Server 1
    - Testing Server 2
    - Testing Server 3

### Instance Variables

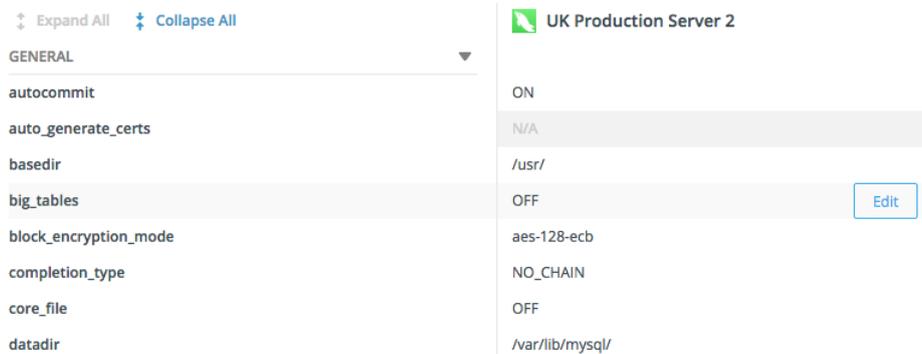
Expand All Collapse All

GENERAL

MEMORY

Variable	UK Production Server 2	US Production Server 1
bulk_insert_buffer_size	8388608	8388608
host_cache_size	279	N/A
join_buffer_size	262144	131072
large_pages	OFF	OFF
large_page_size	0	0
parser_max_mem_size	18446744073709551615	N/A
preload_buffer_size	32768	32768
query_alloc_block_size	8192	8192
query_cache_limit	1048576	1048576
query_cache_min_res_unit	4096	4096
query_cache_size	1048576	33554432
query_cache_type	OFF	ON
query_cache_wlock_invalidate	OFF	OFF
query_prealloc_size	8192	8192
range_alloc_block_size	4096	4096
read_buffer_size	131072	131072
read_rnd_buffer_size	262144	262144
sort_buffer_size	262144	2097144
stored_program_cache	256	N/A

To edit a variable, hover over a value and click **Edit**.



## View Database & Table Size

In the Instance Details page, click **View All** under the Databases & Tables section. The **Databases & Tables** page displays a list of databases and tables with their size in the server. The list is ordered by size. Click an instance in the left pane to jump to its Databases & Tables page.

**Databases & Tables**

DATABASE		SIZE
 mysql		2.54 MB
 information_schema		163.84 kB
 master2		32.77 kB
 sys		16.38 kB
 performance_schema		0 B

TABLE	DATABASE	SIZE
 help_topic	mysql	1.67 MB
 proc	mysql	304.62 kB
 help_keyword	mysql	180.22 kB
 help_relation	mysql	65.54 kB
 help_category	mysql	32.77 kB
 PLUGINS	information_schema	16.38 kB
 PARAMETERS	information_schema	16.38 kB

## Charts

### About Charts

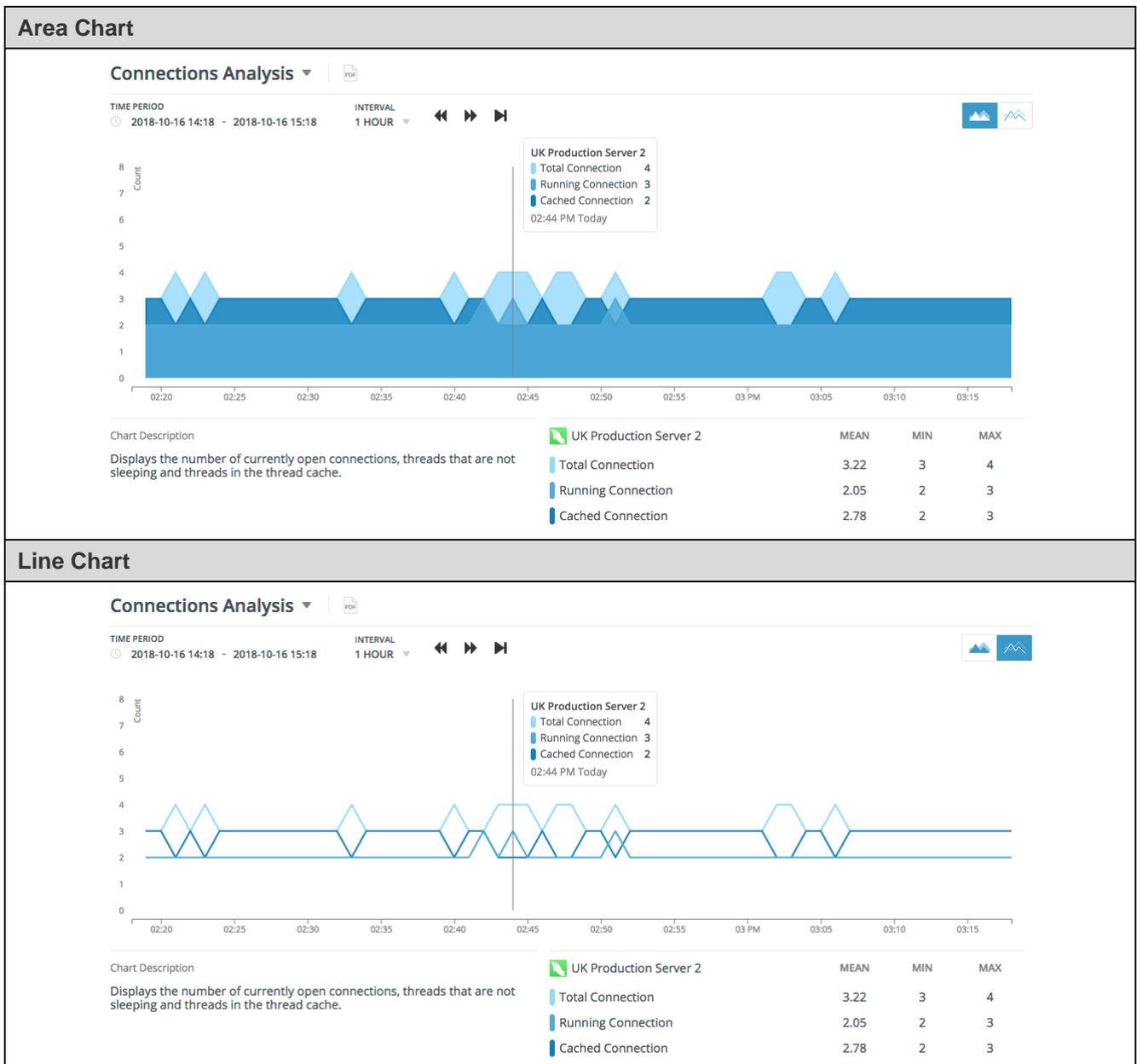
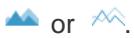
Each small chart in the Instance Details page can be opened as a large chart. The **Chart** page shows metrics against a specified sample interval and the detailed chart information. It displays related metrics using different predefined colors and symbols. When the instance was stopped monitoring in a period, no metrics are available for that period in the chart.

