Cloud Machine Manager Quick Start Guide

Blueberry Software Ltd

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1. How to organise Amazon servers into groups for different roles or projects

When organizing your Amazon servers, it's important to first consider how you want them to be grouped. A user will only see servers that are assigned to groups that they are members of. However, users can be members of as many groups as necessary and a group can have multiple servers assigned to it.

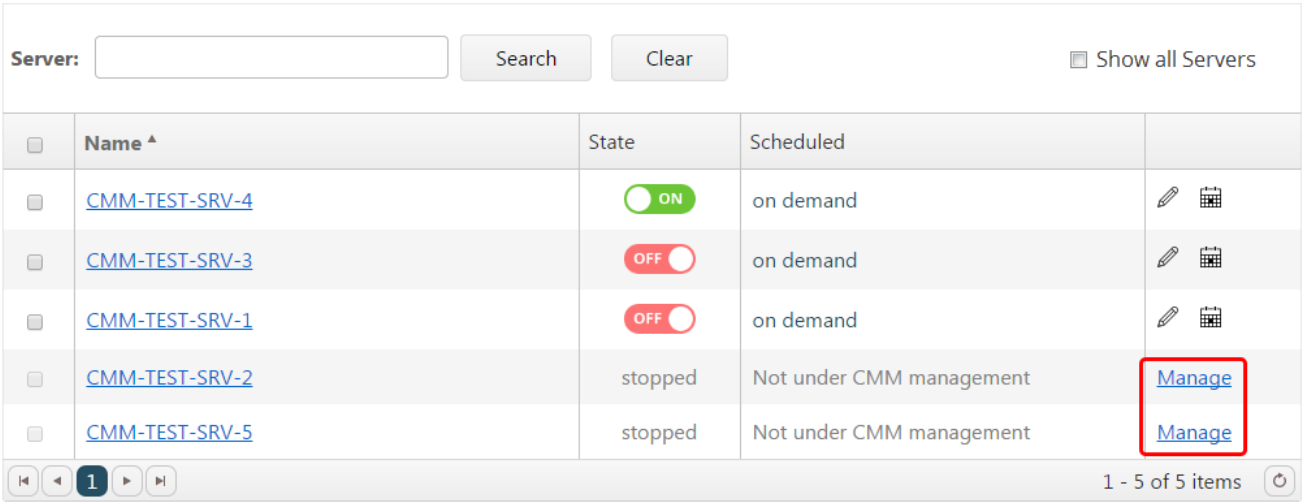
You may want to group them by allowing users with particular job roles to have access to specific groups. For example, you may need your Systems Administrators to have access to all servers, while only allowing regular users to have access to a reduced number of servers – just create 2 groups and add users to the relevant group.

Alternatively, you may want to group by department, team or project, but the idea is still the same – create a new group for each sub-set of users and assign it to the relevant servers.

1.1. Getting started

Of course, before assigning servers to groups, they need to be added to CMM Management. If any of your servers are not currently being managed by CMM, they can be added by doing the following:

1. Log in to your CMM account.
2. On the Servers screen (where you will land by default after logging in), click on the **Manage** link for the server that you wish to manage using CMM.



   The Server screen will refresh and the Manage link will be replaced by the **Edit** button and Schedule button .

   In the Scheduled column of the table it should now say "On-Demand".

Once a server is under CMM Management, the server's Elastic IP address (if it has one) and the type of server (Amazon instance type) are automatically detected. A server description can also be added to give details of the server that may not be apparent from its name alone.

These can be reviewed and updated by doing the following:

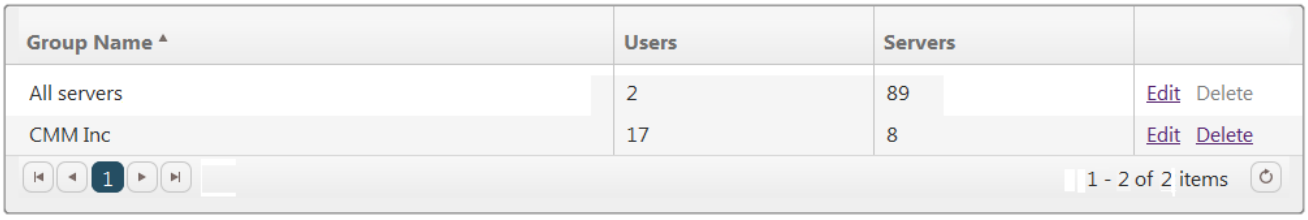
1. Log in to your CMM account.
2. On the Servers screen, click on the Edit button for the server that you want to review – this will take you to the **Identity** tab of the Edit Server screen. The **Elastic IP address** and **Amazon Type** settings are found in the Network Identity section.

3. If the server has more than one elastic IP address assigned to it in Amazon, they will all appear in the drop down menu. Simply choose the one that you want to use.
4. Click **Save** if any changes have been made.

1.2. Creating groups

Now that CMM is managing the servers that you want to assign to groups, the groups themselves need to be created by doing the following:

1. Log in using an Account Administrator account.
2. Go to the **ADMIN** menu and select **MANAGE GROUPS** – this will take you to the Manage Groups page where all existing groups are listed in the grid.



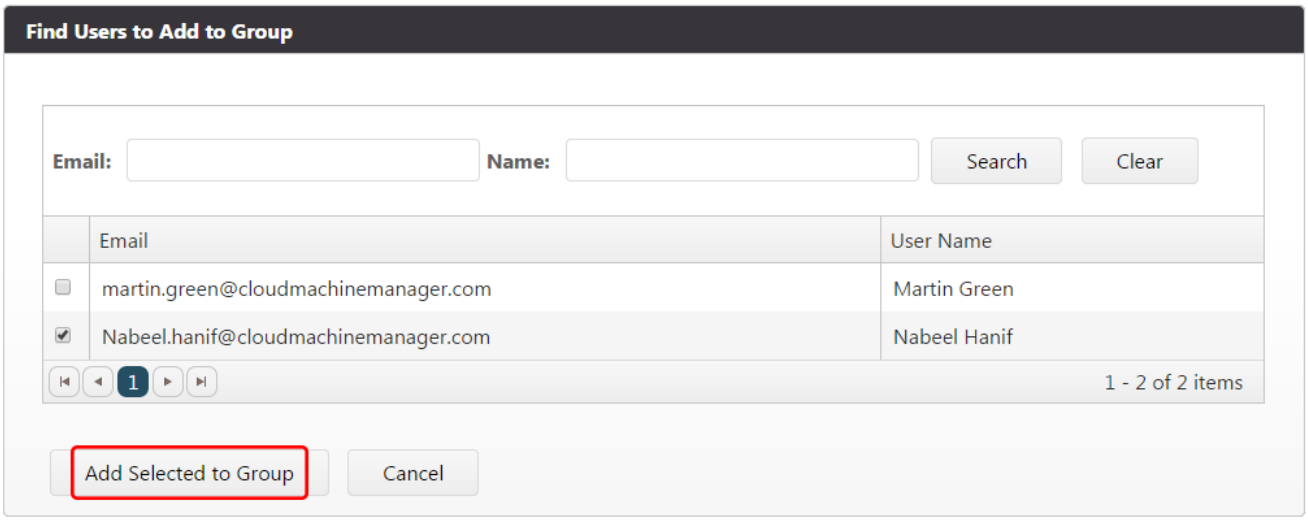
3. Click the **Add…** button that is below the grid.
4. Enter a name for the group.
5. Click **OK**.

This will create an empty group with no users or servers assigned to it.

1.3. Adding users to a group

Once a group has been created, you can make any user who has a CMM account a member of that group by doing the following.

1. Log in to your CMM account.
2. Go to the **ADMIN** menu and select **MANAGE GROUPS** – this will take you to the Manage Groups page where all existing groups are listed in the grid.
3. Find the group that you need to add users to and click the **Edit** link – this will take you to the **Basic Details** tab
4. Go to the **Users** tab.
5. Click the **Add** button below the grid.
6. Enable the checkbox next to any users that you want to add to the group and then click the **Add Selected to Group** button.



7. Click **Save**.

These members will be able to manage any servers that are assigned to the group from the Servers screen and using the CMM Starter application.

If you need to add a user who does not already have a CMM account, they can be invited to create a CMM account by doing the following:

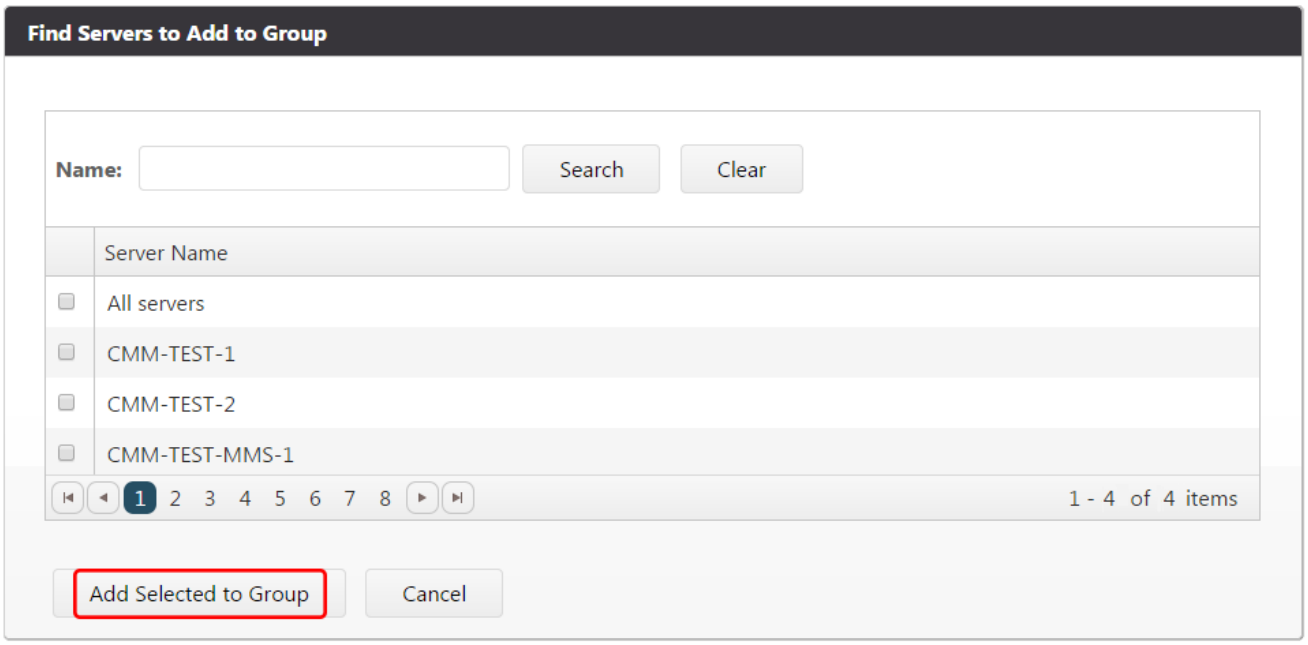
1. Log in to your CMM account.
2. Go to the **ADMIN** menu and select **MANAGE USERS** – this will take you to the Manage Users page where all existing users are listed in the grid.
3. Click the **Add** button below the grid.
4. Enter the new user's email address and assign them to a group – this will send an invitation email to that user.

When the new user receives the invitation email, they simply have to click the Accept link in the email and they can then complete their registration by entering the additional details needed to finalize their account (such as their full name and a password for their account).

1.4. Assigning servers to a group

Now that the group has been full setup, it is time to assign servers to it. This can manually be done by doing the following:

1. Log in to your CMM account.
2. Go to the **ADMIN** menu and select **MANAGE GROUPS** – this will take you to the Manage Groups page where all existing groups are listed in the grid.
3. Find the group that you need to add servers to and click the **Edit** link – this will take you to the **Basic Details** tab
4. Go to the **Machines** tab.
5. Click the **Add** button below the grid.
6. Enable the checkbox next to any servers that you want to add to the group and then click the **Add Selected to Group** button.



