# Organizing Your Environment

**Dynatrace Training Module** 



#### Agenda

- Host Groups
- Network Zones
- Metadata and Tagging
- Naming Rules
  - Host
  - Process Group
  - Service
- Management Zones

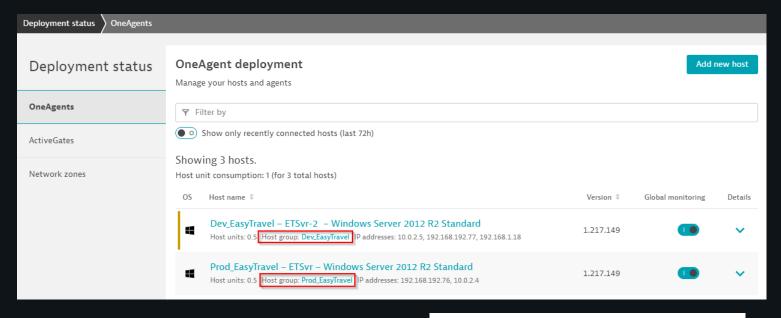
## **Host Groups**

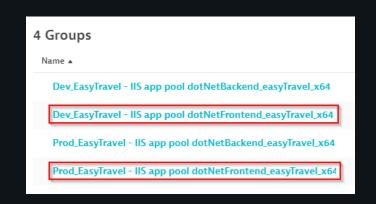
#### Why would I need a Host Group?

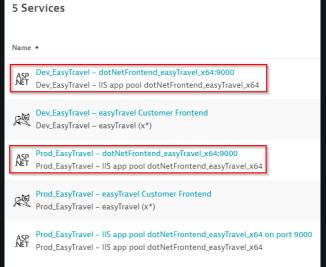
- Host Groups affect how process groups are detected. By default, similar processes and services are detected and grouped together.
- Host Groups serve as a method of automatically separating processes and services by the group name
  - An example is "Environment\_AppName\_Function"
  - Such as "Prod\_EasyTravel\_Webservers" vs. "Dev\_EasyTravel\_WebServers"
  - A Host Group will be the same on hosts that are performing the same role.
- Use Cases:
  - Monitoring multiple application environments (DEV, INT, PRD) in the same Dynatrace environment or tenant.
  - Need to split process groups automatically, without defining environment variables per host/process
  - Host Groups can be used as filters and for defining Auto-Tagging Rules and Management Zones.

https://www.dynatrace.com/support/help/shortlink/host-groups

#### **Host Groups**





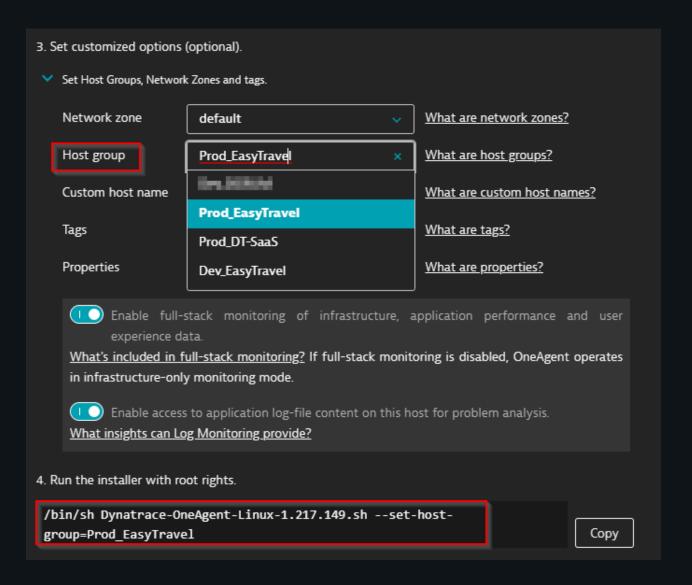


#### How to Set or Adjust the Host Group

- This option should be set during install as changes or updates will require server access and application process restarts
- A Host Group defined on a host during OneAgent installation
  - AIX, Linux, and Windows installers allow you to set installation option for that on the command-line.
    - --set-host-group=env\_application\_function
  - The Windows installer in GUI mode allows for additional configuration options
  - MSI installation parameters are available as well:
    - https://www.dynatrace.com/support/help/shortlink/windows-custom-installation#msi-installation-parameters
  - After the installation is complete the Host Group is statically assigned to the host
- A Command Line Interface (CLI) "oneagentctl" utility allows setting or updating the Host Group.
  - The OneAgent will need to be shutdown before, and restarted after, setting the host group.
  - Add --restart-service to the CLI to automate the restart
- Each host belongs to at most one host group

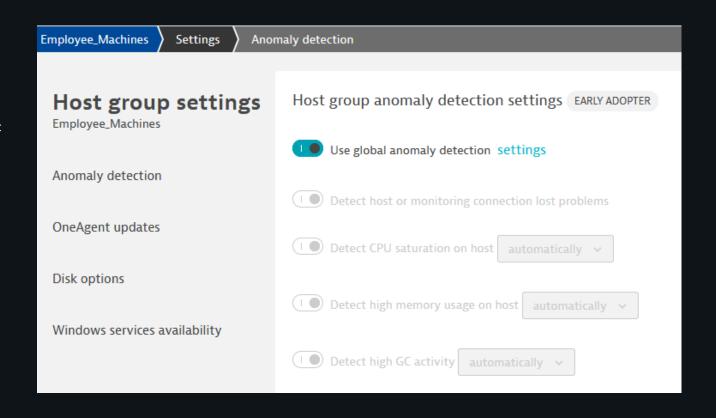
#### **How to Set the Host Group**

- Utilize the OneAgent customization settings when retrieving the software
- Filing in the Host Group will add the necessary parameter to the command line in step 4.



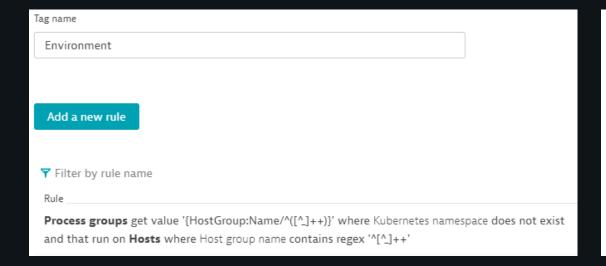
#### How else does it affect the monitoring?

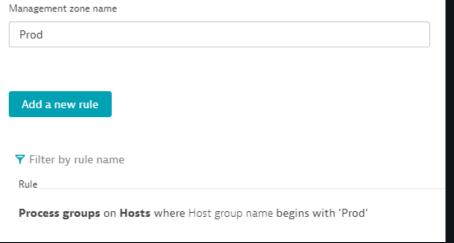
- Hosts can be configured on the host group level
- This makes changing settings for a set of hosts much easier
- Settings that can be defined per Host Group:
  - Alerting thresholds
  - OneAgent updates
  - Disk monitoring options
  - Windows services monitoring



#### **Host Group Uses**

Host groups can also be used in tagging rules and for defining Management Zones so you can apply additional context information to the different entities in Dynatrace based on host groups