Navicat Monitor provides over 40 types of charts. You can change the chart type by clicking the chart title.

## On-disk Temporary Tables Rate PDF

System	>	Tables
Connection	>	Tables In Cache (%)
Query	>	Table Open Rate
Row	>	Temporary Tables Rate
Table	>	<b>On-disk Temporary Tables Rate</b>
Buffer, Cache and Sort	>	On-disk Temporary Tables (%)
Lock	>	

Navicat Monitor supports 2 time series charts: Area Chart and Line Chart. To switch between line and area charts, click

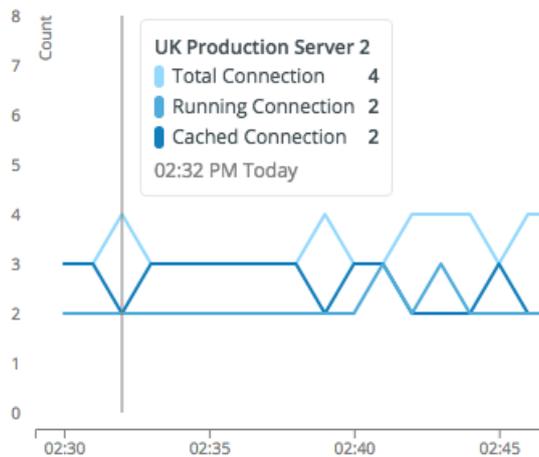


The time selector is for selecting a time span and an interval (X-axis) to display within the chart. It contains a datetime picker, an interval drop-down menu and panning arrows.



**Hint:** Zoom in/out of the chart using the mouse wheel to customize the time interval. Click and drag the chart left or right to change the time span.

Move the mouse pointer over a point on the chart to show the time and the legend with metrics at that point. Calculated statistics (Mean, Min and Max) for the selected instance within the sample time are shown at the bottom.



## Compare Metrics

You can display metrics of multiple instances on the same chart simultaneously to compare and analysis data. Each line / area on the chart represents the performance of a selected instance. Select the instances in the left pane to add their metrics to the chart. Remove the metrics from the chart in the same way.

Search for an Instance

- Main Office
- Production
  - HK Production Server 1
  - HK Production S...
  - UK Production Server 1
  - UK Production Server 2
  - UK Production Slave 2
  - US Production S...
  - US Production Slave 1
  - US Production Slave 2
  - US Production Slave 3
- Testing
  - Testing Server 1
  - Testing Server 2
  - Testing Server 3

### Connection Attempts Analysis

TIME PERIOD: 2018-10-16 14:21 - 2018-10-16 15:21 | INTERVAL: 1 HOUR

Chart Description: Displays the number of connection attempts to the MySQL server, failed attempts and connections that were aborted because the client died without closing the connection. Excess aborted\_connects indicate that the client does not have enough privileges, or the client uses an incorrect password, or someone is trying to hack into your server.