7. Click **Save**.

Once this is done, all members of the group will be able to manage the servers assigned to the group by visiting the Servers screen on the website (https://my.cloudmachinemanager.com) or by using the CMM Starter application.

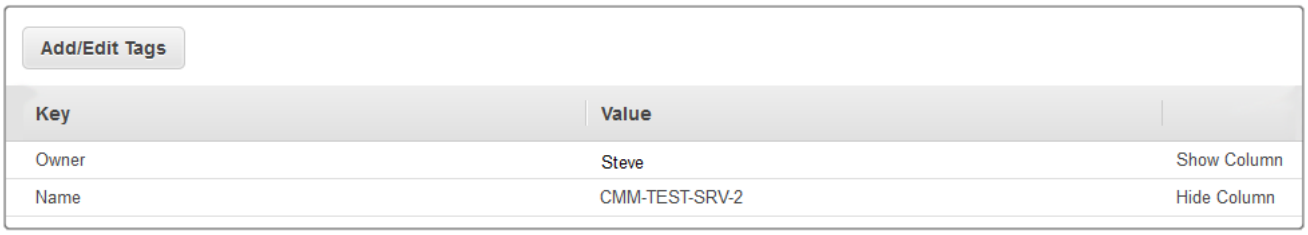
Alternatively, servers can automatically be added to a group by using AWS tags. Any server that is added to CMM that matches the tags that have been configured for a particular group will automatically be added to that group.

Note – If this option is enabled, it is not possible to manually add servers to a group. Only servers with the corresponding tags assigned in AWS will be assigned to the group. If this option is then disabled, servers can manually be added again but the servers that were assigned based on their tags will be lost from the group.

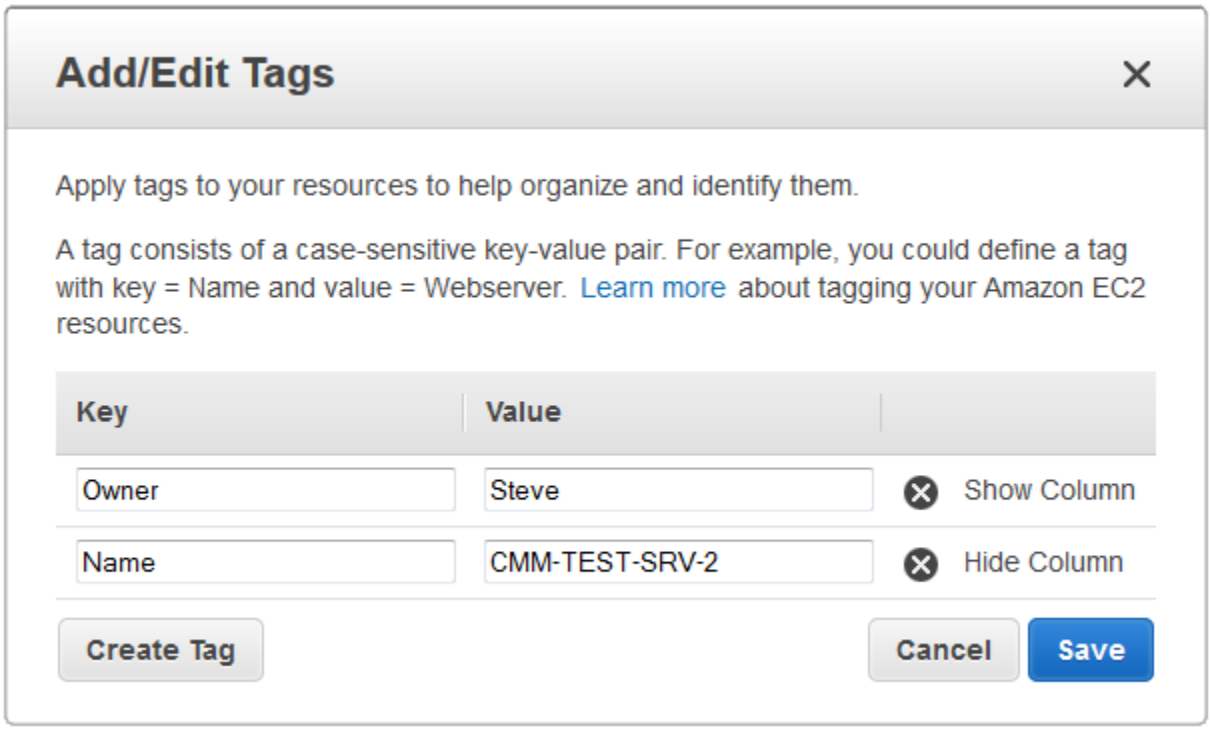
First of all the tags need to be configured in AWS:

1. Log in to your AWS account.

2. Find the server that you need to add the tag to.
3. Navigate to the **Tags** tab
4. Click **Add/Edit** Tags.



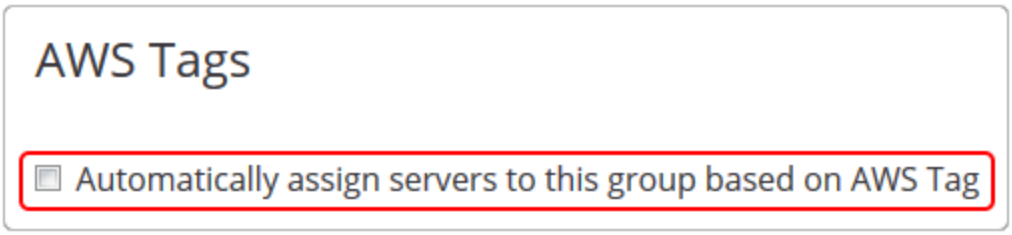
5. Click **Create Tag** and then add a **Key** and a **Value** to the empty tag that is added. This might be something like ‘Owner’ and ‘Steve’ or ‘Group’ and ‘SysAdmins’.



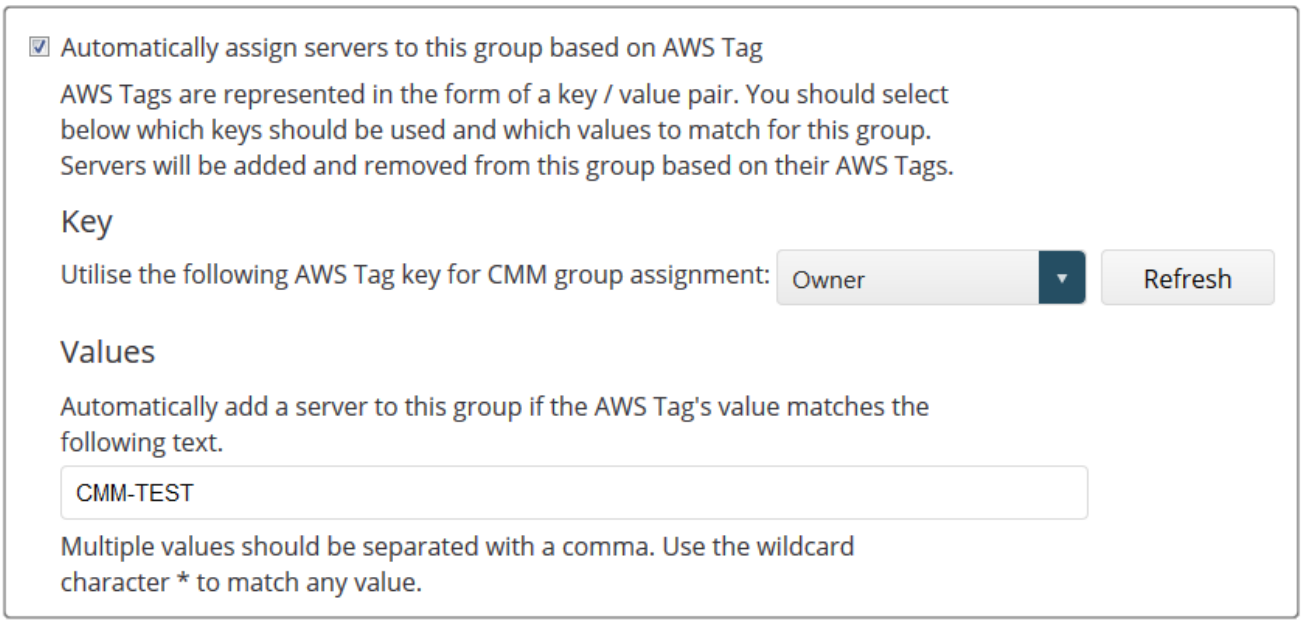
6. Click **Save**.

Once the tags have been added to the server, configure CMM to detect the tags:

1. Log in to your CMM account.
2. Go to the **ADMIN** menu and select **MANAGE GROUPS** – this will take you to the Manage Groups page where all existing groups are listed in the grid.
3. Find the group that you want to detect AWS tags and click the **Edit** link – this will take you to the **Basic Details** tab
4. Enable the **Automatically assign servers to this group based on AWS Tag** option.



When this option is enabled, a series of extra options will appear below.



5. All Keys that have been added in your AWS account will appear in the **Key** drop down menu. Select the relevant Key for this group. (If a Key does not appear, click the Refresh button to update the list).
6. Manually enter any **Values** that you want to add to this group. To add multiple values for a single key, separate them by a comma. Use a wildcard character (*) to match any value – in other words, if a value exists for the selected Key, it will be added.

   For example, if you want to add all servers that belong to Steve, David and Mark in AWS, you may have a Key called ‘Owners’ and then Values would be set as ‘Steve, David, Mark’. Alternatively, if these 3 owners are actually the only owners in AWS, set Values to ‘*’ to simply include them 3 of them.

7. Click **Save**.

2. Schedules

A server that is managed by CMM can be configured to turn on and off at scheduled times or be scheduled to respond to on demand requests.

For example, a server that is only needed during office hours may be scheduled to turn on at 9:00 on weekdays when workers are arriving at the office and then turn off again at 17:00 when they are leaving. Since no-one will be in the office at the weekend, the server will not turn on at all on Saturday or Sunday.

2.1. Creating a Schedule

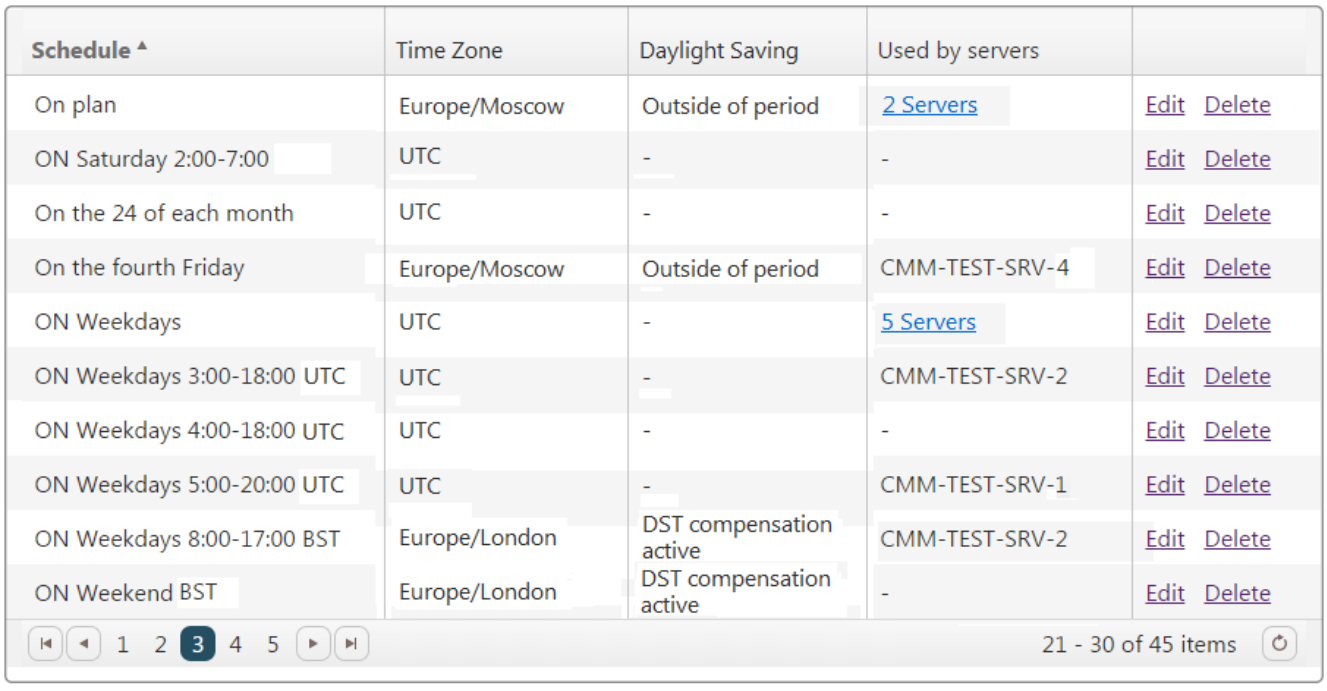
To apply a schedule, you first need to create it in CMM's admin section.