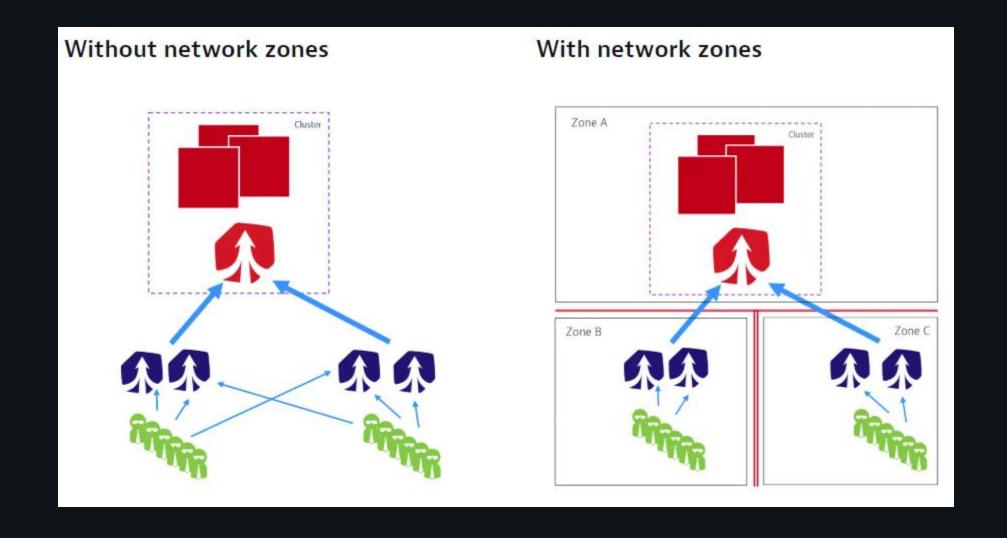
## **Network Zones**

#### Why would I need a Network Zone?

- Network zones are Dynatrace entities that represent your network structure.
- They help route OneAgent traffic efficiently, avoiding unnecessary traffic across data centers and network regions.
- Without Network Zones OneAgent traffic is load balanced among all ActiveGates, regardless of location
- Network Zone names should follow the network structure:
   <a href="https://www.dynatrace.com/support/help/shortlink/network-zones-basics#anchor\_naming">https://www.dynatrace.com/support/help/shortlink/network-zones-basics#anchor\_naming</a>
- Alternative network zones can be configured in the UI to serve as backup zones.
- OneAgents are still aware of all ActiveGate and Cluster endpoints and will automatically failover if necessary
- Use Cases
  - Optimize traffic flow from OneAgents to ActiveGates
  - Eliminate unnecessary cross-datacenter traffic
  - Take full advantage of the compression offered by ActiveGates

https://www.dynatrace.com/support/help/shortlink/network-zones

#### Why would I need a Network Zone?



#### **Network Zones – Connection Priority**

ActiveGates from ActiveGates from ActiveGates from ActiveGates Alternative Default zone All other Same zone zone 1.1 Environment 2.1 Environment 3.1 Environment 4.1 Environment ActiveGates ActiveGates ActiveGates ActiveGates 1.2. Cluster 2.2. Cluster 3.2. Cluster 4.2. Cluster ActiveGates ActiveGates ActiveGates ActiveGates 1.3. Embedded 2.3. Embedded 3.3. Embedded 4.3. Embedded ActiveGates ActiveGates ActiveGates ActiveGates Priority Group 1 Priority Group 2 Priority Group 3 Priority Group 4

#### How to Set or Adjust the Network Zone for an ActiveGate

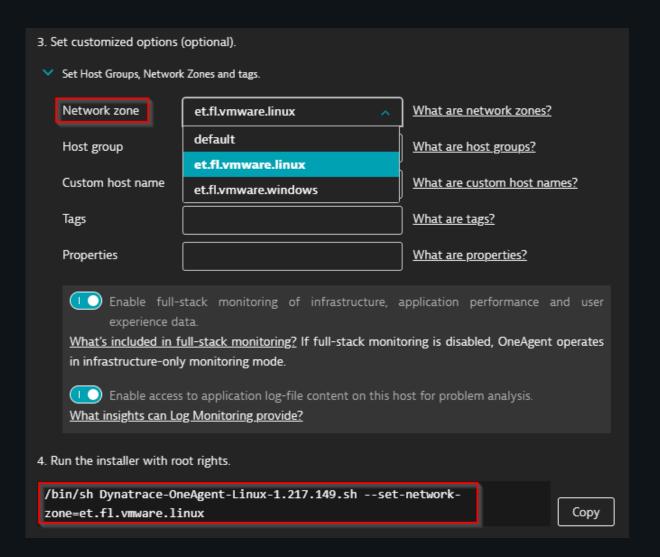
- This option should be set during ActiveGate installation. Changes or updates will require server access and an ActiveGate service restart.
- An ActiveGate can be assigned to a network zone at the time of installation
  - Installers allow you to set the Network Zone on the command-line
    - --set-network-zone=My.Network.Zone
- Alternatively, the ActiveGate configuration can be changed after installation.
  - Modify the "custom.properties" file in the ActiveGate configuration directory: https://www.dynatrace.com/support/help/shortlink/sgw-files#directory-locations
  - Add the necessary settings: https://www.dynatrace.com/support/help/shortlink/sgw-configure#sectionconnectivity-
  - Restart the ActiveGate Service: https://www.dynatrace.com/support/help/shortlink/stop-restart-activegate

#### How to Set or Adjust the Network Zone for a OneAgent

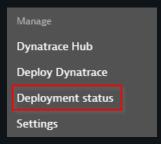
- This option should be set during OneAgent installation. Changes or updates will require server access and a OneAgent service restart. Application processes will <u>not</u> need to be restarted.
- A Network Zone can be defined on a host during OneAgent installation
  - AIX, Linux, and Windows installers allow you to set installation option for that on the command-line
    - --set-network-zone=My.Network.Zone
  - The Windows installer in GUI mode allows for additional configuration options
  - MSI installation parameters are available as well:
    - https://www.dynatrace.com/support/help/shortlink/windows-custom-installation#msi-installation-parameters
  - After the installation is complete the OneAgent will attempt to communicate with the ActiveGates in the same zone
- A Command Line Interface (CLI) "oneagentctl" utility allows setting or updating the Network Zone
  - The OneAgent will need to be shutdown before, and restarted after, setting the host group.
  - Add --restart-service to the CLI to automate the restart

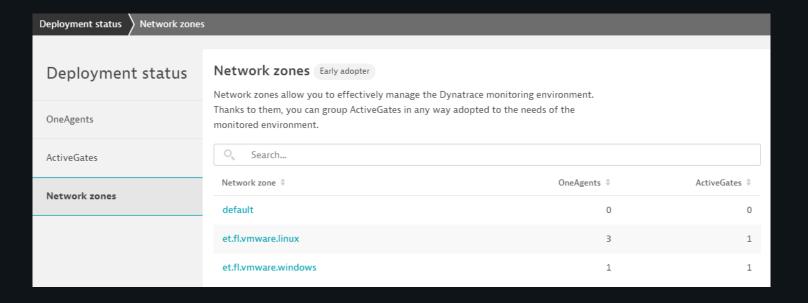
#### **How to Set the Network Zone**

- Utilize the OneAgent customization settings when retrieving the software
- Filing in the Network Zone will add the necessary parameter to the command line in step 4.