Instance	MEAN	MIN	MAX
US Production Server 1			
Total Connection Attempts Rate	0.23 /s	0.13 /s	0.62 /s
Failed Connection Attempts Rate	0 /s	0 /s	0 /s
Client-aborted Connection Attempts Rate	0 /s	0 /s	0 /s
HK Production Server 2			
Total Connection Attempts Rate	0.17 /s	0.13 /s	0.55 /s
Failed Connection Attempts Rate	0 /s	0 /s	0 /s
Client-aborted Connection Attempts Rate	0 /s	0 /s	0 /s

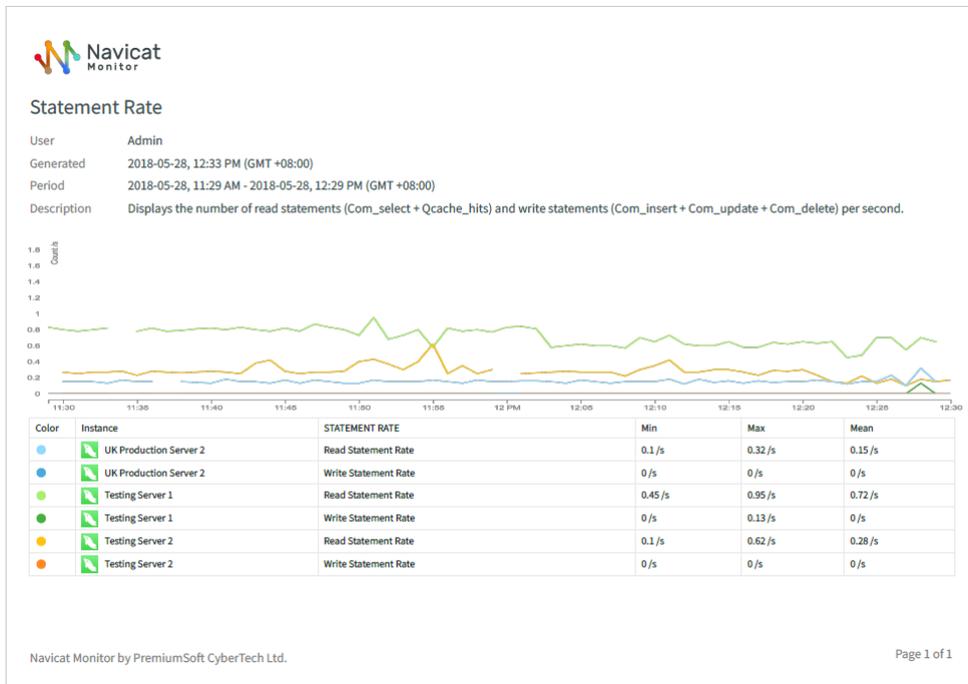
## Export Charts

All charts can be exported as PDF files. To export the current chart, click .

## A Single Chart



## A Compared Chart



# Chapter 5 - Alerts

## About Alerts

Navicat Monitor raises alerts when it detects problems across your servers. There is two types of alerts: **Warning** (orange) and **Critical** (red). Warning alert does not affect the performance of the server, but may indicate a problem and require investigation. Critical alert indicates a serious issue which is affecting or will affect the performance of the server. Such issues require immediate attention.

When an alert is raised, it displays on the Alerts History page and the Overview dashboard. Notifications will be sent to the assigned group members or specific people.

You can customize thresholds to trigger alerts for specific instances and groups, and set sending alert notifications to whom. See [Alert Policy](#) and [Alert Notification](#) for details.

## Alert History

### View Alert History

In the **Alert History** page, you can browse through the alert table, open a particular alert, assign it to a user, or select multiple alerts at a time.

The alert table updates automatically to check for new alerts every 60 seconds. It displays the last 10 alerts based on the time when the alerts were triggered. Alerts are sorted by the time they were raised (Start Time). Click a column title to sort by that column.

The screenshot shows the 'Alert History' interface. At the top, there are filters for 'ALL' and 'Advanced Filter', and a 'SHOW / HIDE COLUMNS' button. Below that, it indicates 'Total: 269 Alerts'. The main table has columns: ID, TYPE, INSTANCE, SEVERITY, STATUS, START TIME, END TIME, and ASSIGNEE. The table lists 10 alerts, with the most recent at the top. Alerts 1-6 are 'Warning' and 'Open', while alerts 7-10 are 'Critical' and 'Closed'. Alert 10 is assigned to 'Tommy'.

ID	TYPE	INSTANCE	SEVERITY	STATUS	START TIME	END TIME	ASSIGNEE
10	Show database privilege	CN Office	Warning	Open	Oct 15, 1:05 PM	Not end yet	
9	Symbolic Link Support	CN Office	Warning	Open	Oct 15, 1:05 PM	Not end yet	Steven
8	Improve local security	CN Office	Warning	Open	Oct 15, 1:05 PM	Not end yet	
7	Prevent use of passwords employing the ...	CN Office	Warning	Open	Oct 15, 1:05 PM	Not end yet	
6	Maximum allowed packet	CN Office	Warning	Open	Oct 15, 1:05 PM	Not end yet	
5	Investigating slow running queries	CN Office	Warning	Open	Oct 15, 1:05 PM	Not end yet	Tommy
4	MySQL replication availability	UK Production S...	Critical	Closed	Oct 15, 1:04 PM	02:40 PM	
3	MySQL replication availability	US Production S...	Critical	Closed	Oct 15, 1:04 PM	02:40 PM	
2	MySQL replication availability	US Production S...	Critical	Closed	Oct 15, 1:04 PM	02:40 PM	
1	MySQL server availability	Testing Server 3	Critical	Open	Oct 15, 1:04 PM	Not end yet	

All monitored instances are shown in the left pane. Select a level to show only alerts related to it.

To change the number of alerts shown per page, click **X / PAGE** and select a predefined number. By default, all available columns in the table are shown. Click **SHOW / HIDE COLUMNS** and select the columns that you want to hide. Select **Restore Default** to restore the table to its default settings.

