EmpMonitor On-Premise

Deployment Guide Ver 2.0



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EmpMonitor Deployment Quick Start Guide

If your organization needs more power or has stringent criteria for compliance, our on-premise solution is the right one for you. The on-premise version of our software includes exactly the same functionality as the cloud solution, and the deployment and maintenance would require minimal IT interference.

EmpMonitor On-Premise Overview

EmpMonitor is an all-in-one employee monitoring software, data breach prevention, insider threat detection, and workplace productivity measurement software. All the EmpMonitor solutions are ready to deploy on-premise. This guide will help you to gain complete insights into the things offered by On-premise deployment, along with step-by-step instructions, support queries, and technical information.

Benefits of EmpMonitor On-Premise Deployment

Below are some of the benefits that will help you choose the on-premise deployment option for EmpMonitor.

1. Choose Your Environment

Have control over your organizational and compliance requirements during implementation. Pay only for the resources you consume (CPU, Storage, Memory, etc).

2. Control your own storage

Allocate the storage you want for storing user data, OCR, and application metadata. All the nodes will be communicated with each other and to the master nodes making storage management flexible.

3. Simple Deployment Options

Deploy a single OVA/VHD over the entire EmpMonitor server. Also, Hyper-V support, XenServer, and ESXi give you the freedom to deploy EmpMonitor in many environments.

4. Easy and Fast Integration

Easily export data via Syslog to IDS/IPS, SIEM, and other threat analytics systems. Integration of the Active Directory and REST-based API opens the possibility of organized orchestration of the security.

5. Fast Updates

Easy and one-click deployment from a single dashboard that keeps the server running smoothly.

6. Security Compliance

Control all aspects of compliance and security-related things which include SSL, Firewall, SSH, IP whitelisting, VLAN, etc. All your security measures will be built-in support along with the GDPR, HIPAA, PCI DSS, and other compliance-based rules and policies, that are ideal for EmpMonitor customers, especially those who are operating in finance, healthcare, government, and other relegated industries.

Primary Server Requirements

Deployments for concurrent users under 1000, in most cases, be hosted on one all-inclusive server. As per the below-mentioned table, the CPU and the system memory should be provided based on the expected number of concurrent monitoring sessions:

| RAM/CPU Requirements | Users | Server Requirements |
|--|--------------|------------------------------|
| RAM: 24 GBCPU: 16 cores | Up to 1, 000 | 1 EmpMonitor App Server (VM) |
| RAM: 16 GBCPU: 8 cores | Up to 500 | 1 EmpMonitor App Server (VM) |
| RAM: 6 GBCPU: 4 cores | Up to 100 | 1 EmpMonitor App Server (VM) |

| RAM: 24 GBCPU: 16 cores | Higher Deployments: 1,000 users or more | 1 EmpMonitor App Server (VM) per 1,000 users |
|--|--|---|
| RAM: 32 GBCPU: 16 cores | | 1 EmpMonitor Database Server (VM) |

OCR Server Requirements

| CPU/RAM Requirements | No of Users | Server Requirements |
|--|---------------------------------|------------------------------------|
| CPU: 4 cores RAM: 8 GB Disk: 100 GB | Larger Deployment 200+ users | 1 OCR Database Node |
| CPU: 16 cores RAM: 16 GB Disk: 24 GB | | 1 OCR Mining Node per 200 users |

| CPU: 4 cores RAM: 8 GB Disk: 100 GB | | 1 OCR Database Node |
|--|---------------------|---------------------|
| CPU: 16 cores RAM: 16 GB Disk: 24 GB | Less than 200 users | 1 OCR Mining Node |

Tooltip - Adjust your storage requirements when you add or remove recorded data over time.

Check out the section below to gain complete insights of the storage requirements.