A schedule can be used to perform the following events:

- Turn a server on
- Turn a server off
- Set a server to be on demand

To create a schedule:

1. Log in to your CMM account.
2. Go to the **ADMIN** menu and select **MANAGE SCHEDULES** – this will take you to the Manage Schedules page where all existing Schedules are listed in the grid.



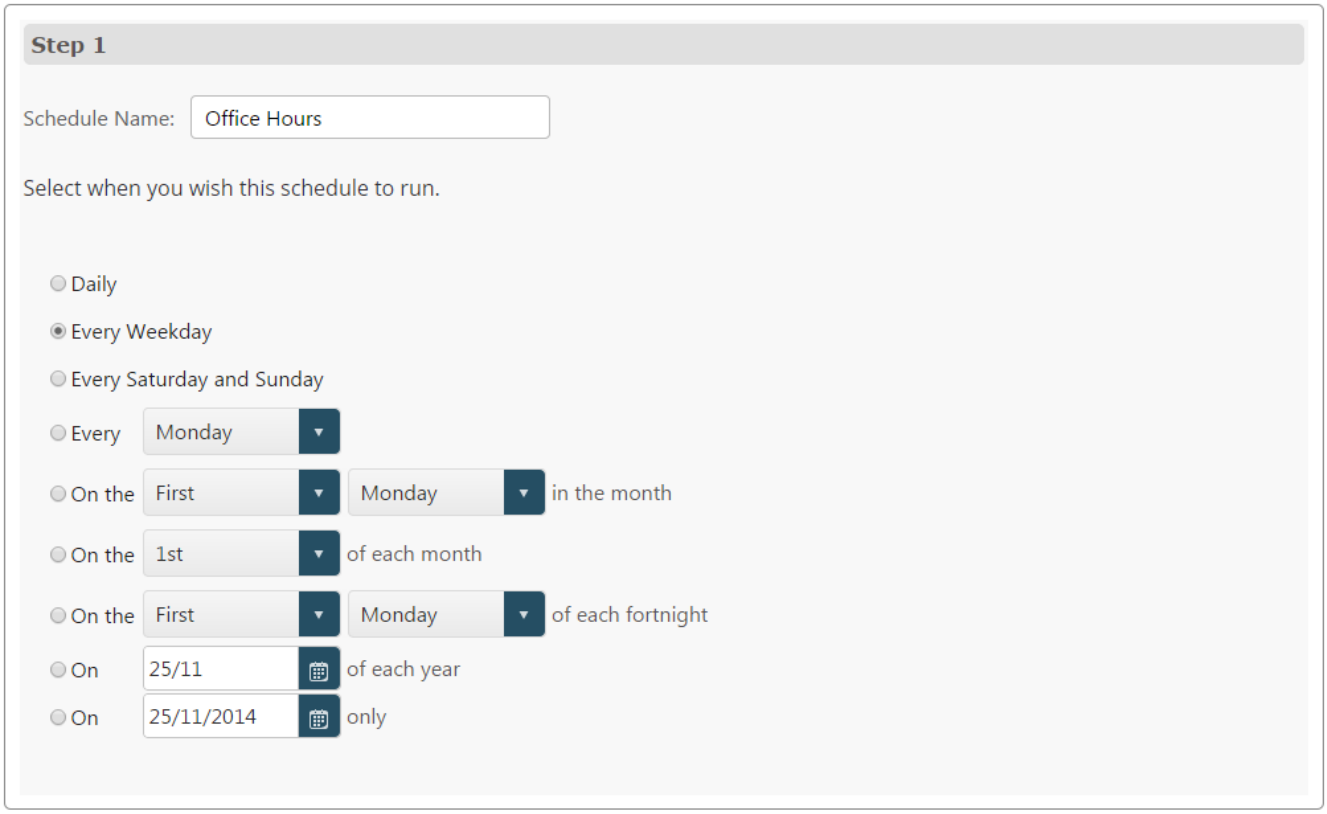
Schedule ▲	Time Zone	Daylight Saving	Used by servers	
On plan	Europe/Moscow	Outside of period	2 Servers	Edit Delete
ON Saturday 2:00-7:00	UTC	-	-	Edit Delete
On the 24 of each month	UTC	-	-	Edit Delete
On the fourth Friday	Europe/Moscow	Outside of period	CMM-TEST-SRV-4	Edit Delete
ON Weekdays	UTC	-	5 Servers	Edit Delete
ON Weekdays 3:00-18:00 UTC	UTC	-	CMM-TEST-SRV-2	Edit Delete
ON Weekdays 4:00-18:00 UTC	UTC	-	-	Edit Delete
ON Weekdays 5:00-20:00 UTC	UTC	-	CMM-TEST-SRV-1	Edit Delete
ON Weekdays 8:00-17:00 BST	Europe/London	DST compensation active	CMM-TEST-SRV-2	Edit Delete
ON Weekend BST	Europe/London	DST compensation active	-	Edit Delete

1 2 3 4 5 21 - 30 of 45 items

3. Click the **Add** button below the grid.
4. On Step 1, enter a name for the schedule (if you will be created lots of schedules, this should be something meaningful such as 'Office Hours' rather than just something generic like 'Schedule 1').

   Then configure which days you want the schedule to run on. Select the radio but for the option that you want to use and, where appropriate, use the drop down menus and date pickers to specify when you want

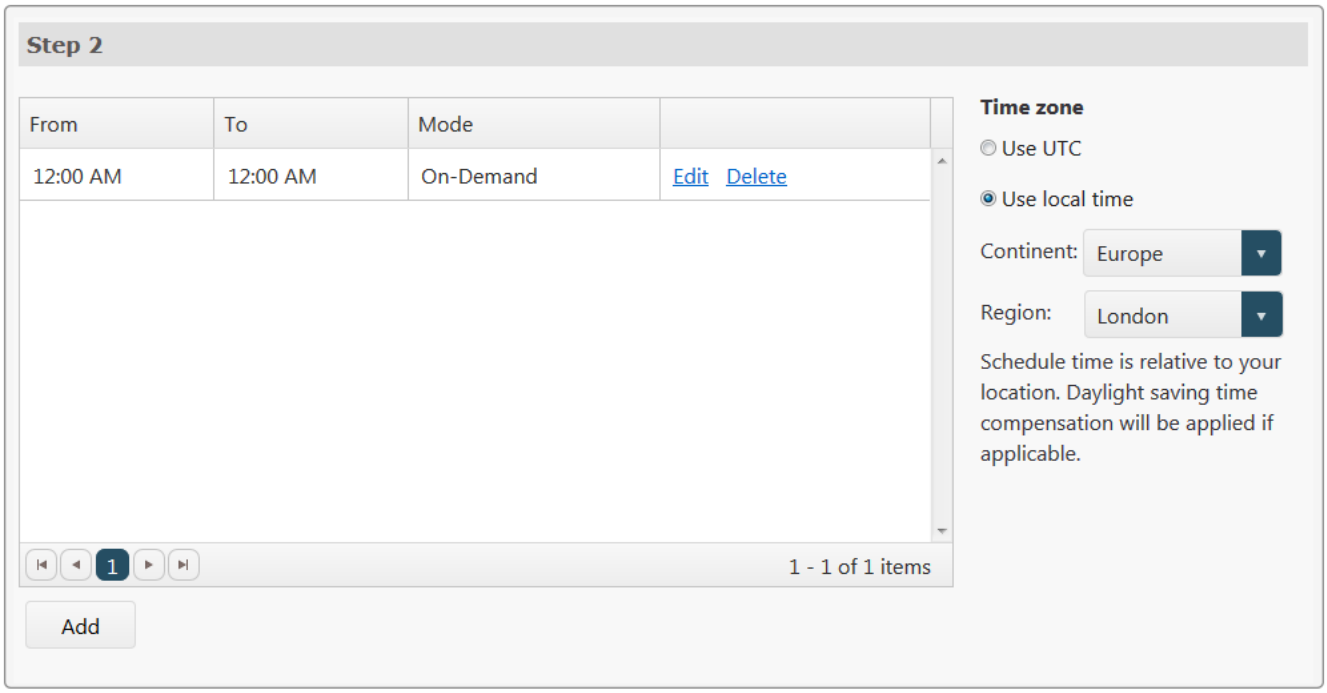
that option to be run.



Click **Next**.

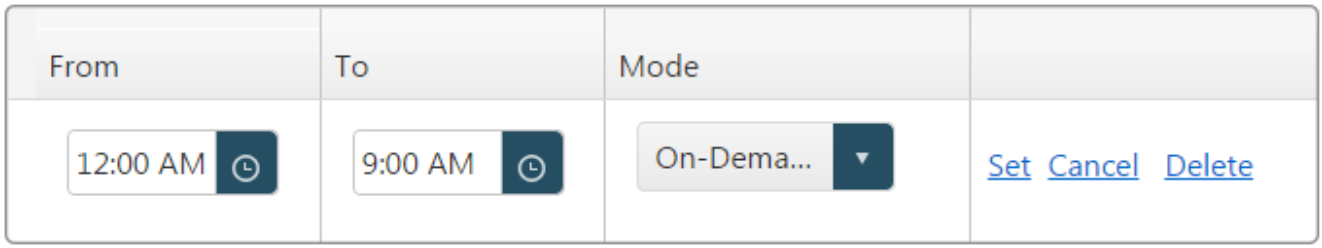
5. On Step 2, select whether you want the schedules to run according to UTC or your local time. If local time is selected, additional options will appear allowing you to select your continent and then region.

   If applicable, Daylight Saving Time automatically applies to any schedules using the **Use local time** option. Schedules that use the **Use UTC** option will not have Daylight Saving Time applied to them.



Then add the times that you want the server to turn on, turn off or be on demand by clicking the **Add** button below the grid to add new events.

By default, a new event will run from 12:00 AM to 12:00 AM and be On Demand. Click the **Edit** link to update the **From** and **To** times and to change the type of event. When all changes have been made, click the **Set** link.