If you want to view the detailed information of an alert, click on an alert to redirect to its [details](#) page. It is automatically marked as read when you open it.

## Assign Alerts

1. Hover over the alert and click **Assign to**.

<input type="checkbox"/>	TYPE	ID	INSTANCE	SEVERITY	STATUS	START TIME	END TIME	ASSIGNEE
<input type="checkbox"/>	Show database privilege	10	CN Office	Warning	Open	Oct 15, 1:05 PM	Not end yet	
<input type="checkbox"/>	Symbolic Link Support	9	CN Office	Warning	Open	Oct 15, 1:05 PM	Not end yet	S Steven
<input type="checkbox"/>	Improve local security	8	CN Office	Warning	Open	Oct 15, 1:05 PM	Not end yet	<a href="#">Assign to...</a>
<input type="checkbox"/>	Prevent use of passwords employing the ...	7	CN Office	Warning	Open	Oct 15, 1:05 PM	Not end yet	

2. Select a user.
3. Click **Assign User**.

## Filter Alerts

By default, the Alert History table displays the "Open" alerts in all instances. You can filter the alerts by using the left instances pane, using the predefined filters, or creating your own filters.

**Note:** Applied filter is persisted when you select an instance or a group in the instances pane.

## Instances Pane

The Instances Pane controls the instances for which alerts are displayed. If you select a group in the left list, then the table only lists alerts relating to all instances in that group. And, the names of the instances are shown in the page heading.

The screenshot shows the 'Alert History' interface. On the left, there is an 'Instances Pane' with a search bar containing 'testing' and a list of instances under the 'Testing' group: 'Testing Server 1', 'Testing Server 2', and 'Testing Server 3'. The main area displays a table of alerts filtered by 'OPEN' status. The table has columns for TYPE, ID, INSTANCE, SEVERITY, and STATUS. The alerts listed are:

TYPE	ID	INSTANCE	SEVERITY	STATUS
MySQL server restart	263	Testing Server 2	Critical	Open
InnoDB write buffer efficiency	253	Testing Server 2	Critical	Open
Rows using indexes	254	Testing Server 2	Warning	Open
MyISAM cache in use	193	Testing Server 2	Warning	Open
Rows through full table scan	191	Testing Server 2	Warning	Open
Query cache hit ratio	190	Testing Server 2	Warning	Open
Remote access for root user	106	Testing Server 2	Warning	Open
Show database privilege	105	Testing Server 2	Warning	Open
Improve local security	104	Testing Server 2	Warning	Open
Maximum allowed packet	103	Testing Server 2	Warning	Open

## Predefined Filters

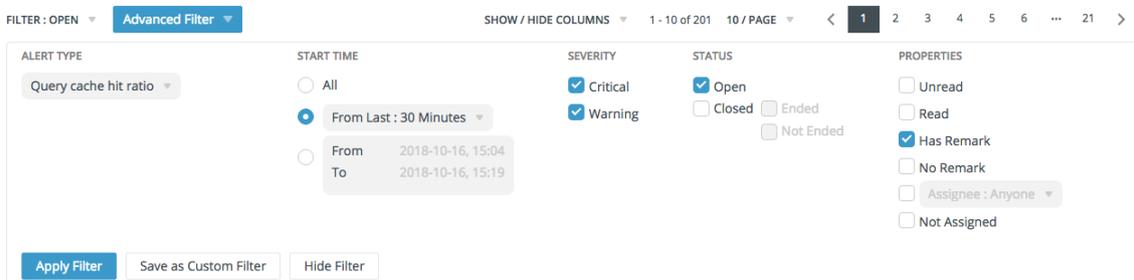
The **FILTER** drop-down menu contains several predefined filters for filtering alerts. For example, you can view opened critical or warning alerts, or all opened alerts.

Simply click on **FILTER** and select a filter from the drop-down menu.



## Advanced Filter

The Advanced Filter enables you to filter your alerts based on customized criteria. Click **Advanced Filter** to expand the Advanced Filter pane.



To collapse the Advanced Filter pane, click **Advanced Filter** again, or click **Hide Filter** at the bottom of the pane.

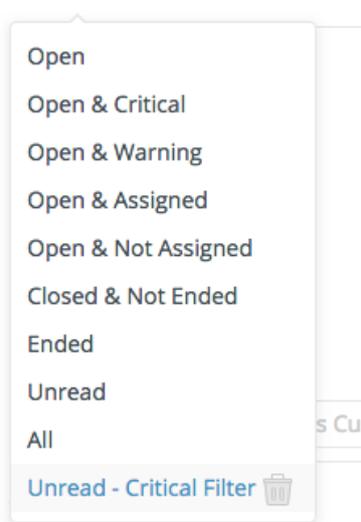
## Apply an advanced filter

1. In the Advanced Filter pane, choose any combination of filter options you want.
2. Click **Apply Filter**.

## Create a user-defined filter

1. After choosing the filter options in the Advanced Filter pane, click **Save as Custom Filter**.
2. Enter the filter name and click **Save**.
3. The custom filter is appeared in the **FILTER** drop-down menu.