Storage Requirements

| Primary Storage | The virtual appliance EmpMonitor comes with 24 GB of primary volume. This volume contains the application and database on the EmpMonitor Server.This volume may be increased in size at a later point in time. |
|--------------------|--|
| Screenshot Storage | Approximately 1 GB for screenshots taken every 1 minute for a period of 200 hours (8 Hours * 25 Working Days) |
| Updates | Updates are manually applied to server |
| Integrations | Storage Google Drive Amazon S3 (Upcoming) Microsoft Onedrive (Upcoming) Projects and Tasks Management Zoho Projects (Upcoming) Trello (Upcoming) LDAP |

Agent Requirements

| Platforms Supported | Microsoft Windows 7, 8 and 10 (32-bit and 64-bit) Microsoft Windows Server 2008, 2012, 2016 and 2019 Linux Os Mac Os |
|---------------------|---|
| Meetings/sessions | Stand-alone workstation / server Terminal server (RDS) |
| Visibility | Stealth or Visible |
| Load | Approximately 50 MB – 100 MB memory and 1-5% CPU utilization,depending on user activity and screens. |
| Deployment | Silent MSI Installer Deployment via Group Policy |
| Bandwidth | Approximately 30 kbps upstream depending on users activity and screens. |
| Offline storage | EmpMonitor also records activities offline and saves all data locally. This helps in case of network breakdown to upload the data of activities done during network breakdown period to the server. |
| Updates | Auto updates available which checks for the new version and applies to the agent when the system restarts. |

Pre-Requirements

| EmpMonitor Server Image EmpMonitor Licence Key | Provided by EmpMonitor on the Knowledge base section, or contact our tech support <u>support@empmonitor.com</u> |
|---|---|
| Available IP Address | Supplied by you. |
| Virtualization Environment | EmpMonitor supports the following virtualization platforms in production: • VMware ESXi 6 and later • XenServer 6.5 and later • Hyper-V |

ToolTip: The following inductions for deployment are for the setup of a single node. Please contact support@empmonitor.com for multi-node deployment instructions.

Setting up Virtual Server With VMWare ESXi6 Web Interface

(Screenshot)

Step 1-1

- Select "Virtual Machines" under the navigation tab on the left from the Main VMware interface.
- Check the right side of the screen, and click on the **Create/Register VM** button.

Step 1-2

- You will see a new pop-up window on the screen where you can specify the setting for the new virtual machine you are going to create.
- For the first screen, select the option Creation Type, and then click on **Deploy a virtual** machine from an OVF or OVA file option.
- To continue, click Next.

Step 1-3

- Now, enter the name of your Virtual Machine (For example, EmpMonitor)
- At the button you will see an option **Click to select files or drag/drop** to upload the OVA file of the EmpMonitor server.
- To continue, click Next.

Step 1-4

- Keep the default settings as it is on the select storage screen.
- You can add the second hard disk later for the screenshots (Step 7)
- To continue, click Next.

Step 1-5

- Keep the default settings as it is on screen for *Deployment options*.
- To continue, click Next.

Step 1-6

• Click on the Ready to complete option, you can also check your VM's settings on the screen. Then click on the finish button to start the deployment process.

• Note: Do not refresh the page while the deployment process is going on.

Step 1-7

- Once the deployment process gets finished, you can see your newly created VM "Emponitor" under the Virtual Machines tab on the main interface.
- Now, add a second volume to hold the screenshots.
- Click on "EmpMonitor" VM to access its settings.

Step 1-8

- Click on the shutdown button, if the VM is running.
- Wait until VM gets shut down.
- Skip this step if the VM is already off.

Step 1-9

- Click on the power off button to turn off the VM.
- If the VM is already off then you can skip this step.

Step 1-10

- You might see a pop-up with a message "turning off the VM may cause data loss". But do not worry as our VM is new.
- Click on yes to continue and wait until it gets powered off.

Step 1-11

- Click on the Actions button available on the top-right corner, and then click on the edit option from the pop-up menu.
- You will see a new pop up window where you can configure and add/remove the hardware for your VM.