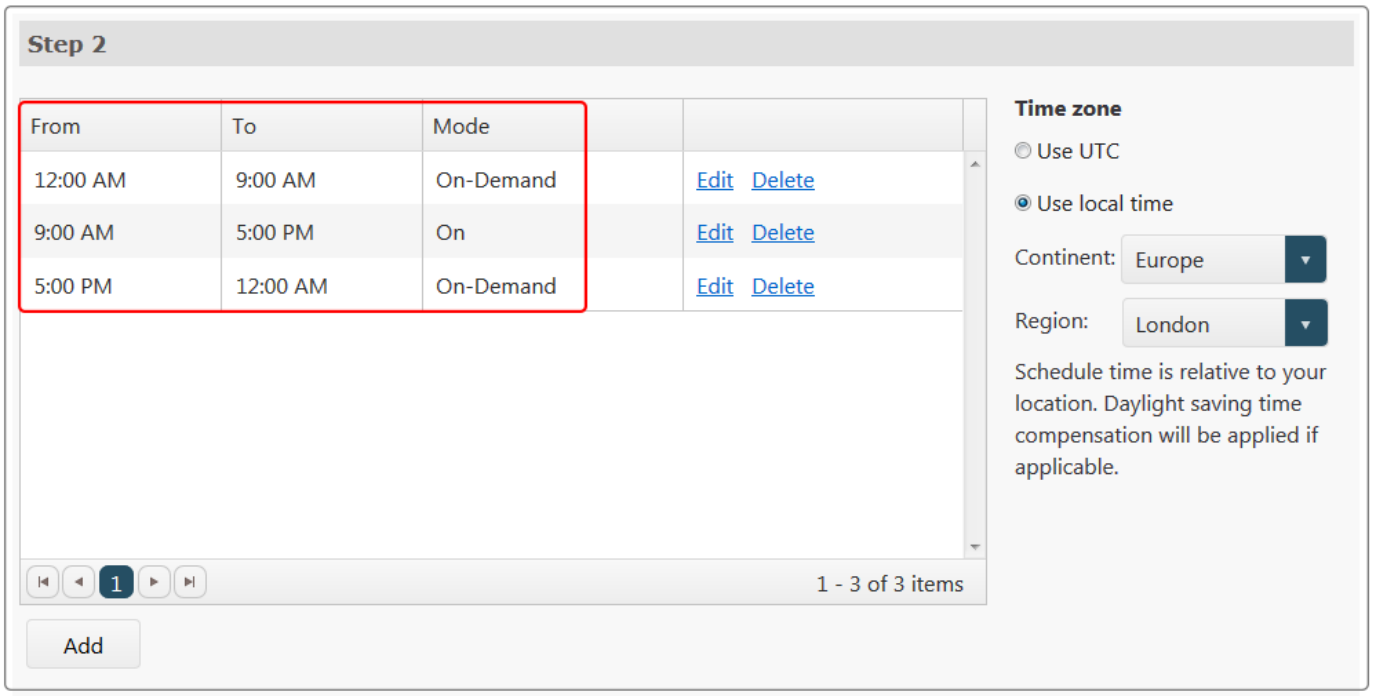


Click **Save**.

So for the earlier example of a server that should be on during office hours, it could be configured using the Every Weekday option on Step 1 and then have 3 events on Step 2:

- On Demand from 12:00 AM to 9:00AM
- On from 9:00AM to 5:00PM
- On Demand from 5:00PM to 12:00AM

This server would be on during the core office hours but would also be available on demand before and after these hours for anyone who is starting early or working late.



Note – The times for 2 events cannot overlap. For example, if one event is 9:00AM to 5:00PM, another event cannot occur any earlier that 5:00PM. If you try to enter an earlier time for the second event, it will be rejected.

2.2. Managing Schedules

All existing schedules will be listed in the grid on the Manage Schedules screen.

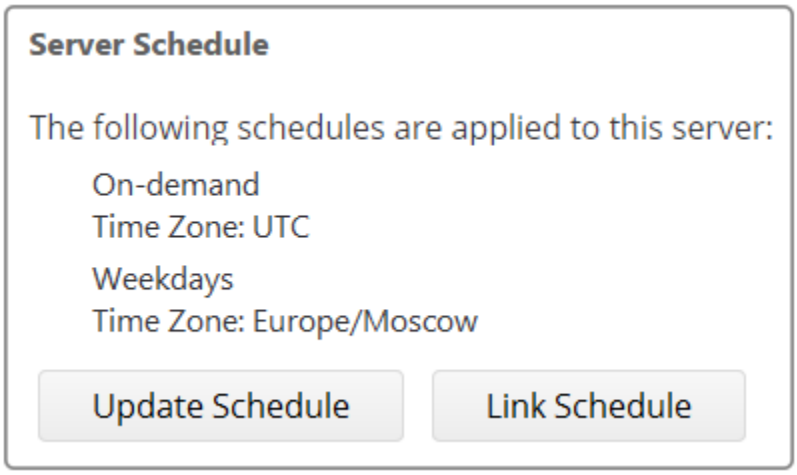
To update any of the schedules, cick the **Edit link** – this will walk the user through the same 2 step process as when the server was created.

The **Used by servers** column in the grid indicates which server is using a particular schedule. If a schedule is in use by more than one server, the number of servers using the schedule is displayed instead of a server name – clicking on this will open a popup window that lists the names of all of the servers.

2.3. Adding a Schedule to a managed server

Once the necessary schedules have been configured, they can be applied to a server.

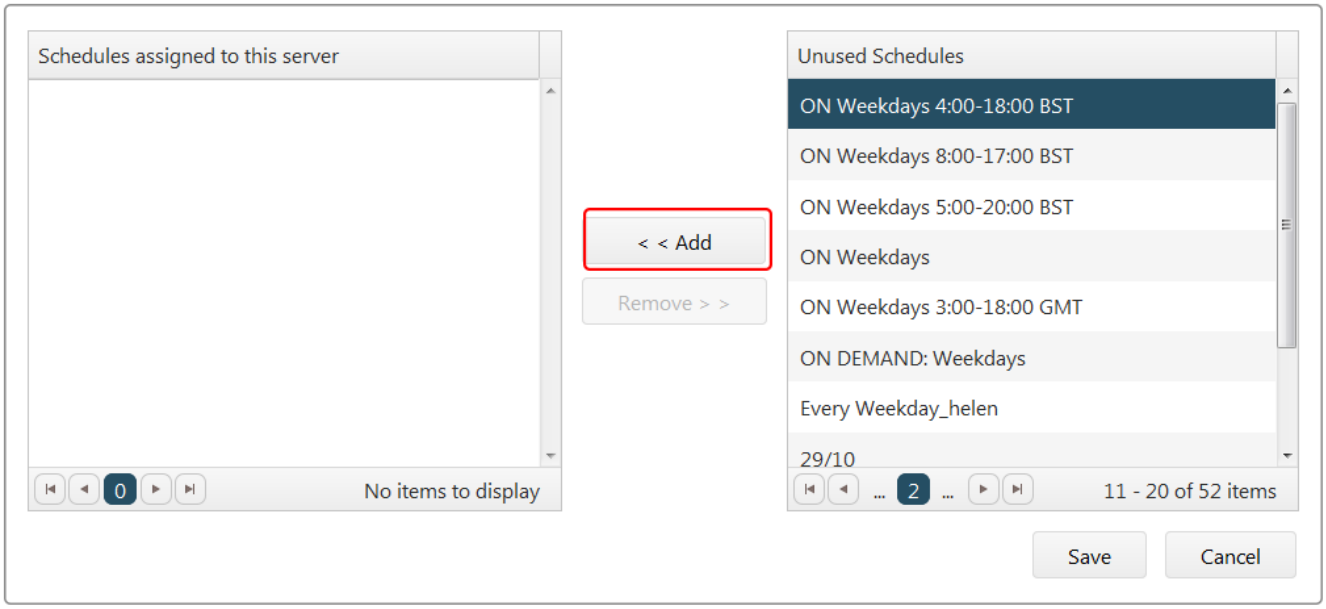
1. Log in to your CMM account.
2. On the Servers screen, click on the **Edit** button for the server that you want to add a schedule to – this will take you to the **Identity** tab of the Edit Server screen. Any schedules that have already been applied to the server will be listed under Server Schedule.



3. Click on the **Update Schedule** link – this will take your to the Update Schedules page.

   Note - The Update Schedule button will not be available if the server has been linked to another server (see 'Linked servers' for more details). if you need to apply a schedule to a linked server, unlink the server first.

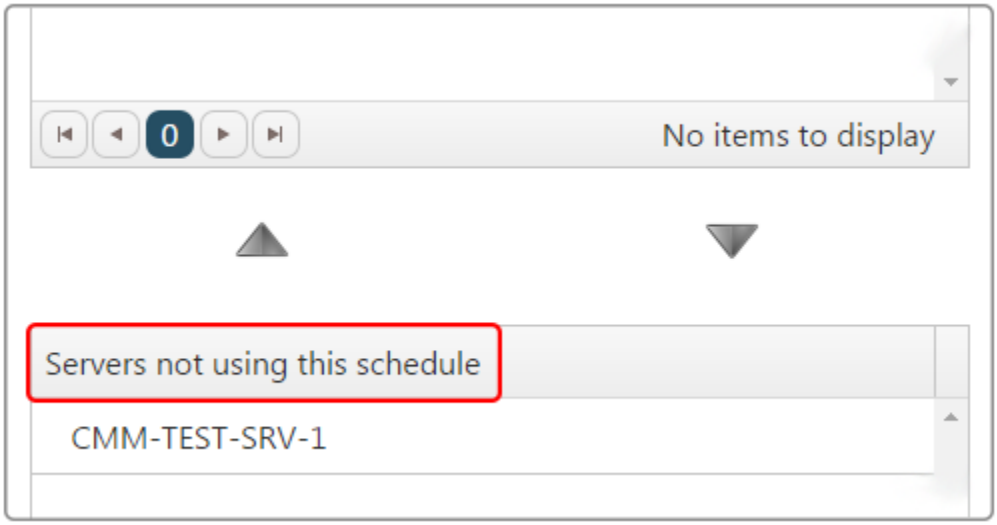
4. To apply a schedule to the server, select it in the **Unused Schedules** list and click the **Add** button to add it to the **Schedules assigned to this server** list.



5. Click **Save**.

Alternatively, you can update the schedules for multiple servers simultaneously:

1. Log in to your CMM account.
2. On the Servers screen, enable the checkboxes next to the servers that you want to update.
3. Click the **Update Schedule** button that becomes available below the Servers grid.
4. On the Update Schedules Page, select the schedule you need to apply. To add servers to the schedule, select a server in the **Servers not using this Schedule list** and clicking the button to add to the **Servers using this schedule list**.



Or

Drag and drop the server from **Servers not using this Schedule** list to **Servers using this schedule** list.

Similarly, to remove a schedule from a server, select the server in the **Servers using this schedule** list and click the button or drag the server name to the **Servers not using this Schedule list**.

5. Click **Save**.

2.4. Common schedules to consider

To help you get started creating schedules, these are some common cases that you may want to consider:

2.4.1. Servers must be on during office hours on weekdays

To create a basic schedule for servers to be on during office hours of 9AM to 5 PM, select **Every Weekday** on Step 1. Then, on Step 2, create a schedule for **9:00 AM to 5:00 PM** where the server is in **On** mode.

However, you may also add additional events to specify whether the servers should be On Demand or Off outside of these hours. Do this by adding a **12:00 AM to 9:00 AM** event and a **5:00 PM to 12:00 AM** event with the appropriate mode selected for each.

2.4.2. Servers must be off at weekends

If you know that your servers will not be needed at weekends, you can create a schedule that will ensure they are turned off by selecting **Every Saturday and Sunday** on Step 1. Then add an event on Step 2 that runs from **12:00 AM to 12:00 AM** with the mode set to **Off**.

2.4.3. Servers must be on every Wednesday to download Windows updates

There may be situations where you want your servers to be turned on for a specific day of the week. For example, you may need your servers turned on to download Windows updates that are released on a Wednesday.

To do this select **Every Wednesday** on Step 1 and then create a schedule on Step 2 that turns the servers at a convenient time for you - the updates won't take all day to install so you might want something like 8:00 AM to 11:00 AM.

2.4.4. Servers must be off on public holidays

If servers are only needed when users are at work, you may want a schedule that makes sure the servers are turned off when it is a public holiday.

For example, if you want to turn servers off on Christmas Day, choose **On 25/12 each year** on Step 1 and on Step 2 add an event that runs from **12:00 AM to 12:00 AM** with the mode set to **Off**.

Then create separate schedules that apply to any other public holidays that you need to consider, such as New Year's Day and so on.