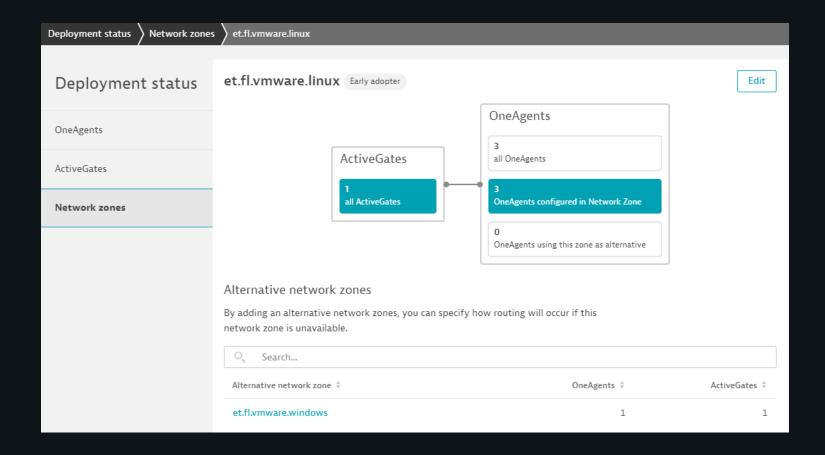


#### **Network Zones Status**





#### **Network Zones Status and Alternate Network Zones**

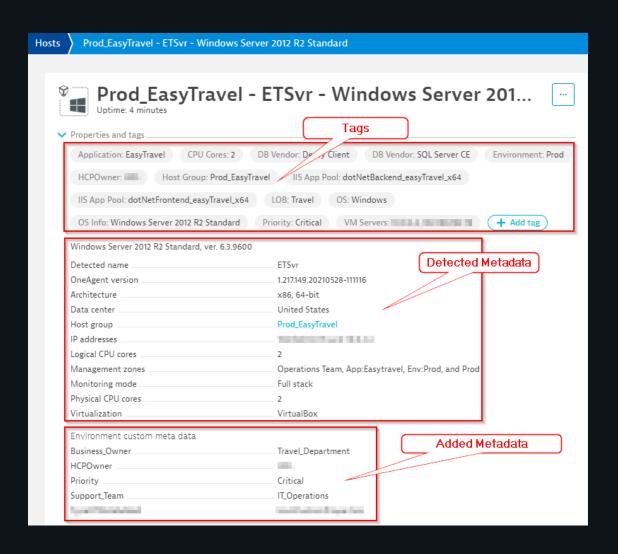


# Metadata and Tags

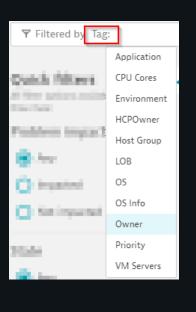
#### Why would I need Metadata and Tags

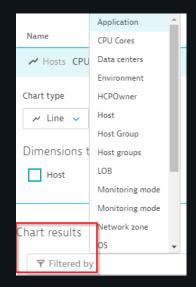
- Metadata and Tags enable you to organize your monitored environments in a meaningful way.
- Metadata are key/value pairs that are detected, or added, on a monitored entity.
- Metadata are mainly used for defining extra information for entities
- Tags are typically based on detected, or added, metadata.
- Tags in Dynatrace are key/value labels or markers
- Tags are used for filtering or organizing entities
- When creating tags be sure to review the metadata detected in the properties of an entity
- Although tags and metadata are closely related, they are different concepts and are created and used in different ways
- https://www.dynatrace.com/support/help/shortlink/tags-and-metadata-hub

#### Tags and Metadata



### Tags can be used to filter Views, Charts and Alerts





Error alert (After 0 mins; Only include entities that have any tags Application:EasyTravel)

Slowdown alert (After 30 mins; Only include entities that have any tags
Application:EasyTravel)

#### Best Practices and recommendations for tagging

- Typically, you should think about using standardized or additional metadata and not about tags.
- Be sure to view the properties of an entity for available metadata
- Add metadata that helps to clarify, manage or organize the environment data
- Added metadata should be standardized across the environment as much as possible
- Areas to consider
  - Owner/team/business unit/line of business
  - Environment: staging/production
  - Importance/severity (relevant for alerting profiles)
- Assign metadata and create tags in key-value pairs (e.g. LOB=Travel not just "Travel")
- Add Host metadata for host information common to all processes on the host
- Process metadata can be added for process-specific information
- Auto-tagging based on metadata allows tags to be generated automatically and assigned to monitored entities

https://www.dynatrace.com/support/help/shortlink/tagging-best-practices

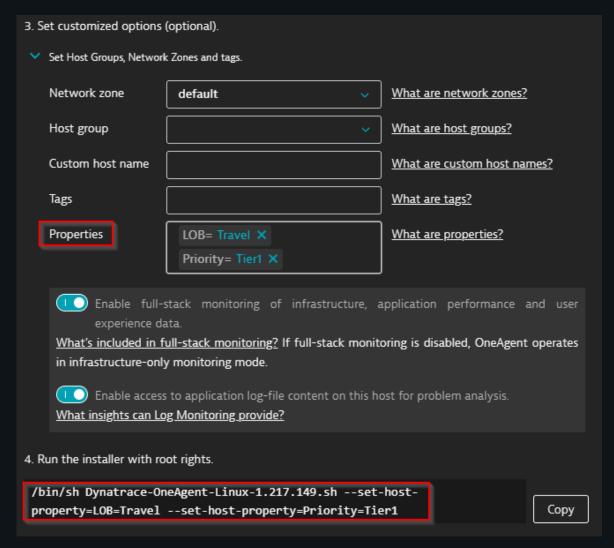
#### How to Set or Adjust Host Metadata

- Host metadata can be set during OneAgent installation or adjusted afterward. Changes or updates will require server access. No services need to be restarted.
  - Spaces cannot be used in a key or value
  - Multiple properties can be set at the same time
- Host metadata can be defined during OneAgent installation
  - AIX, Linux, and Windows installers allow you to set installation options on the command-line
    - --set-host-property=*key=value*
    - --set-host-property=LOB=Travel --set-host-property=priority=tier-1
  - The Windows installer in GUI mode allows for additional configuration options
- A Command Line Interface (CLI) "oneagentctl" utility allows setting or updating the host properties
  - Utilize the same parameters as during OneAgent installation
    - --set-host-property=key=value
    - --set-host-property=LOB=Travel --set-host-property=priority=tier-1

https://www.dynatrace.com/support/help/shortlink/oneagentctl#custom-host-metadata

#### **How to Set Metadata**

- Utilize the OneAgent customization settings when retrieving the software
- Filing in the Properties will add the necessary parameter to the command line in step 4.



#### **How to Set or Adjust Process Metadata**

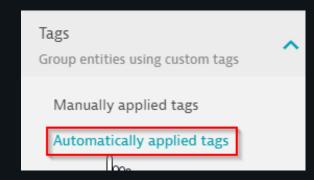
- Process metadata is set in technology-specific configuration files or via command line launch parameters. Changes or updates will require restarting the process.
  - Spaces cannot be used in a key or value
  - Multiple properties can be set at the same time
- Adding process metadata relies on adding a process environment variable
  - DT\_CUSTOM\_PROP="key1=value1 key2=value2"
  - DT\_CUSTOM\_PROP="LOB=Travel Priority=Tier1"
- Example:
  - Apache HTTP Web Server
    - Location of file: /etc/sysconfig/httpd
    - Add: DT\_CUSTOM\_PROP="LOB=Travel Priority=Tier1"

https://www.dynatrace.com/support/help/shortlink/process-group-properties#anchor\_variables

#### **Tagging Rules**

- Types of Tags
  - Automatically based on Rules
    - Auto tagging rules can be changed and adapted any time and will apply almost immediately without any change to the monitored environment or applications.
    - Most commonly used
    - Most flexible
    - Dynamically added based on detected or standardized properties
    - Cannot be accidentally removed as in manual tags
  - Manually via the UI or API
    - Can be difficult to manage in large environments
    - Must remember to add the tags
    - Easy to accidentally remove tags
  - Automatically without rules
    - Not very flexible
    - Useful for importing information from some platforms (Cloud Foundry, Kubernetes and OpenShift, AWS)

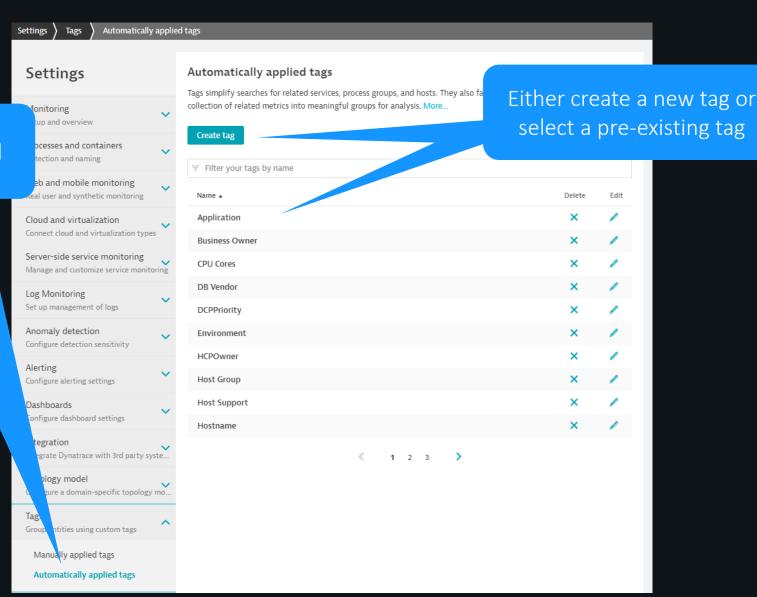
https://www.dynatrace.com/support/help/shortlink/tagging