Step 1-12

• Click on the additional hard disk button under the Virtual hardware tab and then select **New Standard Hard Disk** Option.

Step 1-13

- On the left side of the window, you will see the new hard disk appear on the hardware list.
- Click on the "**New Hard disk**". You can adjust the size from the right. Start with a small size, and then gradually increase as per your need.
- Click on the **Save** button.
- Note: Please check the storage requirements section to get more information on storage requirements for storing screenshots.

- Get back in the main interface and click on the console button and select **Open Browser Console**.
- Once the console window gets open, you can set up the network, IP, and assign machine role(s).
- To continue, proceed to 2.

Setting Up a Virtual Server with VMware vSphere Client

Step 1-1

- Click on the File menu and select Deploy OVF Template from the vSphere client interface.
- Select the EmpMonitor Server OVA file, when prompted.
- The Deploy OVF Template window will pop-up.

Step 1-2

- The first screen on the Deploy OVF Template window is called Source. Here, the OVA file path you selected in step 1-1 already populated the URL box or the deploy from a file. If not then click on the browse button to again load the file.
- To continue, click Next.

Step 1-3

- Keep the default settings as it is for the OVF Template Details screen.
- To continue, click Next.

Step 1-4

- Enter a name for your virtual machine (EmpMonitor) on the Name and Location screen.
- To continue, click Next.

Step 1-5

- For the Disk Format screen, keep the default settings as it is.
- To continue, click Next.

Step 1-6

- For the Disk Network Mapping screen, keep the default settings as it is.
- To continue, click Next.

Step 1-7

- You will see a summary of your VM's settings on the Ready to Complete screen.
- To start the deployment process, click on the Finish button.

Step 1-8

- Once the deployment is done, you can see your newly created VM, EmpMonitor on the list of servers, on the main vSphere interface.
- Now add a second volume to save the screenshots.
- From the pop-up menu, right-click the EmpMonitor server and select Edit Settings.
- The Virtual Machine Properties window will get open.

- Click on the Hardware tab on the Virtual Machine Properties window. Select Hard disk 1, and then click the Add button on the top.
- The Add Hardware window will get open.

Step 1-10

- On the first screen, select Hard Disk as the device type of the Add Hardware window.
- To continue, click Next.

Step 1-11

- Make sure the Create a new virtual disk is selected on the Select a Disk screen.
- To continue, click Next.

Step 1-12

- You can adjust the disk parameters or keep them as it is on the Create a Disk screen. For adjusting the Disk Size parameter, you can start with a small allocation (for example 16 GB) and then increase gradually as needed.
- You can check the Storage for Screenshots section under the Storage Requirements section for more information on storage requirements.
- To continue, click Next.

Step 1-13

- For the Advanced Options screen, you can keep the default settings as it is.
- To continue, click next.

Step 1-14

- The Ready to Complete screen will show a summary of your disk.
- Click on the finish button to finish setting up the disk.
- To go back to the main vSphere interface, close the Virtual Machine Properties window.
- Next, power up the virtual machine.

Step 1-15

• Under the Recent Tasks list you can see the status of the machine.

- Once the VM is powered on, right-click on the VM EmpMonitor, and select Open Console from the pop-up menu.
- Once the console window opens, you will get an option to set up the IP, network, and assign machine roles.

Setting Up a Virtual Server with Hyper-V

Step 1-1

- From the Manager at Hyper-V Interface, right-click in the left pane On the Hyper-V host, you would like to host the new virtual machine.
- From the pop-up menu, choose new then Virtual Machine.
- A New Virtual Machine Wizard window will appear.

Step 1-2

- A window will pop up where settings can be configured for the new virtual machine you are about to build.
- For the initial screen, choose the type of creation, deploy the virtual machine from the OVF or OVA file option.
- To continue, click Next.

Step 1-3

- Here enter the name of your Virtual machine, for example, "EmpMonitor".
- Then click on the tab where it says, Click to select files or drag/drop to upload the EmpMonitor server OVA file.
- To continue, click Next.