2.4.5. Server is only on for the first full week in a month

If you want a server to just be turned on for one week in every month (turning on first thing on Monday and turning off last thing on the Friday), 2 schedules can be created that will work together to achieve this.

For example, if you want your server to only be turned on during the first full week of a month, create one schedule to turn the servers on a the start of the week (select **On the First Monday in the Month** on Step 1 and add a **12:00 AM to 12:00 AM** event on Step 2 which turns the server **On**) and another that turns the servers off at the end of the week (add second schedule **On the First Friday in the Month** on Step 1 and add a **11:30 PM to 12:00 AM** event on Step 2 which turns the server **Off**).

2.5. Frequently Asked Questions

2.5.1. What happens to the server if there are gaps in the applied schedule?

Any servers that have periods that are not covered by a schedule, for instance if there is a gap between one schedule ending and another beginning, will automatically default to being on demand during these periods.

For example, if a server has a single schedule applied to it to turn a server on between 9AM and 5PM so that it can be used during standard office hours, from 5PM until the 9AM the following morning the server will be set to on demand.

2.5.2. Should I set the server to be 'Off' or 'On-Demand'?

On demand can offer similar cost saving benefits as simply setting a server to Off but by being on demand it gives more flexibility in how it is used.

For example, if you know that servers will only be needed whilst users are in the office, you could apply one schedule to turn the server on between 9AM and 5PM and then another that turns the server off from 5PM until 9AM the next day.

But what if a user is still using a server at 5PM? You probably don't want the server to be turned off while they are still using it but equally you don't want to have to leave it on overnight. Instead, setting the server to be on demand, lets them finish their work without any threat of the server suddenly turning off whilst also ensuring that, once they are finished, the server will be turned off and not left on overnight.

Of course, there may be times when you know that you absolutely don't want your server to be available. In these cases, setting your server to Off instead of On-Demand will prevent any access to it.

2.5.3. What happens when my region switches to daylight saving time?

When configuring a schedule, it is necessary to consider whether daylight saving time needs to be taken into account or not. CMM provides two different time zone settings to cater for each scenario.

If **Use local time** is selected on Step 2 when creating a schedule, the schedule will automatically be updated when daylight saving time starts or ends. The relevant local time can be selected by using the Continent and Region drop down menus that are available when Use local time is selected.

However, if **Use UTC** is selected, the schedules will not be updated for daylight saving time. If changes need to be made, you must manually make them by editing the schedule.

Note - When Use UTC is selected, the Continent and Region settings are not relevant so they will not appear on the screen.

2.5.4. Should I use UTC or local time?

Ultimately, this depends on whether you want your servers to be updated for daylight saving time or not.

For example, if your servers are in a data center and need to maintain a standard time throughout the whole year, then you may want to use UTC – this will ensure that your schedules are not updated for daylight saving time.

However, if you are using a schedule to turn office servers on and off at the start and end of the working day, local time would be preferential because it means you do not have to worry about updating your schedules when daylight saving time starts or ends – the schedules will automatically update to match the time they will

be needed.

3. How to configure a server for on demand use

Cloud Machine Manager (CMM) is a scheduling tool that turns on/off Amazon servers in response to user demand. It makes sure servers only switch on when they are needed, and then switches them off again when they are no longer being used, to save development companies, universities and small business a lot of money.

This ‘on demand’ approach saves money by avoiding charges for unused server time, whilst ensuring resources are available when users need them. CMM automatically monitors workload so that unused servers can be identified and turned off. A powerful scheduling capability also ensures that servers are available during the periods they are needed.

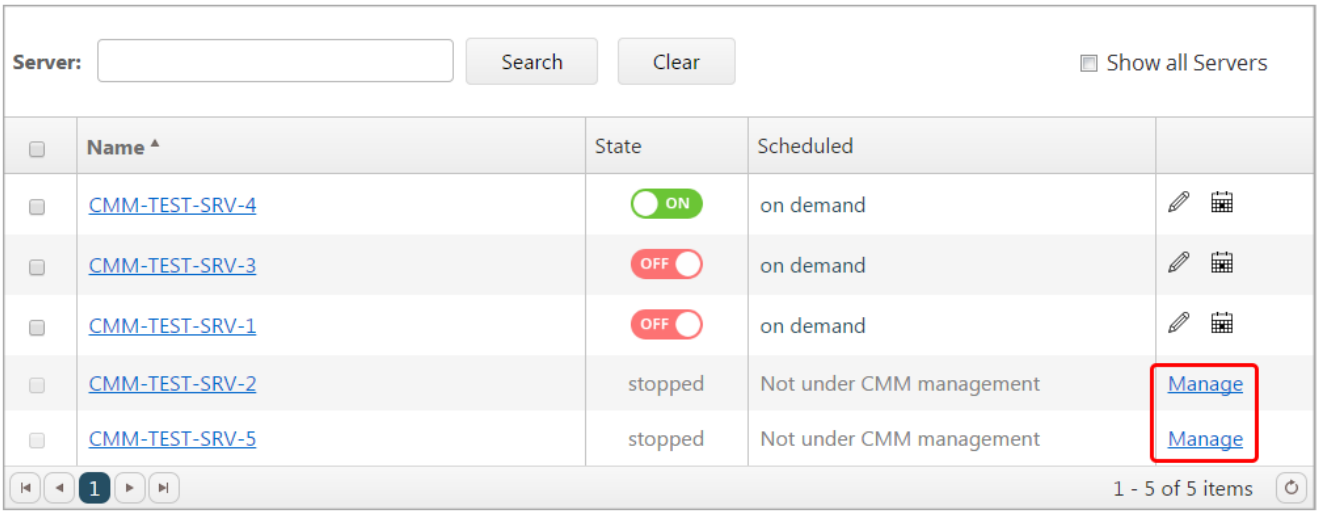
When servers are turned off they are actually suspended rather than fully shut down, which makes them much faster to bring back online. They also perform quicker because system memory and caches remain populated with frequently accessed data.

3.1. Getting started with on demand

Before a server can be configured to be on demand, it must first be set to be managed by CMM. If a server is not currently managed by CMM, the Scheduled column of the Servers table will say “Not under CMM management”.

Enable CMM management of a server by doing the following:

1. Log in to your CMM account.
2. On the Servers screen (where you will land by default after logging in), click on the **Manage** link for the server.



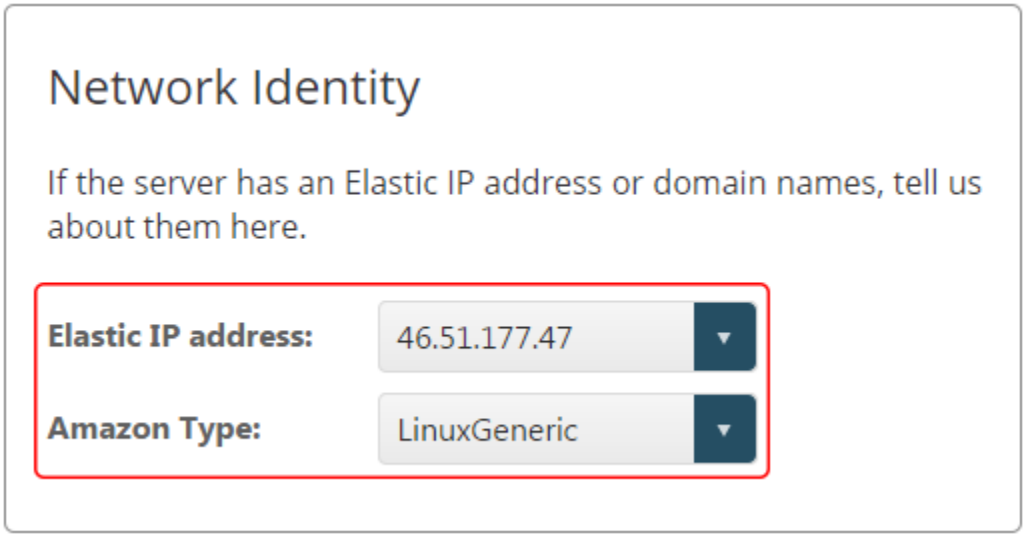
   The Server screen will refresh and the **Manage** link will be replaced by the **Edit** button and **Schedule** button

   In the Scheduled column of the table it should now say “**on demand**”.

Once a server is under CMM Management, the server’s Elastic IP address (if it has one) and the type of server (Amazon instance type) are automatically detected. You can also add a server description to give additional details of the server.

These can be reviewed and updated by doing the following:

1. Log in to your CMM account.
2. On the Servers screen, click on the **Edit** button for the server – this will take you to the Identity tab of the Edit Server screen. The **Elastic IP address** and **Amazon Type** settings are found in the Network Identity section.

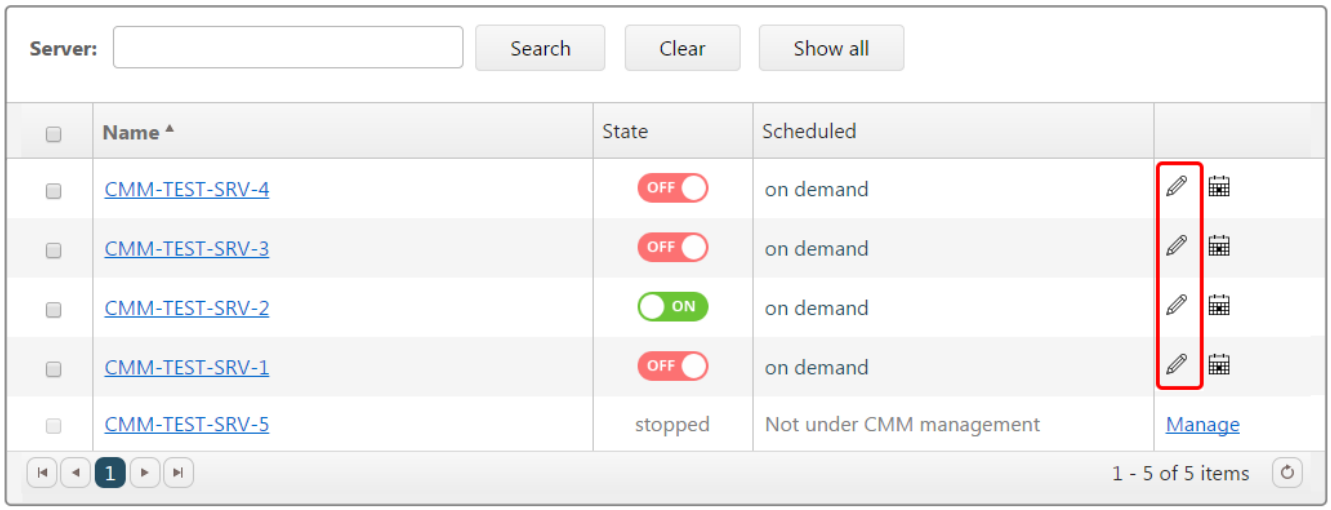


3. If the server has more than one elastic IP address assigned to it in Amazon, they will appear in the drop down menu. Simply choose the one that you want to use.
4. Click **Save** if any changes have been made.