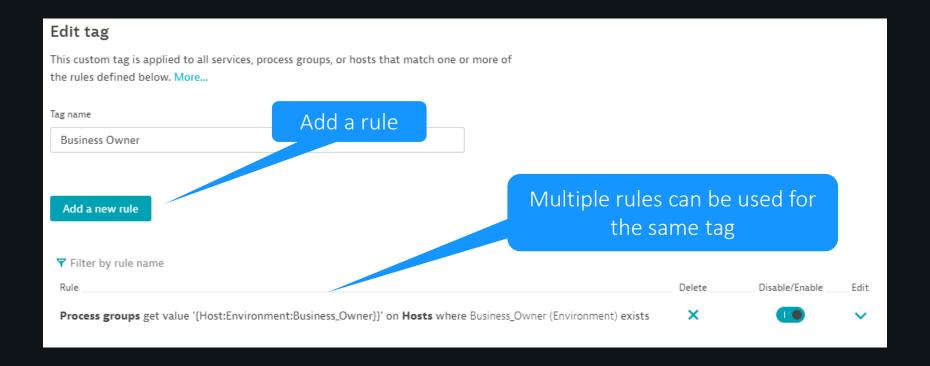
## Automatic Tags with Rules

#### **Tagging - Automatically**

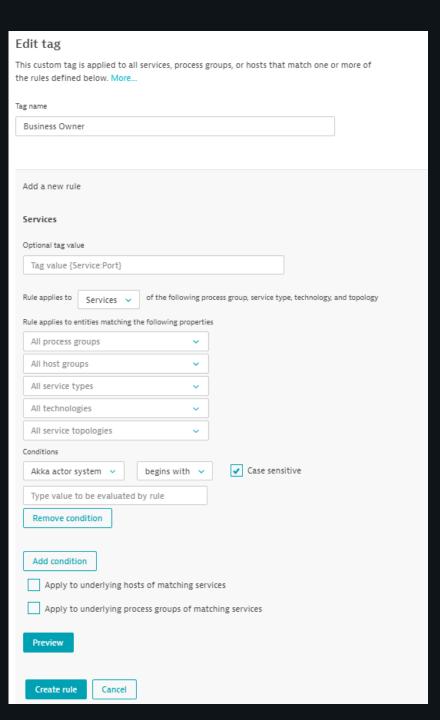
Start by selecting Settings > Tags > Automatically applied tags



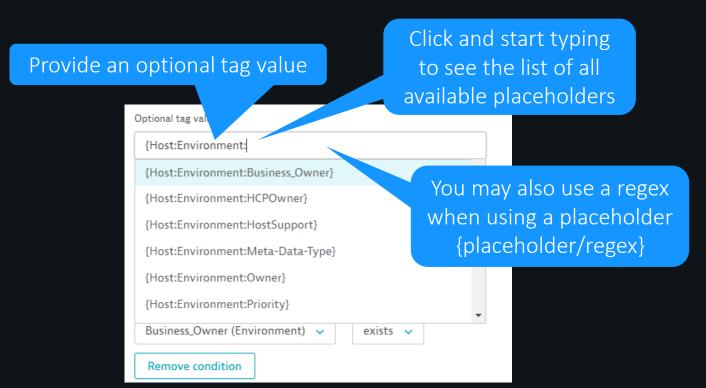
#### Edit a Tag – Creating a Rule



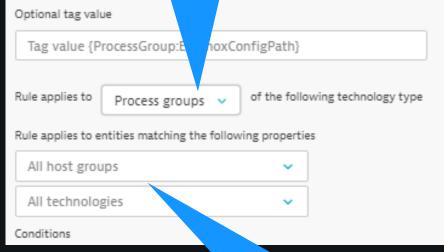
#### Edit a Tag – Creating a Rule



#### Edit a Tag – Identify entities



Select which type of entity you are tagging



Narrow the tag to a particular set of entities

#### NOTE:

Regular expressions are a powerful way to extract a certain pattern in a string.

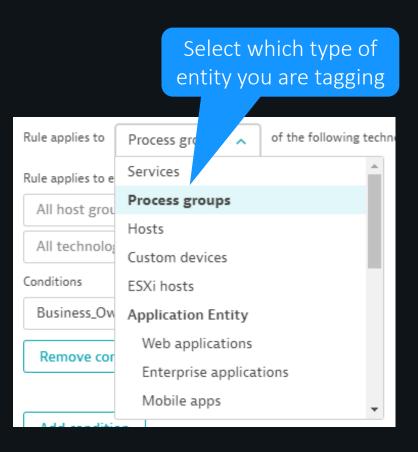
Regular expressions may also quickly become resource intensive.

Try to create efficient Regexs by avoiding lazy and greedy matching, backtracking, and repeated capture groups Refer to: https://www.dynatrace.com/support/help/shortlink/regex

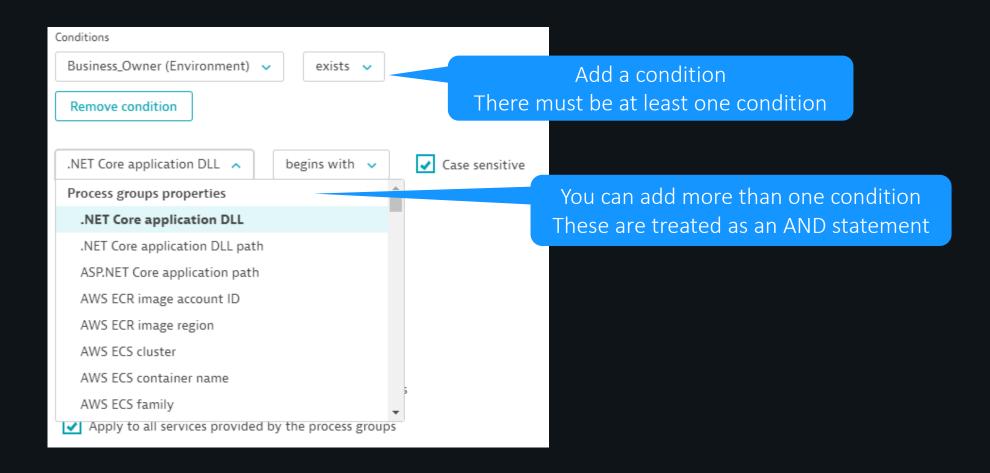
31

#### **Applying rules to Process Groups vs. Services**

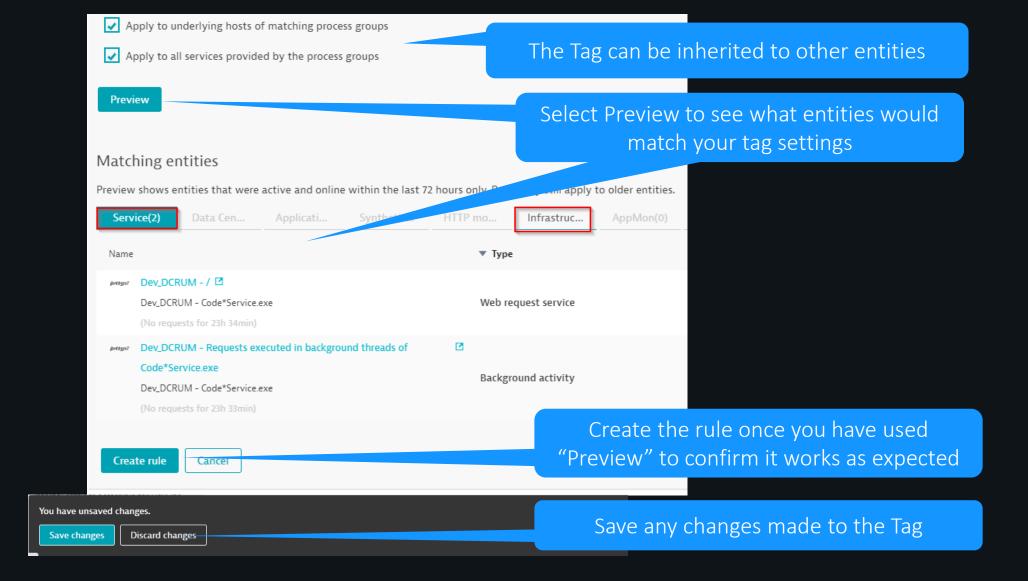
- Dynatrace "Services" represent information about requests like web requests, web service calls, and queries
- Dynatrace "Process Groups" are a logical cluster of processes that are performing the same function across hosts
- Services only exist when requests are being sent.
- Process Groups exist as soon as the processes are started on a host.
- Most of the time Process Groups should be tagged as the entity will exist as soon as a host/process is started.
- Service entities do not exist until application requests have been sent.