FILTER : UNREAD - CRITICAL FILTER ▾



**Note:** Delete a custom filter by clicking . The Alert History table defaults back to Open.

## Alert Details

Click on an alert in the Overview page or the Alert History page to view its details page. In the **Alert Details** page, you can view the detailed information of a raised alert, mark it as read/unread, open/close it, assign it to a member, add a remark. When you open this page, the alert is automatically marked as "Read".

### Information on Alert Details Page

#### Summary

It displays the current status of the alert, and its raised time and ended time.

#### Alert Details

It displays the alert name, the explanation of this alert, and the advice from Navicat Monitor which helps you investigate and resolve the issue. Click **Add Remark** to write a remark for this alert.

#### Last Occurrences

It lists the latest 7 alerts of this type raised for the current instance. Click **View All** to view all occurrences.

#### Charts

Various charts are shown depends on the alert type. They display various performance counter values and process information captured around the time the alert was raised. Move the mouse pointer over a point on a chart to read the values.

### Assign Alerts

#### Assign an alert to a member

1. Click **Assign to**.

2. Select a user.
3. Click **Assign User**.

#### **Unassign a user**

1. In the **ASSIGNEE** column, click on the user avatar.
2. Select **Clear Assigned User**.

# Chapter 6 - Query Analyzer

## Start Query Analyzer

The **Query Analyzer** tool provides a graphical representation for the query logs, enables you to monitor and optimize query performance, visualize query activity statistics, analyze SQL statements, quickly identify and resolve long running queries. To start using Query Analyzer, select an instance you want to analyze in the left pane, and analysis starts immediately. After a while, analysis results are displayed:

The screenshot displays the Navicat Query Analyzer interface for the instance 'UK Production Slave 2'. The left sidebar shows a tree view of instances under 'Production' and 'Testing'. The main area is divided into several sections:

- Latest Deadlock Query - 02:54 PM Today**: Shows two queries. The first is a 'Successful Query' (DELETE FROM t WHERE i = 2) with transaction ID 17184801, active time 14s, and table 't'. The second is a 'Rollbacked Query' (DELETE FROM t WHERE i = 2) with transaction ID 17185253, active time 27s, and table 't'.
- Process List Total 4 Processes**: Lists processes with their IDs, command types, users, databases, and execution times. For example, process 3 is a 'Connect' by 'system user@ DB' taking 21375s.
- Query Analyzer**: Shows a donut chart and a table of the top 5 queries based on total time. The queries are: 'SHOW SLAVE STATUS' (1639 occurrences, 11.0556s total), 'SHOW GLOBAL VARIABLES' (1638 occurrences, 11.0489s total), and three instances of 'SELECT COUNT (\*) FROM `mysql`.`user` WHERE HOST=? AND SYS...' (each with 1638 occurrences and 11.0489s total).

At the bottom, there is a search bar for queries and a table showing query details with columns for query, count, query occurrence, time total, and time MA.

Navicat Monitor refreshes the metrics in the Query Analyzer every 60 seconds. To stop or start refreshing the metrics, click the **||** or **▶** icon. Server data collection does not stop during the stop period.

### Latest Deadlock Query

It shows the transaction information of the latest deadlock detected in the selected instance. You can click **View All** to [view all deadlocks](#).

### Process List

It displays the total number of running processes for the selected instance, and lists the last 5 processes including ID, command type, user, database and time information. You can click **View All** to [view all processes](#).

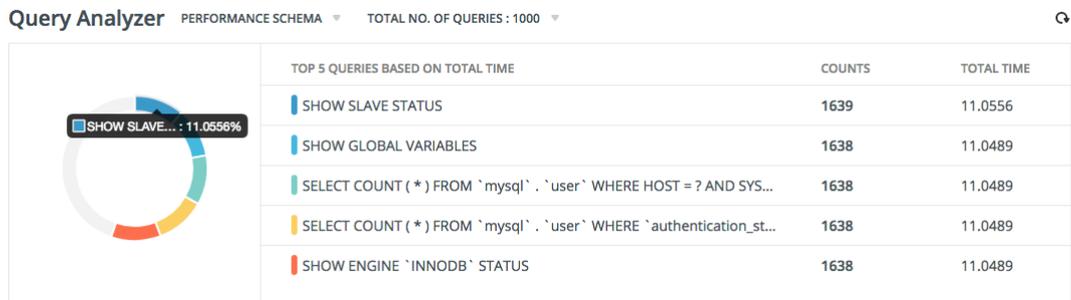
### Query Analyzer

Query Analyzer collects information about query statements by the following methods.

- Retrieve the General Query Log from the server and analyze the information.

- Retrieve the Slow Query Log from the server and analyze the information.
- Query the performance\_schema database and analyze specific performance information.

**Note:** Performance Schema is supported in MySQL Server 5.5.3 or later. Query statements are normalized and the maximum length is 1024 bytes. Similar queries with different literal values are combined. Quoted values and numbers are replaced by "?".



### Top 5 Queries

The top 5 most time-consuming queries are displayed with a graph, giving you an immediate place to observe the potential problems. You can click to refresh and update the top 5 queries list.

- TOP 5 QUERIES BASED ON TOTAL TIME - The query statement.
- COUNTS - The number of times that the query has been executed.
- TOTAL TIME - The cumulative execution time for all executions of the query.
- USER@HOST - The user who executed the query.

### Query Table

The query table provides the summary information for all of the queries executed. Occurrence statistics are calculated and the result is displayed. Hover over a query to show the full query statement and click **Copy Query** to copy it.