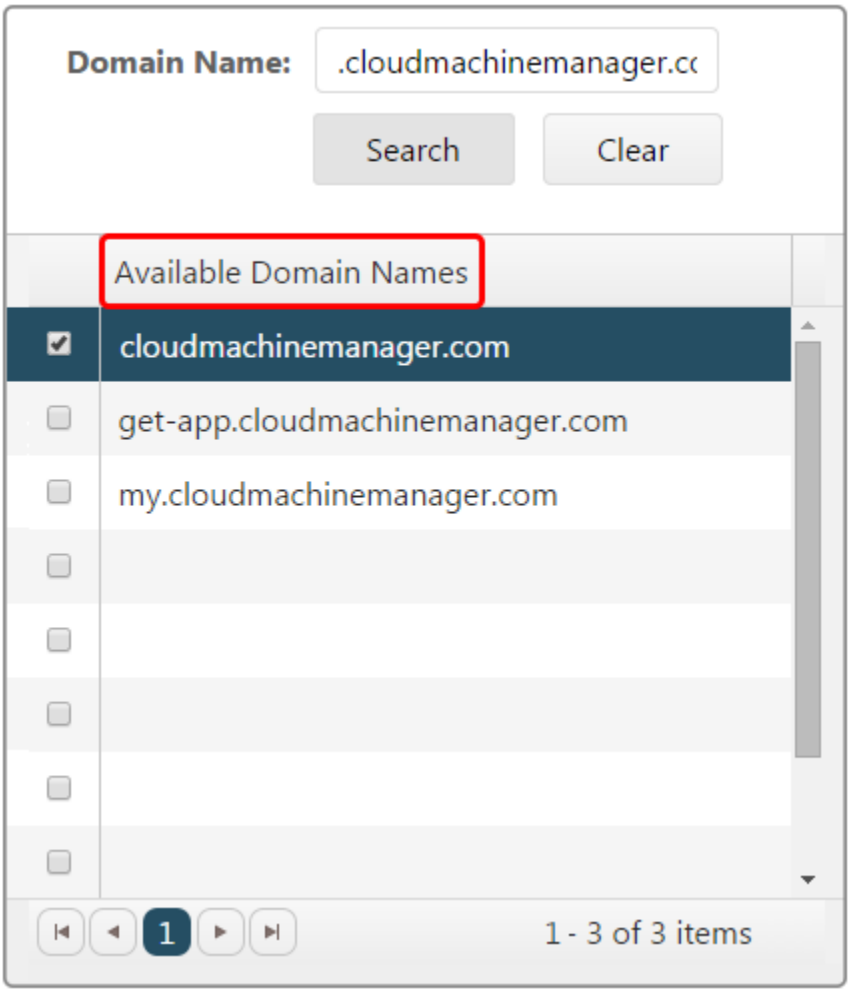
3.2. Configuring a server to be on demand

To allow on demand access, a domain name needs to be linked to the server. Users can then turn on the server by browsing to any page on the domain in their web browser.

1. Log in to your CMM account.
2. On the Servers screen, click on the **Edit** button for the server that you wish to make on demand – this will take you to the **Identity** tab of the Edit Server screen.



3. Under **Linked TCP ports**, click the **Add** button below the empty list.
4. In the Common Protocol drop down menu select **HTTP (80)** and click **OK**.
5. Find and check the domain names that should be linked to the server in the **Available Doman Names** list.



6. Click the **Add** button to transfer the checked domain names to **Linked Domain Names** list.
7. Click **Save**.

Note – If any changes have been made to your domain names and the changes have not appeared in the Available Domain Names list, click the **Update** button to refresh the list.

3.3. Specifying a dedicated waiting page

Normally, CMM will listen on all of the domain names and TCP ports specified for this server (in the Linked Domain Names list on the Identity tab) so simply browsing to any page on the domain will turn the server on, with the user being held on a waiting page until the server is ready.

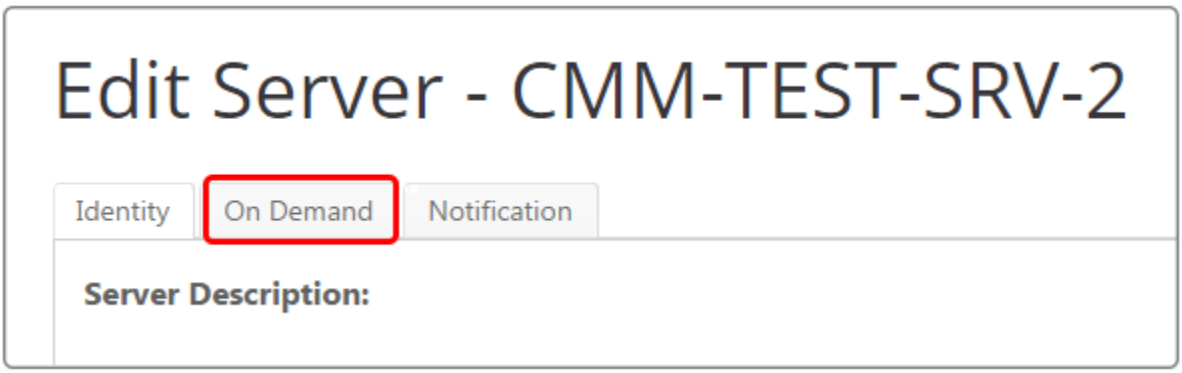
In some cases, browsers won't notice if the server associated with a domain name changes - in this case, when CMM attempts to redirect the user to the target server page, the redirect doesn't work. If you set up a start page URL, you can give this to your end users and they can use it to make sure the server is started.

This simply involves specifying a prefix that will be added before the domain name, as follows:

1. On the Servers screen, click on the **Edit** button for the on demand server – this will take you to the

Identity tab of the Edit Server screen.

2. Navigate to the **On Demand** tab on the Edit Server screen.



3. Enable the **Enable the website waiting page at** option and enter the prefix in the text box that follows immediately. This prefix will be added at the beginning of the domain names that have been specified in the **Linked Domain Names** list on the **Identity** tab.

Note – the prefix should not include a trailing dot or the domain name.

4. Click **Save**.

For example, if the linked domain name for a server is **cloudmachinemanager.com** and the prefix is set as start, a user can browse directly to **start.cloudmachinemanager.com** to turn the server on.

However, even if the **Enable the website waiting page at** option is enabled, the user can still browse directly to any page on the cloudmachinemanager.com domain (that they have permission to visit) to turn the server on.

Note When an amazon server is started, the state is not updated to Running as soon as the server is turned on and accessible – there may be other processes that Amazon is waiting on before it truly considers the server to be completely ready and updates the state to Running.

If the **Wait for Fully Running** option is enabled for an on demand server, any user who turns on the server via a web request will be held on the waiting page until the server state in Amazon has updated to Running. If this option is not enabled, the user will be forwarded to their destination web page as soon as there is a response from the server, irrespective of what the server state is on Amazon

3.4. Setting up the CMM Starter application

The CMM Starter application allows you to start servers when you need them and stop them afterwards. It also provides remote access to your server by launching the appropriate client program.

CMM Starter is available for Windows, Android, Apple iOS and Windows Phone.

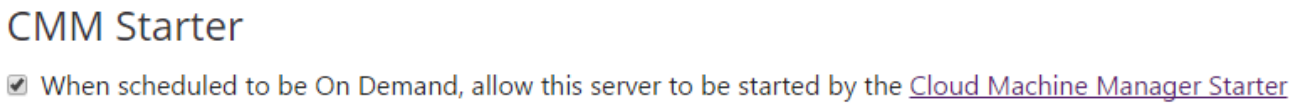
1. Visit https://my.cloudmachinemanager.com/CMM/CMMStarter.aspx and download the CMM Starter app for the platform of your choice.

2. Install the CMM Starter app and then log in using your usual CMM login credentials.

The CMM Starter app will display the same list of servers that is present on your Servers screen when logged into http://my.cloudmachinemanager.com.

Allow a server to be controlled using the CMM Starter application by doing the following:

1. On the Servers screen, click on the **Edit** button for the on demand server – this will take you to the **Identity** tab of the Edit Server screen.
2. Navigate to the **On Demand** tab on the Edit Server screen.
3. Ensure that the "**When scheduled to be On Demand, allow this server to be started by the Cloud Machine Manager Starter**" option is enabled (by default, it should be enabled).



4. If any changes have been made, click **Save**.

3.5. Utilization Monitoring

Now that you have your server configured to turn on whenever you want to use it, you can also configure it to automatically turn off when it is not being used. CMM can do this by monitoring your server's utilization and, if it falls below defined thresholds for a particular period, stop the server.

CMM can monitor your server's utilization and, if it falls below defined thresholds for a particular period, stop the server.

There are 2 usages that are monitored to determine if the server is still in use:

- **CPU usage** – When the average CPU for a set period falls below the specified threshold, the server will turn off.
- **Network usage** – When the total network usage for a set period falls below the specified threshold, the server will turn off.

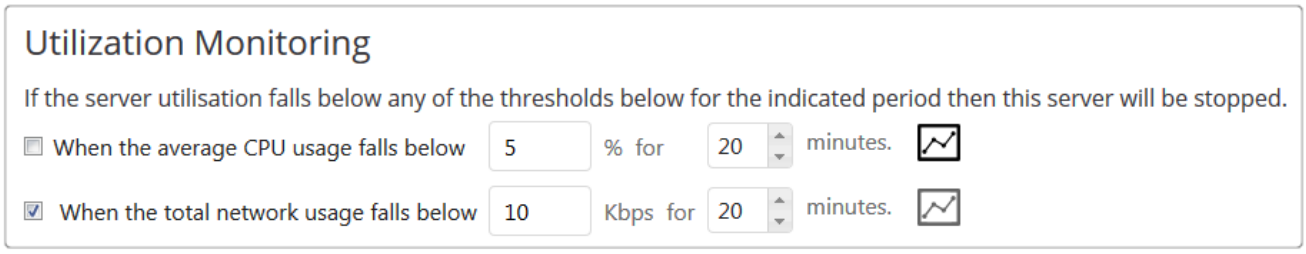
The threshold values and the period that the usage must fall below the threshold for can both be configured.

Utilization monitoring can be applied to both of these at the same time, just one or neither (the periods can be independently set for both settings).

Note – If CPU usage and Network usage are both monitored, usage must fall below the threshold for both in order for the server to be stopped.

To setup monitoring:

1. On the Servers screen, click on the Edit button for the on demand server – this will take you to the **Identity** tab of the Edit Server screen.
2. Navigate to the **On Demand** tab on the Edit Server screen.
3. Enable the checkbox next to the usage(s) that you wish to monitor. Enter a value for the threshold in the free text box and then enter a period in the minutes number box (or use the arrow buttons to increase / decrease the period in 5 minute increments).



4. Click **Save**.

3.6. Enabling deferred shutdown

Normally, when CMM detects that an on demand server is not being used, it will turn the server off. However, there may be instances where a server appears unused but there is actually still a requirement for it to be on. In such situations, instead of disabling on demand use altogether, it may be preferable to enable deferred shutdown instead.

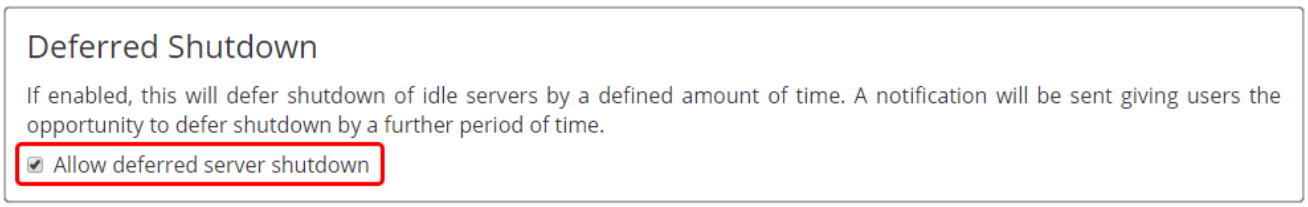
A server that has deferred shutdown enabled behaves exactly like any other on demand server, except for one difference – CMM will not turn off the server as soon as it believes that it is no longer being used. Instead, users of that server receive emails explaining that the server will turn off after a pre-defined period of time.

Should any of the users wish to keep the server on, they simply click a link in the email and they will be taken to a screen on the CMM website. From here, the user can see how long is left until the server will be turned off and they can choose to delay this by up 24 hrs (depending on what maximum has been set in the Account Details).

In other words, the server will be shut down after a set period of time unless a CMM user intervenes.

To enable the Deferred Shutdown option:

1. On the Servers screen, click on the **Edit** button for the on demand server – this will take you to the **Identity** tab of the Edit Server screen.
2. Navigate to the **On Demand** tab on the Edit Server screen.
3. Enable the **Allow deferred server shutdown** option.