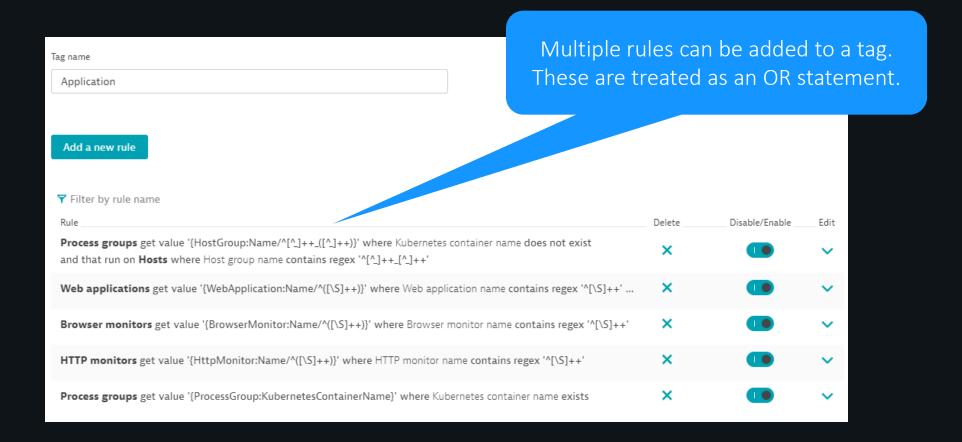
#### **Edit a Tag – Define Conditions**



#### Edit a Tag – Inherit and Preview



#### Edit a Tag – Multiple Rules



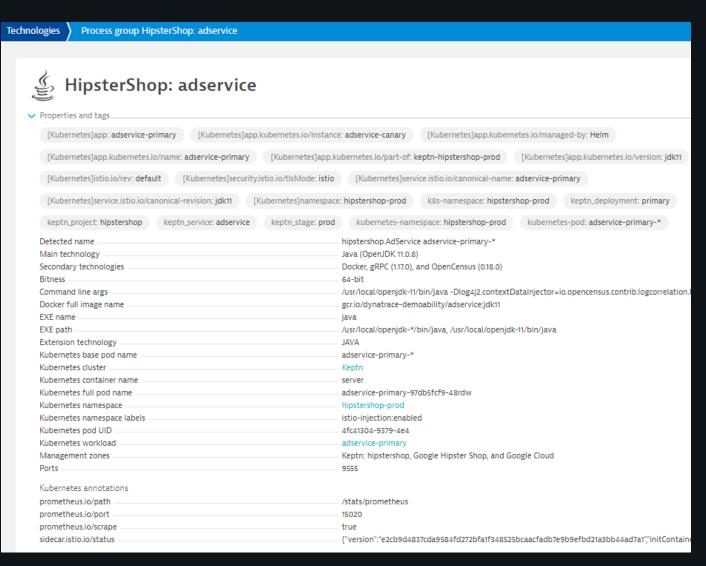
## Importing Metadata and Tags

#### **Automatic Tagging recommendations**

- There may be existing tags or metadata in 3rd-party systems that you rely on and that you want to ensure are the same across your organization in an automated fashion.
- Dynatrace recommends providing such metadata and tags via the different means at the time of deployment
  - Kubernetes annotations: <a href="https://www.dynatrace.com/support/help/shortlink/kubernetes-tagging#recommendation">https://www.dynatrace.com/support/help/shortlink/kubernetes-tagging#recommendation</a>
  - Openshift Deployments: <a href="https://www.dynatrace.com/support/help/shortlink/openshift-tagging#recommendation">https://www.dynatrace.com/support/help/shortlink/openshift-tagging#recommendation</a>
  - Cloud Foundry Metadata: <a href="https://www.dynatrace.com/support/help/shortlink/cloud-foundry-tags#recommendation">https://www.dynatrace.com/support/help/shortlink/cloud-foundry-tags#recommendation</a>
  - AWS tags: <a href="https://www.dynatrace.com/support/help/shortlink/aws-tagging#add-tags-in-aws">https://www.dynatrace.com/support/help/shortlink/aws-tagging#add-tags-in-aws</a>
  - Azure tags: <a href="https://www.dynatrace.com/support/help/shortlink/waf-policy#monitor-resources-based-on-tags">https://www.dynatrace.com/support/help/shortlink/waf-policy#monitor-resources-based-on-tags</a>
  - Google Cloud Metadata: <a href="https://www.dynatrace.com/support/help/shortlink/google-cloud-hub">https://www.dynatrace.com/support/help/shortlink/google-cloud-hub</a>
- Any tags will be "read only" in Dynatrace and therefore you won't be able to configure them via the Dynatrace UI.

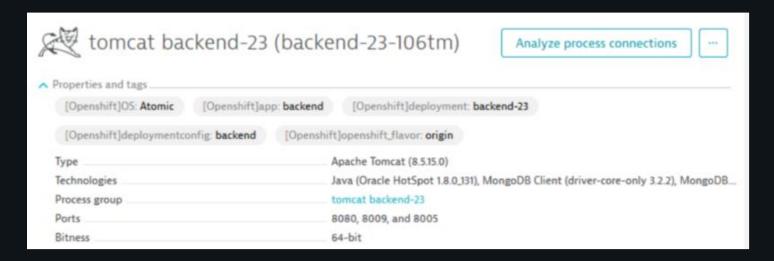
#### **Automatic Tagging and Annotations with Kubernetes**

- Dynatrace also detects Kubernetes properties and annotations that can be used when specifying automated rulebased tags.
- Dynatrace detects the following properties which can be used for automated rule-based tags and property-based process group detection rules
  - Kubernetes base pod name
  - Kubernetes container
  - Kubernetes full pod name
  - Kubernetes namespace
  - Kubernetes pod UID



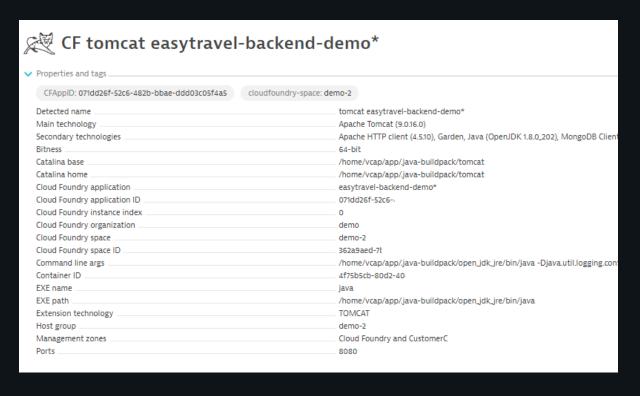
#### Metadata in Openshift

- It's recommended that you define additional metadata at the deployed system.
- For Kubernetes-based applications, you can simply use Kubernetes annotations.
- Dynatrace automatically detects and retrieves all Kubernetes and OpenShift annotations for pods that are monitored with a OneAgent code module.
- This enables you to use automated tagging rules based on existing or custom metadata
- Tags can be imported directly from Openshift processes as well