QUERY	COUNT	QUERY OCCURRENCE	TIME TOTAL	TIME MAX
SHOW SLAVE STATUS	1639		11.0556 0.306	0.0053
SHOW GLOBAL VARIABLES	1638		11.0489 3.0442	0.0074
SELECT COUNT ( * ) FROM `mysql` . `user` WHERE HOST = ? AND SYSTEM	1638		11.0489 0.1872	0.0003
SELECT COUNT ( * ) FROM `mysql` . `user` WHERE `authentication_string...	1638		11.0489 0.2223	0.0003

Click **Show / Hide Columns** and select the columns that you want to hide. Select **Restore Default** to restore the table to its default settings.

Queries can be filtered and sorted. Simply enter a search string in the **Search for a query** box to filter the table and click the column name to sort the table.

To change the number of queries per page, click **X / PAGE** and select a predefined number. To change the total number of queries in the table, click **TOTAL NO. OF QUERIES** and select a predefined number.

# View Deadlocks

The **Deadlock** page displays all deadlocks detected on the selected instance that Navicat Monitor has information about.

**Deadlock** REFRESH TIME : 5 SECONDS ▾ ||

🔍 Search for a deadlock 10 / PAGE ▾

02:54 PM Today

✔ Successful  
DELETE FROM t WHERE i = 2

TRANSACTION ID	17184801
TRANSACTION ACTIVE TIME	14
TABLES IN USE	1
TABLES LOCKED	1
ROW LOCKS	1
THREAD ID	4297
HOST	localhost
USER	root
DB	test
TABLE	t

✖ Rollbacked  
DELETE FROM t WHERE i = 2

TRANSACTION ID	17185253
TRANSACTION ACTIVE TIME	27
TABLES IN USE	1
TABLES LOCKED	1
ROW LOCKS	4
THREAD ID	4294
HOST	localhost
USER	root
DB	test
TABLE	t

02:48 PM Today

✔ Successful  
DELETE FROM t WHERE i = 1

TRANSACTION ID	17182395
TRANSACTION ACTIVE TIME	10
TABLES IN USE	1
TABLES LOCKED	1
ROW LOCKS	1
THREAD ID	4114
HOST	localhost

✖ Rollbacked  
DELETE FROM t WHERE i = 1

TRANSACTION ID	17182396
TRANSACTION ACTIVE TIME	21
TABLES IN USE	1
TABLES LOCKED	1
ROW LOCKS	3
THREAD ID	4128
HOST	localhost

All monitored instances are shown in the left pane. Select an instance to show its deadlocks.

By default, the deadlock list refreshes every 5 seconds automatically. If you want to change the auto-refreshing time, use the **REFRESH TIME** drop-down menu. To pause the auto refresh, click **||**.

REFRESH TIME : 5 SECONDS ▾ ||

Deadlocks can be filtered. Simply enter a search string in the **Search for a deadlock** box to filter the list.

To change the number of deadlocks shown per page, click **X / PAGE** and select a predefined number.

# View Process List

The **Process List** page displays all processes currently running on the selected instance. You can check which queries are currently being executed. The process list provides the following detailed information.

- ID - The thread ID.
- User@Host - The user who issued the statement.
- DB - The database that the user is currently used.

- **Command** - The type of command that the user issued.
- **Time** - The time in seconds that the thread has been in its current state.
- **State** - The state that indicates what the thread is doing.
- **Info** - The statement that the user issued.

**Process List** REFRESH TIME : 5 SECONDS ▾ ||

Search for a thread 10 / PAGE ▾

ID ▾	User@Host ▾	DB ▾	Command ▾	Time ▾	State ▾	Info ▾	Action
1098	slave_user@192.168.0.99:49992		Binlog Dump	3555	Has sent all binl...		✕
1501	slave_user@192.168.0.98:46058		Binlog Dump	445	Has sent all binl...		✕
1583	unauthenticated user@192.168.1....		Connect		login		✕
1584	unauthenticated user@192.168.1....		Connect		login		✕
1590	root@192.168.1.180:60186		Query	0	-	SHOW FULL PR...	✕

All monitored instances are shown in the left pane. Select an instance to show its process list.

By default, the process list refreshes every 5 seconds automatically. If you want to change the auto-refreshing time, use the **REFRESH TIME** drop-down menu. To pause the auto refresh, click **||**.

REFRESH TIME : 5 SECONDS ▾ ||

The list of threads can be filtered and sorted. Simply enter a search string in the **Search for a thread** box to filter the list and click the column name to sort the list.

To change the number of threads shown per page, click **X / PAGE** and select a predefined number.

### End Process

You may find slow or long running queries use lots of available CPU and memory resources and may block other valid queries. To stop a thread instantly, click **✕** in the **Action** column, and then click **End Process** in the pop-up dialog.