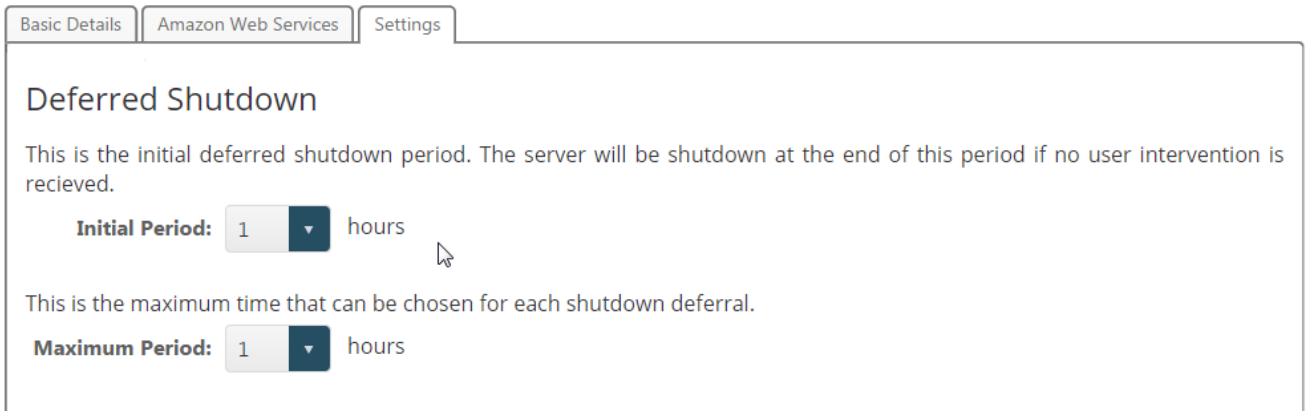
4. Click **Save**.

After that, you can configure the delay between the notification emails being sent and the server turning off as well as the maximum amount of time that a user can defer the server being turned off.

To configure these:

1. Go to the **ADMIN** menu and select **MANAGE ACCOUNT** – this will take you to the Basic Details tab of the Manage Account screen.

2. Navigate to the **Settings** tab.
3. Use the drop down menus to set the **Initial Period** (how long the server waits to turn off after notification emails are sent) and the **Maximum Period** (the maximum length of time that a user can defer shutdown for).



Note – By default, both of these will be set to 1 hr.

4. Click **Save**.

4. How to set up servers that are dependent on one another

In some cases separate servers may be dependent on one another, with one unable to fully function when the other is not also running. In such cases, the servers can be linked – when the primary server is started, the second server will also be started (with an optional startup delay, if necessary).

4.1. Configure the primary server

First of all the primary server should be configured – this is the server that will have a schedule or on demand use assigned to it.

1. Log in to your CMM account.
2. On the Servers screen (where you will land by default after logging in), click on the **Manage** link for the server that you wish to manage using CMM.

   The Server screen will refresh and the Manage link will be replaced by the **Edit** button and Schedule button .

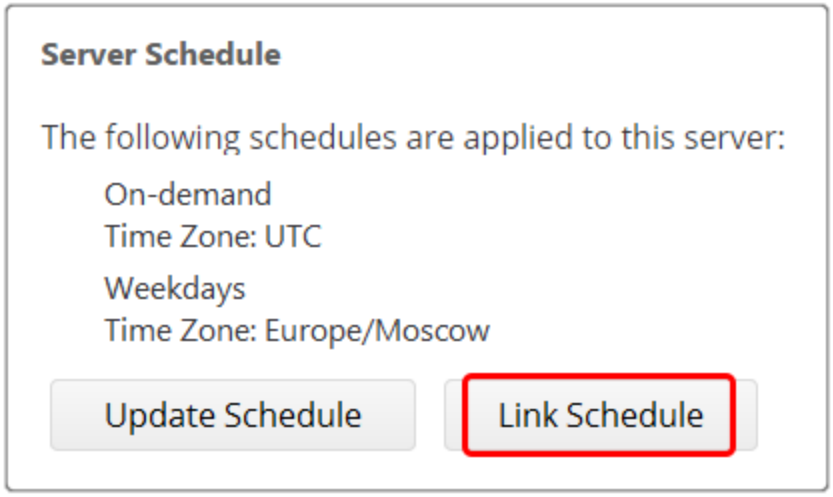
   In the Scheduled column of the table it should now say “On-Demand”.
3. If necessary, Schedules, Groups and Users can now be assigned to the primary server.

4.2. Configure the linked server

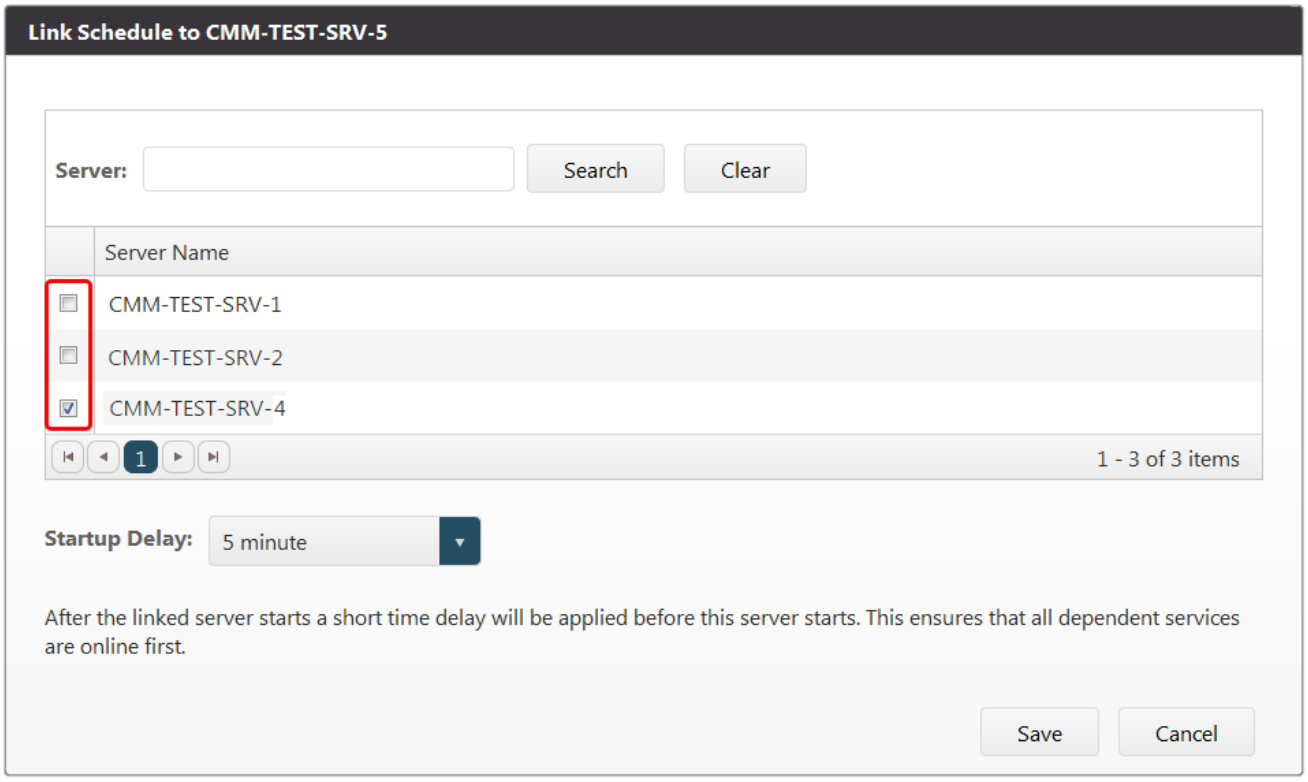
Once the primary server has been fully figured, it is then necessary to configure the server that will be dependent on it – in other words, this server will automatically start when the primary server is started.

1. Log in to your CMM account
2. On the Servers screen (where you will land by default after logging in), click on the **Manage** link for the server that you wish to manage using CMM.

   The Server screen will refresh and the Manage link will be replaced by the **Edit** button and Schedule button .
3. Click the **Edit** button for the server that you want to make dependent on another server - this will take you to the Identity tab of the Edit Server screen.
4. Click the **Link Schedule** button.



5. On the **Link Schedule to …** window, enable the checkbox next to the server that this server should be linked to (i.e. it will become dependent on).



6. If it is necessary to have a delay in the second server being started (for example, if the primary server needs to be fully initialized before the second server starts), select the relevant delay period from the **Startup Delay** drop down menu. If no delay is required, make sure that 'No delay' is selected.
7. Click **Save**.

Note – Once a server has been linked to another server, schedules can no longer be added to it as it is now dependent on the server that it has been linked to.

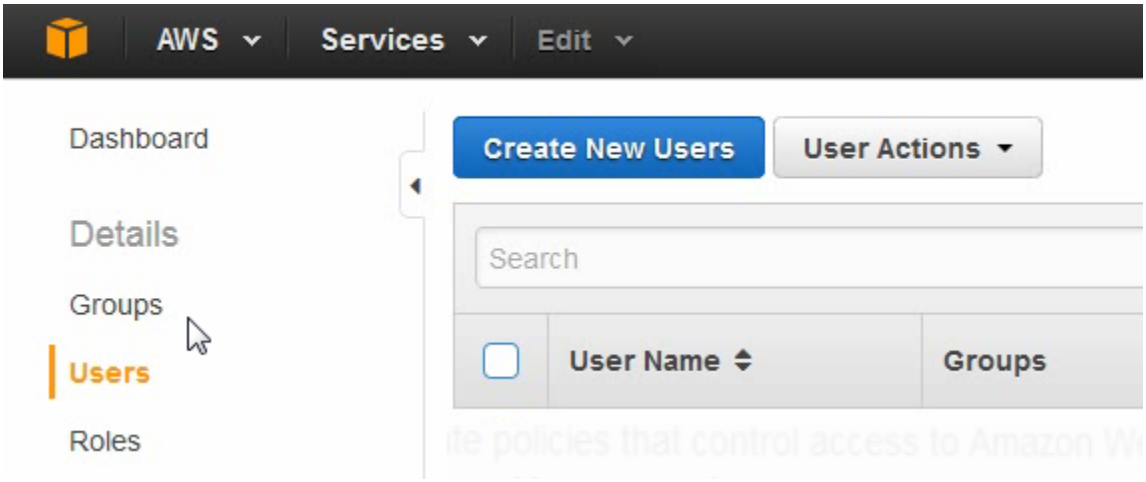
5. Setting up your Amazon AWS account

In order to use Cloud Machine Manager (CMM) with Amazon Web Services (AWS), it is necessary to configure a new user in AWS and provide it with the correct access permissions. Because Amazon has a sophisticated rights management system, these keys are configured to have the bare minimum of privileges to allow CMM to operate to prevent any risk to your servers.

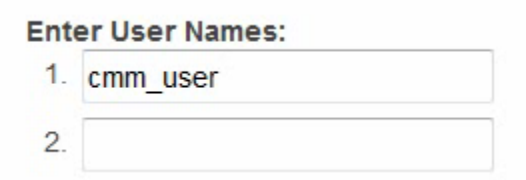
5.1. Creating a new AWS user

First of all, a new user needs to be created in the IAM Management Console.