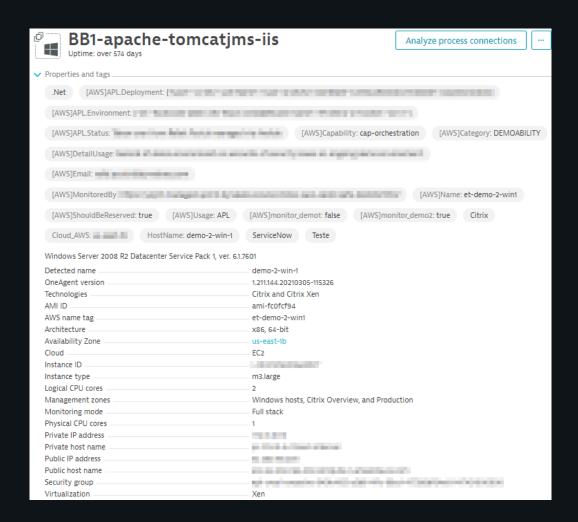
#### **Metadata in Cloud Foundry**

- CloudFoundry app properties will be detected and the information imported via a Dynatrace Cloud Foundry service that's bound to your application.
- Additionally, Dynatrace automatically detects tags that are provided in the Cloud Foundry environment variables for applications



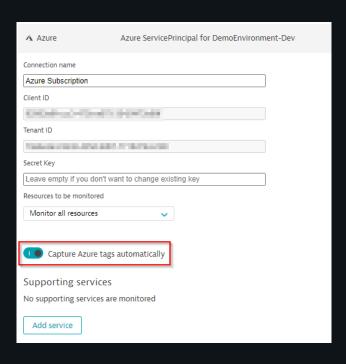
#### **Automatic Tagging with AWS**

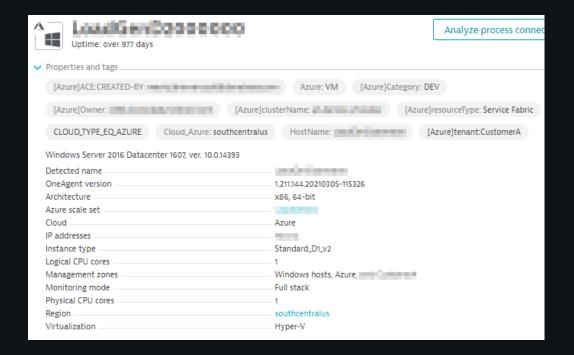
- AWS Tags will be automatically imported
- By default, Dynatrace monitors all Amazon Web Services that have been specified in your permission policy.
- Tags can allow leveraging multiple Dynatrace environments to monitor distinct AWS services running under the same AWS account.
- Optionally, you can use tagging to limit the AWS resources (AWS service instances) that are monitored by Dynatrace.



# **Automatic Tagging with Azure**

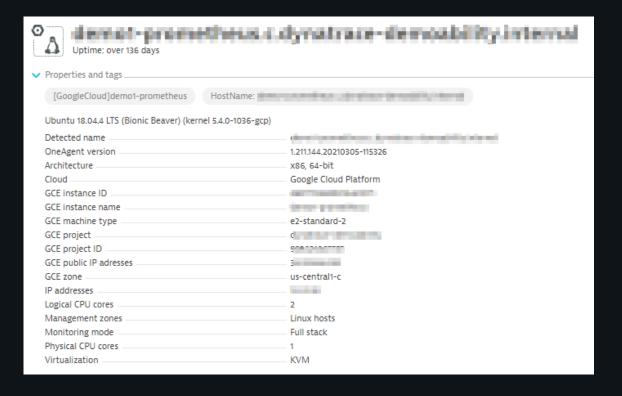
Configure Azure Tag Capture when defining the Azure Connection





#### Metadata and Tags with Google Cloud Platform (GCP)

Metadata and Tags will be imported for GCP monitored hosts



# Naming Rules

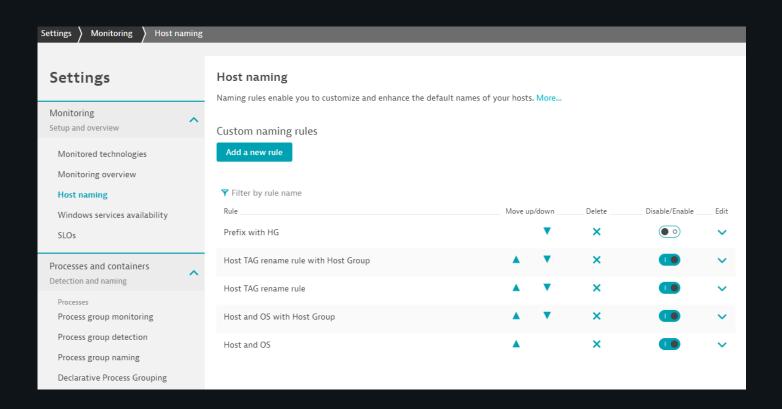
#### Customize Hosts, Process Groups and Services via rules

- Dynatrace automatically detects and names entities when monitored.
- It's common in environments for detected names to be unintuitive or even confusing. Different teams may refer to hosts by different properties or components they support.
- Dynatrace supports renaming via automated rules.
- Naming rules allow you to use a wide set of metadata, or properties, to adapt the default names of automatically discovered hosts, process groups or services.
  - Any property that is displayed within the Properties & Tags section can be used
  - Portions of host, process groups or service names can be included using regular expressions
- When a rule is in place any existing entity names are changed using the naming rule.

# **Host Naming Rules**

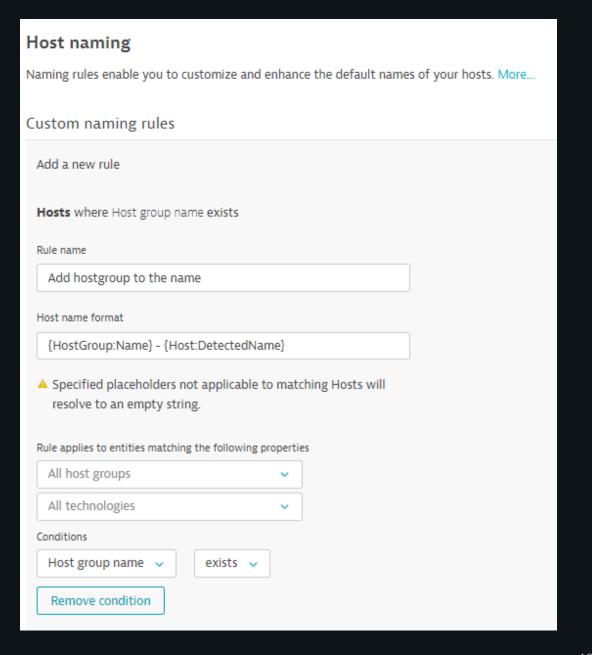
#### **Creating Host Naming Rules**

- Settings -> Monitoring -> Host Naming
- Multiple rules are processed from the top. The first rule with matching conditions is used. The remaining rules are skipped.
- Rules can be reordered, enabled/disabled and edited.
- -> Click add rule.



#### **Creating Host Naming Rules**

- Provide a Rule Name
- Define the name format. This can include any static text and optional placeholders.
  - Regex can be used against selected properties {Env-Var/regex}
    - Try to create efficient regular expressions as per: <a href="https://www.dynatrace.com/support/help/shortlink/regex">https://www.dynatrace.com/support/help/shortlink/regex</a>
- If necessary, limit the scope to entities with certain properties
- Add one or more conditions to identify the hosts targeted for renaming and to verify a property exists for use in the name.