# Chapter 7 - Replications

## Monitored Replications

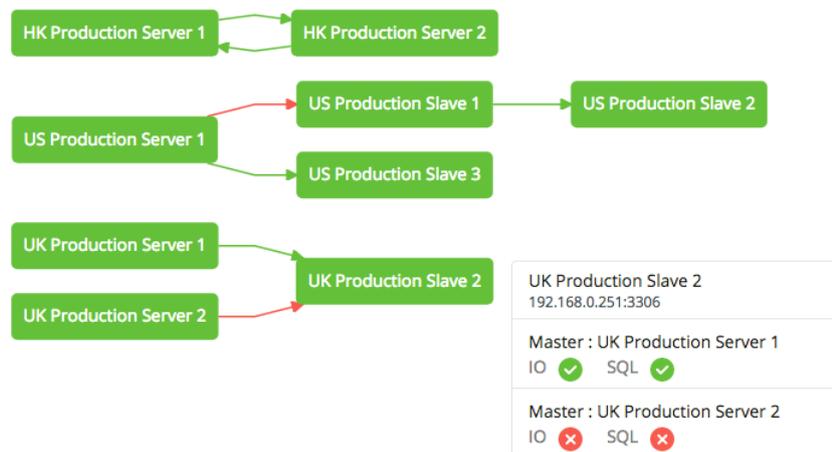
The **Monitored Replications** page displays all information related to monitored replication. You can monitor the health of replication, diagnose replication issues and ensure the replication works seamlessly. Navicat Monitor provides detailed information on status, configuration and performance of slaves.

Navicat Monitor supports 2 replication views: Diagram View and List View. To switch the view, click  or .

If you want to view the detailed information of a replication, click on a slave to redirect to its [details](#) page.

### Diagram View

This view visually displays the hierarchy and relationship of master servers and their slaves. Hover over a slave to show its I/O thread and SQL thread statuses.



The instance blocks and the arrows are color-coded to represent the different states of the replication.

- Green block indicates that the server is up (stable).
- Red block indicates that the server is down.
- Green arrow indicates that the replication is up and the slave is up-to-date with its master.
- Red arrow indicates that the replication is down (disconnected) and the slave may be not up-to-date with its master.

**Hint:** Zoom in/out of the graph using the mouse wheel. Click and drag the graph to move it.

### List View

This view shows all registered master servers and slave servers and illustrates the replication details in a table. It groups all master servers with their slaves. Common status information is displayed in columns. Click the arrow to the left of each master name to expand or collapse its slaves status and configuration.

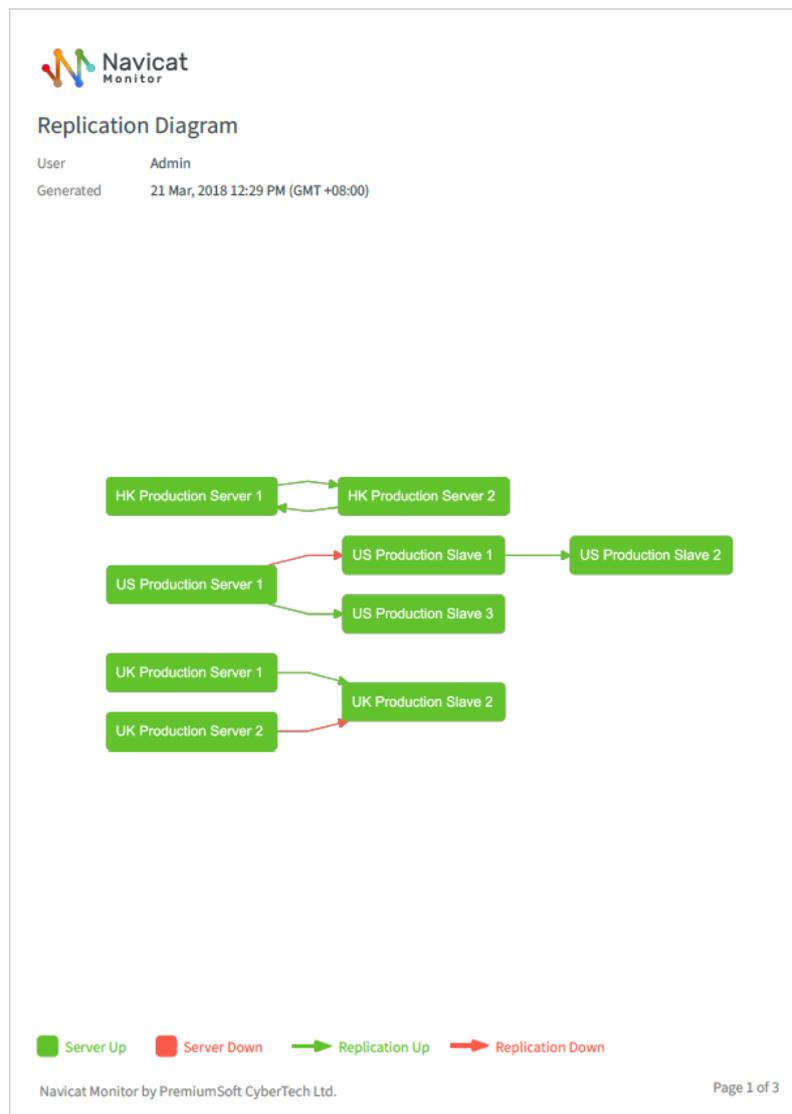
Master	Slave Name	Host : Port	IO	SQL	Master Log File	Position	Slave IO State
▼	HK Production Server 1	192.168.0.246:3306					
	▶	HK Production Server 2	192.168.1.247:3306	✓	✓	mysql-bin.000223	106 Waiting for master to send event
▶	HK Production Server 2	192.168.1.247:3306					
▼	US Production Server 1	192.168.0.162:3306					
	▶	US Production Slave 1	192.168.0.98:3306	✗	✗	mysql-bin.000454	106 Waiting for master to send event
	▶	US Production Slave 3	192.168.0.99:3306	✓	✓	mysql-bin.000454	106 Waiting for master to send event
▼	US Production Slave 1	192.168.0.98:3306					
	▶	US Production Slave 2	192.168.1.232:3306	✓	✓	mysql-bin.000177	106 Waiting for master to send event
▶	UK Production Server 1	192.168.0.249:3306					
▼	UK Production Server 2	192.168.0.250:3306					
	▶	UK Production Slave 2	192.168.0.251:3306	✗	✗	mysql-bin.000047	1277 Waiting for master to send event