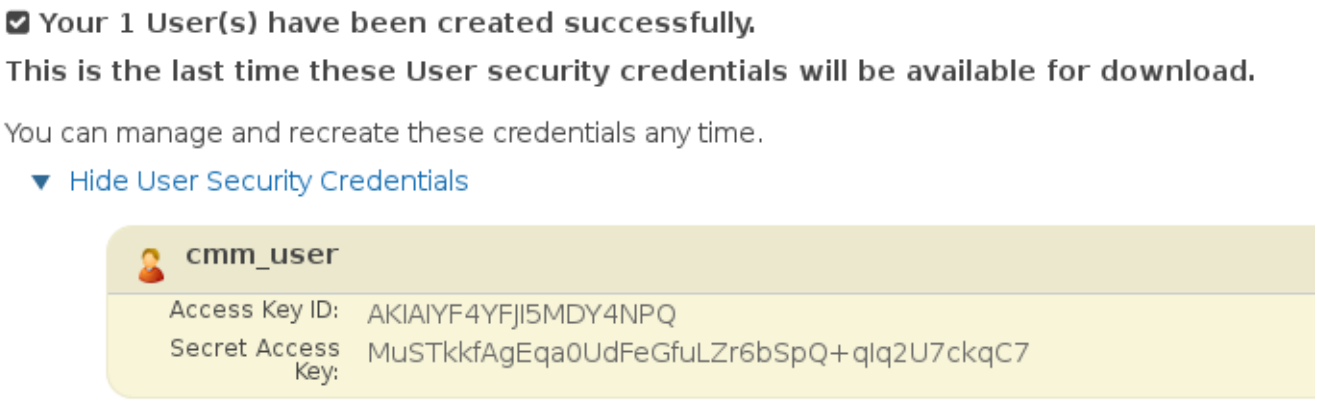
1. Go to the Amazon IAM Console.
2. Click **Users**.
3. Click the **Create New Users** button.



4. Enter the user name in the first text box. You might want to call it something like 'cmm_user'.



5. Make sure that the **Generate an access key for each user** option is enabled and then click the **Create** button.
6. When the key has been created for the user, download the credentials file by clicking the **Download Credentials** button.



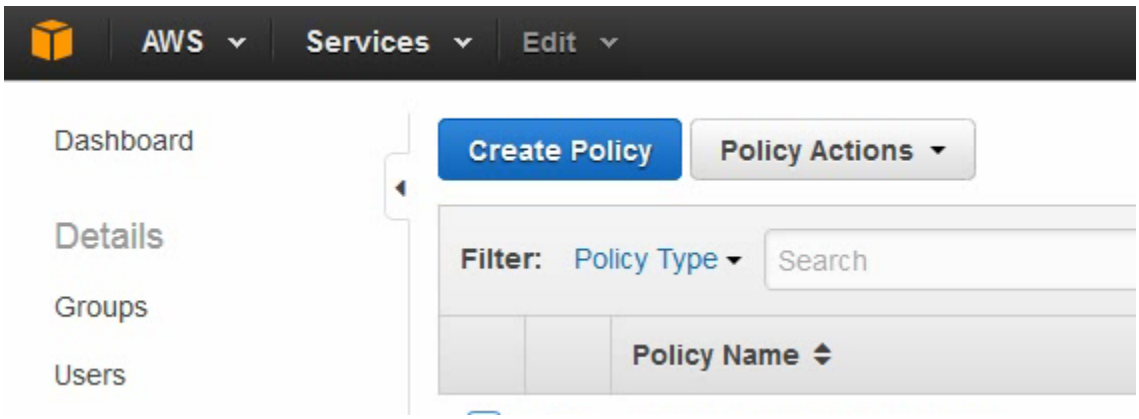
Note - This will be the last time that you can view the secret access key for this user so please take a note of the following information since it will be required by CMM in order to create a CMM account:

- Access Key ID
- Secret Access Key

5.2. Creating an access policy for use with CMM

When keys have been created, the user settings need to the edited as below to create an access policy for use with CMM:

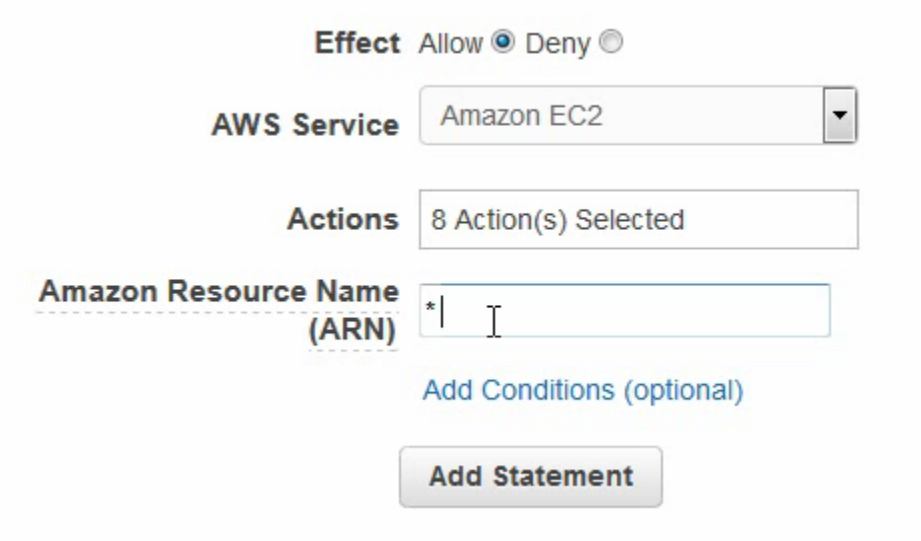
1. From the IAM Console, go to **Policies**.
2. Click the **Create Policy** button.



3. Click the **Select** button for **Policy Generator**.
4. Select **Amazon EC2** in the **AWS Service** combo box and then enable the following options in the **Actions** combo box:
    - AssociateAddress
    - DescribeAddresses
    - DescribeInstanceStatus
    - DescribeInstances
    - DescribeRegions
    - DescribeTags

- StartInstances
- StopInstances

5. Enter '*' into the Amazon Resource Name field. You should now see this:

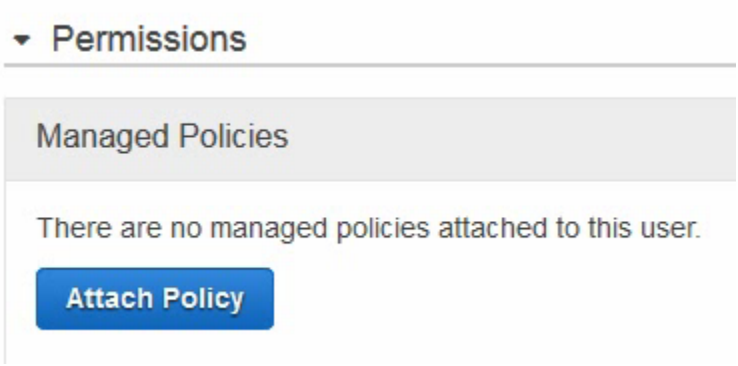


6. Click the **Add Statement** button.
7. Select **Amazon Route 53** in the **AWS Service** combo box and then enable the following options in the **Actions** combo box:
   - ChangeResourceRecordSets
   - GetChange
   - ListHostedZones
   - ListResourceRecordSets
8. Enter '*' into the Amazon Resource Name field.
9. Click the **Add Statement** button.
10. Select **Amazon CloudWatch** in the **AWS Service** combo box and then enable the following options in the **Actions** combo box:
    - GetMetricStatistics
11. Enter '*' into the Amazon Resource Name field.
12. Click the **Add Statement** button.
13. Select **AWS Identity and Access Management** in the **AWS Service** combo box and then enable the following options in the **Actions** combo box:
    - ListAccessKeys
14. Enter '*' into the Amazon Resource Name field.
15. Click the **Add Statement** button.
16. Click **Next Step**.
17. Enter a Policy Name in the field provided. You may want to call it something like "CMM_Policy".
18. Click the **Create Policy** button.

5.3. Assigning an AWS policy to a user

Now that the new permissions policy has been created, it needs to be attached to the new user:

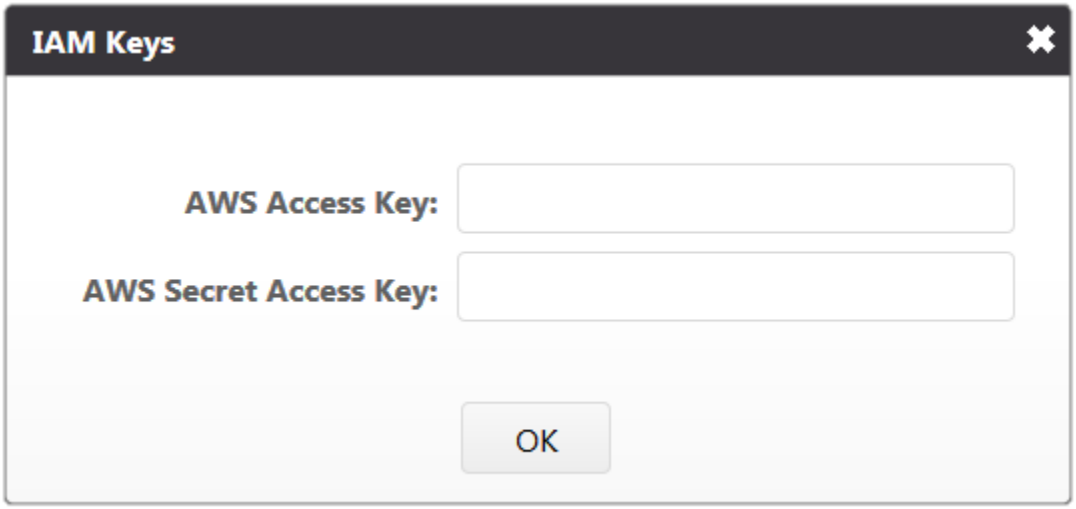
1. Go to **Users** in the IAM Console.
2. Click on the new user that was previously created.
3. Click the **Attach Policy** button.



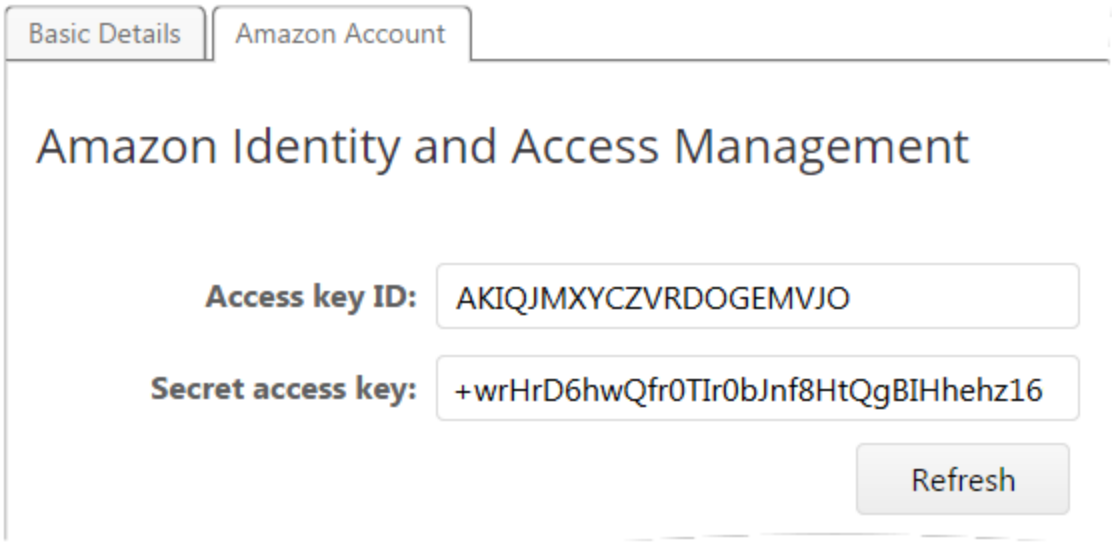
4. Select the newly created policy and click the **Attach Policy** button.

5.4. Completing CMM Setup

As you complete your account registration process, you will be presented with a dialogue for entering your AWS Keys that were created previously (see Creating a new AWS user for more details):



You can update your keys at any time by editing your Account information (see [Amazon account details] for more details).


Basic Details
Amazon Account
Amazon Identity and Access Management
Access key ID:
AKIQJMXYCZVRDOGEMVJO
Secret access key:
+wrHrD6hwQfr0TIr0bJnf8HtQgBIHhehz16
Refresh