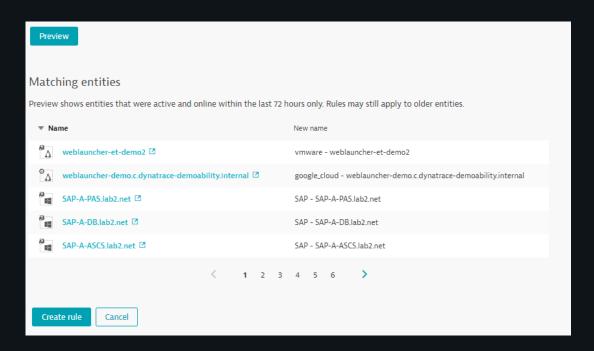


#### **Creating Host Naming Rules**

- Preview results to ensure the matching entities
   are correct and the name format is what is desired
- Create the rule and save the changes

For more information:

https://www.dynatrace.com/support/help/shortlink/hostname-config



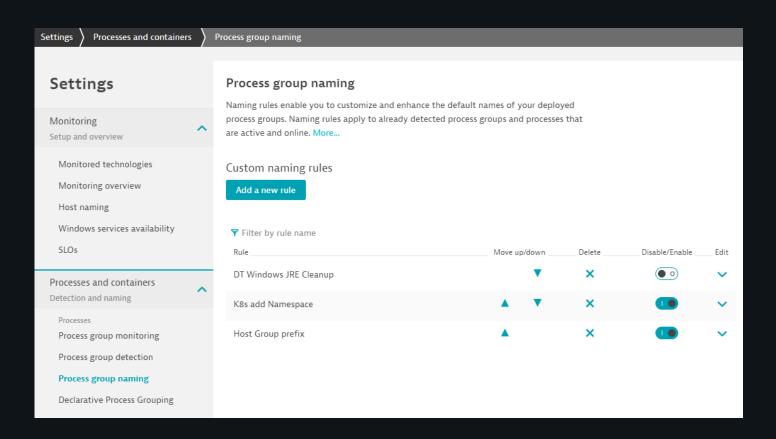
# Process Group Naming

## **Process Group Naming**

- Naming rules apply to already detected process groups
- If you need to change the makeup of process groups, please use Process group detection rules instead

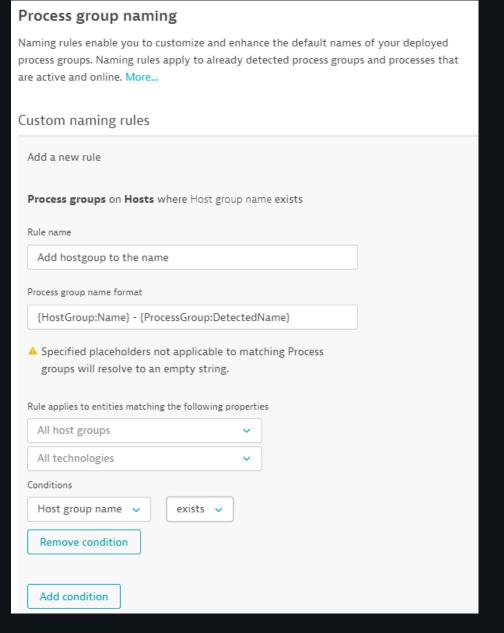
#### **Creating Process Group Naming Rules**

- Settings -> Processes and containers -> Process group Naming
- Multiple rules are processed from the top. The first rule with matching conditions is used. The remaining rules are skipped.
- Rules can be reordered, enabled/disabled and edited.
- -> Click add rule.



#### **Creating Process Group Naming Rules**

- Provide a Rule Name
- Define the name format. This can include any static text and optional placeholders.
  - Regex can be used against selected properties {Env-Var/regex}
    - Try to create efficient regular expressions as per: <a href="https://www.dynatrace.com/support/help/shortlink/regex">https://www.dynatrace.com/support/help/shortlink/regex</a>
- If necessary, limit the scope to entities with certain properties
- Add one or more conditions to identify the process groups targeted for renaming and to verify a property exists for use in the name.

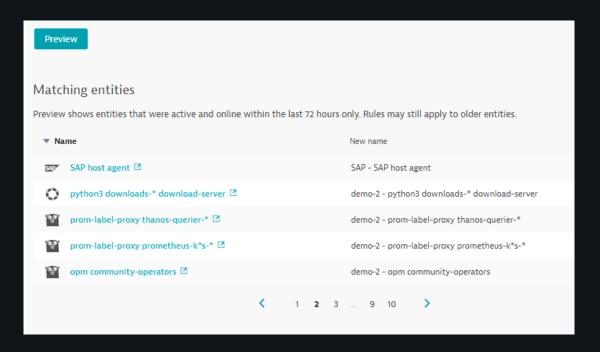


#### **Creating Process Group Naming Rules**

- Preview results to ensure the matching entities
   are correct and the name format is what is desired
- Create the rule and save the changes

For more information:

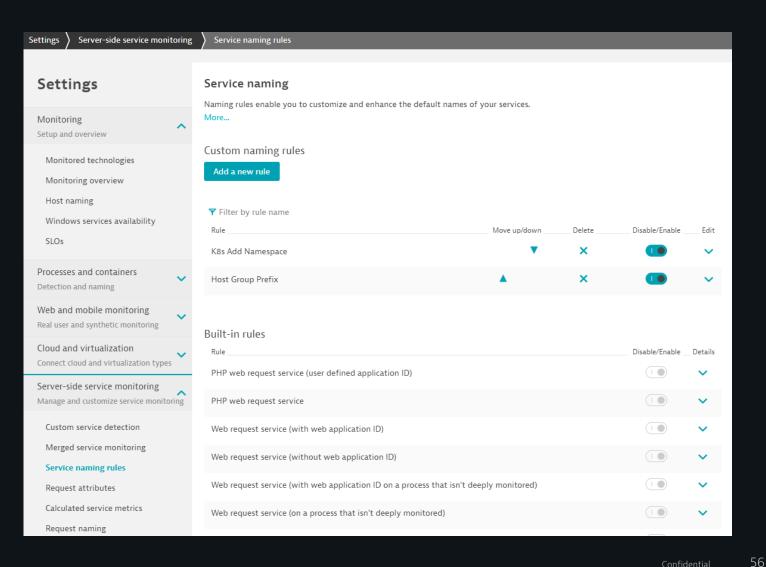
https://www.dynatrace.com/support/help/shortlink/process-group-naming



# **Service Naming Rules**

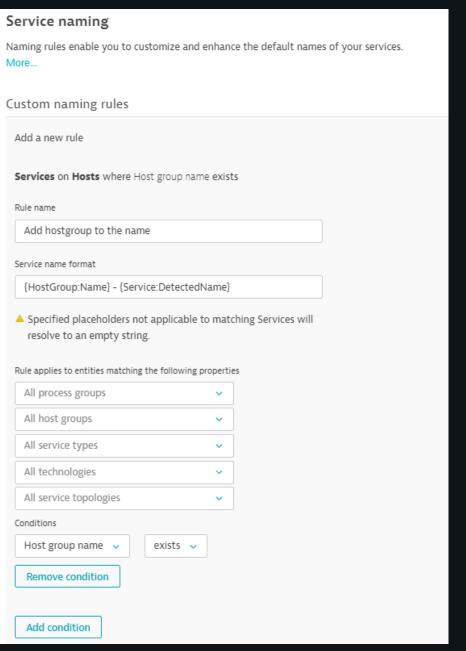
#### **Creating Service Naming Rules**

- Settings -> Server-side service monitoring -> Service naming rules
- Multiple rules are processed from the top. The first rule with matching conditions is used. The remaining rules are skipped.
- Custom rules can be reordered, enabled/disabled and edited.
- Custom service naming rules override built-in rules.
- Built-in rules are listed but cannot be changed.
- -> Click add rule.



#### **Creating Service Naming Rules**

- Provide a Rule Name
- Define the name format. This can include any static text and optional placeholders.
  - Regex can be used against selected properties {Env-Var/regex}
    - Try to create efficient regular expressions as per: <a href="https://www.dynatrace.com/support/help/shortlink/regex">https://www.dynatrace.com/support/help/shortlink/regex</a>
- If necessary, limit the scope to entities with certain properties
- Add one or more conditions to identify the services targeted for renaming and to verify a property exists for use in the name.