The color bar represents different states of the replication slaves: stable (green), disconnected (red). Hover over it to show the time.

## Export Replications

You can export the replication diagram and list as a PDF file. To export the replication, click .

### Replication Diagram



## Replication List



**Replication List**

User: Admin  
Generated: 21 Mar, 2018 12:29 PM (GMT +08:00)

Master	Slave Name	Host : Port	IO	SQL	Master Log File	Position	Slave IO State
HK Production Server 1		192.168.0.246:3306					
	HK Production Server 2	192.168.1.247:3306	✓	✓	mysql-bin.000223	106	Waiting for master to send event
HK Production Server 2		192.168.1.247:3306					
	HK Production Server 1	192.168.0.246:3306	✓	✓	mysql-bin.000276	106	Waiting for master to send event
US Production Server 1		192.168.0.162:3306					
	US Production Slave 1	192.168.0.98:3306	✗	✗	mysql-bin.000454	106	Waiting for master to send event
	US Production Slave 3	192.168.0.99:3306	✓	✓	mysql-bin.000454	106	Waiting for master to send event
	US Production Slave 1	192.168.0.98:3306					
	US Production Slave 2	192.168.1.232:3306	✓	✓	mysql-bin.000177	106	Waiting for master to send event
	UK Production Server 1	192.168.0.249:3306					

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## View Replication Details

The **Replication Details** page displays the detailed replication information for a slave you chosen in the Replication page.

### Information on Replication Details Page

#### Summary

At the beginning of this page, the slave and master servers information are listed. For multi-source replication, you can click the master name to view its replication details.

Slave IP : Host 192.168.0.251:33061

Master : UK Production Server 1

Master : UK Production Server 2

Master Host : Port

192.168.0.249:3306

Master Log File

mysql-bin.000119

Position

150

Current Status

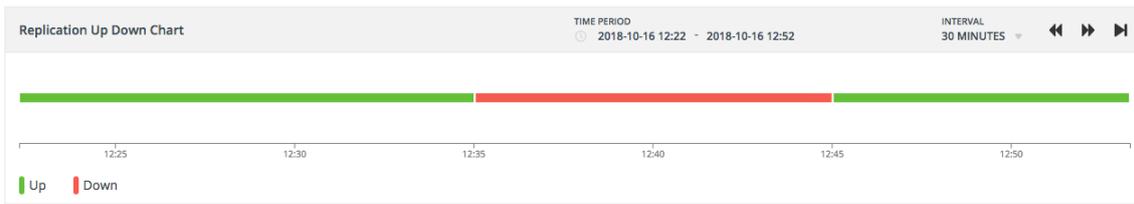
IO ✓ SQL ✗

Slave IO State

Waiting for master to send event

## Replication Up Down Chart

It shows the Up/Down Status chart of the replication. The time selector is for selecting a time span and an interval (X-axis) to display within the chart. It contains a datetime picker, an interval drop-down menu and panning arrows.



## Error History

It shows the replication errors occurred during monitoring. To change the number of errors shown, click **X / PAGE** and select a predefined number.

## Slave Status & Slave Configuration

These two sections show the result set of the SHOW SLAVE STATUS statement.

# Chapter 8 - Commands

## Navicat Monitor Commands

You can use the command line to manage Navicat Monitor service on Windows, macOS or Linux. The installation folder or the program path of Navicat Monitor is:

### Windows

C:\Program Files\PremiumSoft\Navicat Monitor

### macOS

/Applications/NavicatMonitor.app/Contents/Resources/

### Linux

/opt/navicatmonitor/x86\_64-linux-gnu/

**Note:** On Linux operating systems, commands must be run by the "navicatmonitor" account.

### Syntax

navicatmonitor [command]

### Available Commands

browser	Open a browser with Navicat Monitor Web URL.
diagnostic	Show diagnostic information.
help	Print the help information of any command.
passwd	Reset the Superuser password.
restart	Restart Navicat Monitor.
start	Start Navicat Monitor.
status	Print the status information of Navicat Monitor.
stop	Stop Navicat Monitor.
version	Print the version number of Navicat Monitor.

### Examples

navicatmonitor stop

navicatmonitor restart

# Chapter 9 - Troubleshooting

## Log Files

Navicat Monitor log files have detailed records of all sorts of server errors and messages. These files can help in tracking down any problems with Navicat Monitor. Follow these steps to download the log files:

1. Go to **Configurations**.
2. Click **About**.
3. Scroll to the **Diagnostics** section.
4. Click **Retrieve All Log Files** to download a .zip file containing log files.