Step 1-4

- You can keep the default settings as-it as provided.
- To continue, click Next.

Step 1-5

- On the assigned memory screen, enter the memory you need.
- To continue, click Next.

Step 1-6

- On the Configure Networking screen, you can choose your network connection.
- Select External Switch from the Connection list.
- To continue, click Next.

Step 1-7

- Select virtual hard disk and then press the Browse button on the Link Virtual Hard Disk pad.
- Once done, select the EmpMonitor Server VHD file.
- After the file is loaded, click the next button to continue.

- A quick review of your VM 's settings can be seen on the Summary tab.
- To start the VM Deployment process,
- To continue, click Next.

Step 1-9

- When the deployment is complete, you can see your newly developed VM, EmpMonitor, under the Virtual Machines tab on the main Hyper-V Manager interface.
- We'll now add a second volume to keep the screenshots on the projector.
- Right-click the EmpMonitor VM and select Settings... from the pop-up menu.

Step 1-10

- Pick IDE Controller 0 from the hardware list located on the left screen.
- Then, on the right, select Hard Drive and click the Add button.
- A new virtual drive will be added under your primary drive on the left panel.

Step 1-11

- Click the New button on the new Hard Drive screen.
- The New Virtual Hard Disk Wizard window will open.

Step 1-12

• Before beginning with the new virtual hard disk wizard screen, skip the first screen, and click the Next button.

Step 1-13

- Choose the Disk Format screen, select the VHDX ahead before.
- To continue, click Next.

Step 1-14

- Keep the default settings as-is on the Choose Disk Type screen.
- To continue, click Next.

Step 1-15

- Specify Name and Location screen, give your virtual hard disk a name.
- For the location, you can keep the default path or change it wherever you need in the virtual machine.

Step 1- 16

- Choose to create a new blank virtual hard disk on the configure disk screen. As per the size parameter, start with the small allocation and enhance as needed.
- To continue, click next.

Step 1- 17

- The Summary screen will display an overview of your disk.
- To finish setting the disc, click the Finish button. The Wizard window automatically closes and returns you to the VM settings window.

- Under the IDE Controller 0, you may see the newly created virtual hard disk SecondDisk.
- The path to the hard disk is shown in the Virtual hard disk field on the right panel as well.
- Click the OK button to save the changes and close the Settings Window.
- We are now ready to start the server.

Step 1- 19

- On the main interface for the Hyper-V Director, find the VM EmpMonitor under the Virtual Machines tab.
- Right-click it, then select Start from the pop-up menu to get the server started.
- Once the VM is ready, it will change from off to running state.

Step 1- 20

- Once the VM is ready, right-click the EmpMonitor VM again and select Connect, from the pop-up menu to open the Console window.
- Once the console window opens, you will be able to set up the IP, network, and assign machine role(s).
- Proceed to continue.

Setting Up the Network, IP, and the Machine Role

After following all the above-mentioned steps, you would now know how the console window opens for your Virtual Machine. The console window will be used to configure IP and other network settings, and the machine role.

Step 2-1

• Log in using the Credentials

Username -

Password -

• Click Enter to continue.

Step 2-2

After that, fill the following
 DNS(Domain Name Server)
 Netmask
 Default Gateway
 IP Address

Step 2-3

- Since this is a single-server deployment, when requested to the server role, we will leave the default role to master.
- We 're done with the console commands at this stage.
- Proceed to continue.

Setting Up the Account and Finishing Deployment

Step 3-1

- Open your browser and type in the previous step the IP address you used for the setup of the EmpMonitor server.
- On your browser, you may see a warning message saying that the connection is not private or secure. This is normal. The warning is displayed because your server has not been assigned any SSL certificates yet. You can then upload your own certificate from the EmpMonitor dashboard later on.
- If you are using Google Chrome, on the warning page, you can click the Advanced button, and then click the Proceed link to continue. Other browsers offer similar options to circumvent the warning.