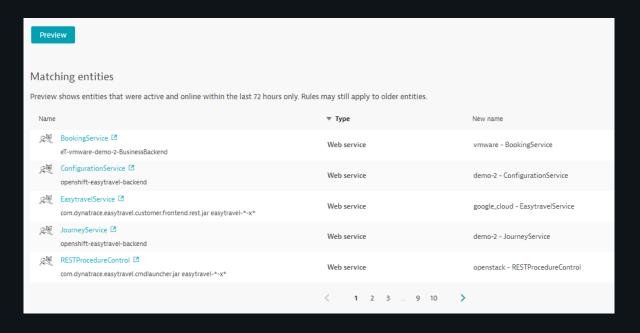


#### **Creating Service Naming Rules**

- Preview results to ensure the matching entities
   are correct and the name format is what is desired
- Create the rule and save the changes

For more information:

https://www.dynatrace.com/support/help/shortlink/c ustom-service-names



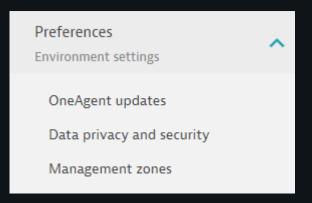
# **Management Zones**

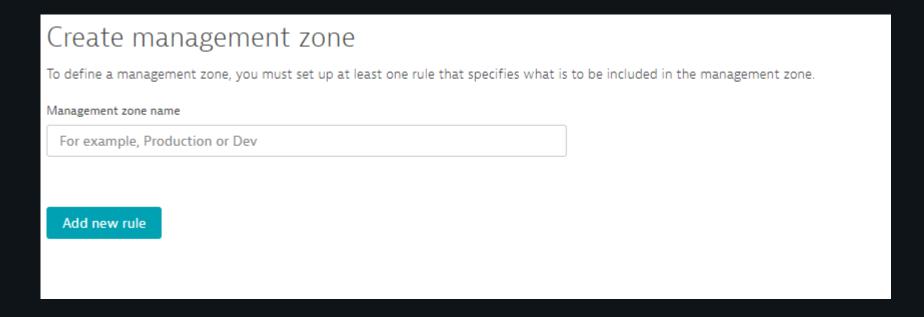
#### Why Management Zones?

- Easily focus on relevant entities
  - Example: Multiple application environments being monitored within the same Dynatrace Environment
  - A management zone filter can be applied to only view Production or Dev Applications, Services, Processes, or hosts
- A management zone consists of multiple rules that define the entities that are included
  - Rules are built upon matching entities and the powerful Dynatrace tagging engine
- Management zones are available as filters that are accessible via the menu bar
  - Management zone filters apply to all views that display multiple entities, such as Dashboards, list pages (hosts, process groups, services, and applications), Smartscape, and the Technologies page
- Limit group access and permissions to part of the monitoring data

### **Creating a Management Zone**

Settings -> Preferences -> Management Zones

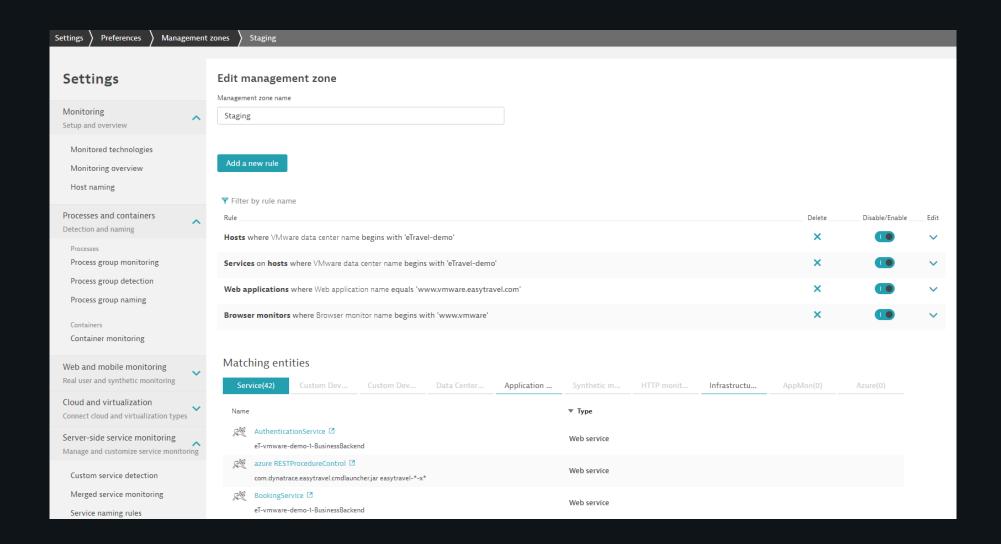




#### Apply Rules Matching the desired 'Zone'

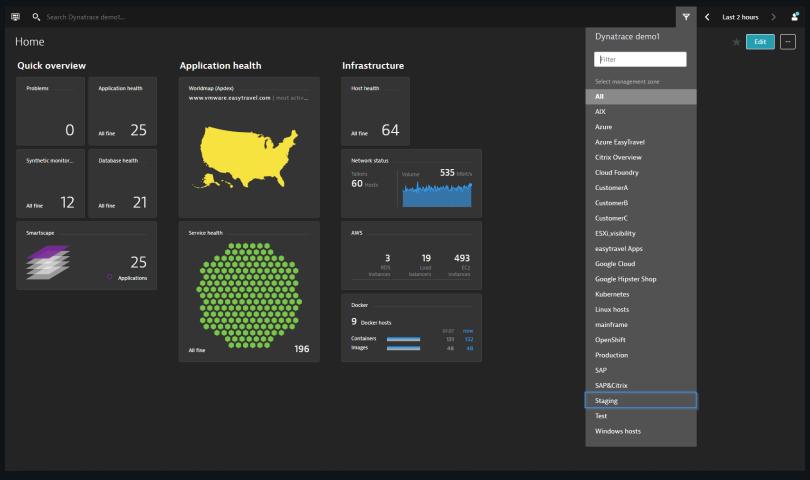
- Rules can be applied in the scope of Services, Process Groups, Hosts, Custom Devices, Applications (Web, Enterprise, Mobile), Synthetic monitors, AWS, Azure, Cloud Foundry, and Metrics.
- Choose a scope above and apply one or more rules to match the appropriate entities.
- Many different combinations of rules can be used, Tags can also be selected as a drop down.
- A single rule with multiple conditions acts as logical AND of those conditions/properties.
- One or more rules will act as a logical OR between rules for that management zone.

## **Set up Management Zones**



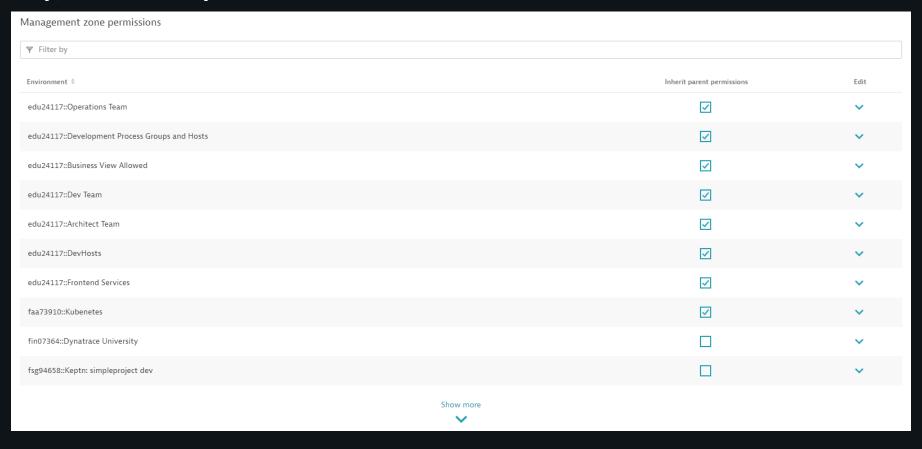
## Select a management zone to focus on

Configured Management zones are available to filter on throughout the UI



## Assign access rights to management zones

- Applicable to users and user group permissions with access rights to specific zones
- In this way, users will only see those entities that are relevant to their work



Questions?



Simply smarter clouds