Step 3-2

- Once you have accessed the EmpMonitor dashboard page, you will be welcomed with a Welcome screen. This screen lets you select your default language and time zone.
- Click CONTINUE to go to the screen below.

Step 3-3

- You will now be able to enter and use email and password as your account administrator.
- Enter the required information and click Continue to get to the next screen.

Step 3-4

- On the License screen, enter the EmpMonitor license key, which you can obtain from the Self-Hosted portal.
- At this stage you are done setting up the EmpMonitor Server.

Installing the EmpMonitor Agent

EmpMonitor comes with the agents for Windows: 32 and 64-bit and Mac OS / OSX 10.7 The window agents are universal for any platform, along with window servers, and standalone workstations.

Graphical User Interface (Installation)

The simplest way to install your Windows or Mac agent is simply by double-clicking the MSI or DMG from the endpoint you want to track. It will ask you for your EmpMonitor server's IP address (or hostname).

Command-Line for Windows (Installation)

MSIEXEC can be used from the command line or from within the script...

C:\> msiexec /i //path-to/EmpMonitor/agent.msi TMROUTER=<ip-of-empmonitor>

Where <ip of EmpMonitor> is the IP of the EmpMonitor server, and //pathto/EmpMonitor/agent.msi is either a URL, network, or local path to the EmpMonitor agent MSI file.

Command-Line for Mac OS (Installation)

Run this command, (Applications => Utilities => Terminal) to install Mac OS in the stealth mode.

curl -k //path-to/EmpMonitor/agent.dmg | sudo bash -

Where //path-to/empmonitor/agent.dmg is either a URL, network, or local path to the EmpMonitor agent DMG file.

Mac Os Permissions For Installing EmpMonitor Agent

Two permissions are required for any MAC-based agent to work smoothly. Check out the steps below for quick installation.

- Click the search icon from your Mac menu.
- Type 'terminal' in the search box to find the Terminal app. Select the Terminal app and press Enter to run it.
- Type the following command on the Terminal window and press Enter:
- A pop-up window will appear.
- On the Accessibility Access pop-up window, click the Open System Preferences button. It will take you to the Accessibility settings option.
- On the Security & Privacy settings window, first, click the Lock icon at the bottom to unlock the settings.
- Then, click the checkmark next to the EmpMonitor Agent to grant it the accessibility permission. Do not close this window now.
- Scroll up/down to check the screenshots option and on the same page of privacy and security settings. Choose it.
- Click the checkbox to grant permission. A pop-up window will appear.
- Quit now, if warning pop-ups. The agent will restart and will function smoothly from now.

Dashboard-based (Remote Installation)

EmpMonitor has an easy-to-use interface for Windows agent installation in a domain environment. It's mechanism works similar to PSEXEC or WMI, which needs the following -

- Credentials of the Domain administrator
- Easy allows us to execute commands like PSEXEC or WMI remotely.

Moving To Remote Install Dashboard

Open your EmpMonitor dashboard. Select computers. choose the remote install agents located at the top right corner of the screen.

Configure Installation (Remote)

- If you integrate with the EmpMonitor, users can choose the computers by IP, groups, name, and execute the ones which you need.
- For the MSI Site, if your endpoints can access the internet, you can set the site of the agent's URLs as their default values. It will retrieve the agent from your local deployment to EmpMonitor. Alternatively, insert a local URL or network path to the agent 's position.
- Finally, make sure the EmpMonitor Server domain administrator credentials and IP address are correct.
- Click on Deploy, installation begins.

Firewall & Proxy Considerations

In most of the cases, you don't have to change the settings to get EmpMonitor work. EmpMonitor's management interface is completely driven based on web functions over the HTTP port. It means proxies will allow traffic, hence, make sure to have proper SSL certifications.

Add-On Configurations

Once you have successfully installed EmpMonitor, you can configure other servers, agents, and function aspects easily and completely from web-based dashboard settings.

Hover over the settings option, available on the screen, and click to change the required settings.

Changing The License Key

For any means, if you need to change the license key, it can also be done from the settings tab.

Add the new license key and click on the change option. The entitlements for your license key will be displayed.

Server Update

EmpMonitor periodically publishes server updates on our Self-hosted platform for the on-premise deployment. Such updates can include bug fixes, security patches as well as new features. We strongly recommend that you refresh your server frequently to keep your deployment up to date.

You can download the latest server update from the self-hosted portal.

Under Download >>>>> Update EmpMonitor section. Install the platform update using the download option available. Check out the step-to-step process below -

- Go the settings section
- Update the server, tap on update EmpMonitor
- Select the file which wants to update
- Click on update
- Based on your deployment, it will take nearly 5-7 min.

LDAP/Active Directory Integration

Even though it's not required, EmpMonitor could be quickly integrated with Active Directory which helps to import your computers, users, groups, meta-data, along with other attributes. The integration with the Directory is only readable. But users can still keep a check on the users who are not in the domain chain by simply installing the software in the work systems. Once done with the active directory, enable the domain authentication for the EmpMonitor dashboard.

Active Directory/LDAP integration will provide the below-mentioned benefits

- Allows getting a detailed report based on the organizational unit (OU).
- Allows to apply rules and regulations yo the groups of OU
- Allows installing to the systems considering the name or membership remotely.
- Allows using EmpMonitor only on limited groups.
- Allows removing a particular group from being monitored.
- Allows dashboard login with domain authentication.

To attain all these EmpMonitor needs to be compatible with -

- Groups and organizational units.
- Group membership, OU and user accounts
- Group memberships and computers.

For setting up, check out the below-mentioned ways -

- In the settings screen, click on the Active Directory.
- Propagate the settings, and select the FETCH Attributes button.
- Once done with fetching them, choose the OU's, attributes, and monitored as well as nonmonitored groups.
- Click on save and import the buttons.
- Once the import is done, refresh the page and view changes.

SMTP Mail

If you plan to receive email updates and device notifications, you need to configure SMTP so that EmpMonitor may send mail out.

- Click the SMTP tab on the Settings screen.
- Enter the server configuration, port, user name, password, and email address. Select either SSL or TLS, which your SMTP server supports for encryption.
- Click on the save, then Test to ensure that the integration is successful.

SSL Certificate

EmpMonitor strongly recommends the proper configuration of SSL in order to avoid browser warnings and restrictions. Some browsers will not allow WebSockets communications if the certificates are invalid. It may prevent you from watching live screens or screenshots.

In the long run, you should deploy your organization's SSL certificates within EmpMonitor, and add a DNS entry in your corporate name server for your EmpMonitor implementation.

- To add your own SSL certificates, press Settings on the Security tab Display computer.
- Enter your server's Private Key, Public Key, Intermedia Key, and the Root CA Key.
- Click the Validate Keys
- Once done, please access EmpMonitor using the new hostname. You can log in again.

Antivirus Configuration Guide for EmpMonitor Agent Version 2.0

OCR Deployment

To set up OCR, you need at least one OCR database node and one OCR mining node (for every 200 users). These nodes will communicate with and with the Master Node.

Define the Machine Role

To configure an OCR database node or OCR mining node, simply select the system position when setting the virtual appliance's IP address first.

Approving the Links

After you set the machine role and specify the IP address of the master node, you will see on the dashboard the requests for approval of the OCR node. To authorize the nodes, do the following:

- On the Settings screen, click Manage Server.
- Locate the requests for nodes under the segment Nodes close to the edge.
- Press the nodal APPROVE button.

Architecture



Installation Support and Troubleshooting

If you face any issue in deploying EmpMonitor on-premise, then here are some of the ways you could contact our customer support people.

| Online Form | https://empmonitor.com/contact/ |
|--------------|---------------------------------|
| Email | support@empmonitor.com |
| Phone Number | 080 4166 0003, +91 7354895612 |