



Cluster node

Astra Automation

NetApp
March 07, 2024

目錄

Cluster node	1
Cluster node overview	1
List the cluster nodes for a cloud	1
Retrieve a cluster node for a cloud	12
List the cluster nodes for a cluster	22
Retrieve a cluster node for a cluster	33
List the cluster nodes for a managed cluster	43
Retrieve a cluster node for a managed cluster	54

Cluster node

Cluster node overview

The Cluster Node API provides access to the nodes associated with a cluster.

List the cluster nodes for a cloud

GET

/accounts/{account_id}/topology/v1/clouds/{cloud_id}/clusters/{cluster_id}/clusterNodes

Returns a JSON array of all matching resources in the collection. If individual fields are specified in the request, the items JSON array will contain the fields requested for each matching resource in the order specified.

Parameters

Name	Type	In	Required	Description
account_id	string	path	True	ID of the containing account resource <ul style="list-style-type: none">example: <code>{{.Account}}</code>
cloud_id	string	path	True	ID of the containing cloud resource
cluster_id	string	path	True	ID of the containing cluster resource
include	string	query	False	Indicates which fields should be returned when listing a collection. URL examples: "include=id", "include=id,name" OpenAPI examples: "id" <ul style="list-style-type: none">example: <code>name,instanceType</code>

Name	Type	In	Required	Description
limit	string	query	False	Indicates the maximum number of resources to return when listing a collection. URL examples: "limit=2" OpenAPI examples: "2"

Response

Status: 200, Returns a JSON array of all matching resources in the collection. If individual fields are specified in the request, the items JSON array will contain the fields requested for each matching resource in the order specified.

Name	Type	Required	Description
items	array[Any of: clusterNode_1.0_get_response_body , array[]]	True	
metadata	type_astra_metadata_list	True	

Example response

```
{
  "type": "application/astra-clusterNodes",
  "version": "1.0",
  "items": [
    [
      "test-0",
      "e2-medium"
    ],
    [
      "test-1",
      "e2-medium"
    ],
    [
      "test-2",
      "e2-medium"
    ],
    [
      "test-3",
      "e2-micro"
    ]
  ],
  "metadata": {
    "labels": [],
    "creationTimestamp": "2022-10-06T20:58:16.305662Z",
    "modificationTimestamp": "2022-10-06T20:58:16.305662Z",
    "createdBy": "8f84cf09-8036-51e4-b579-bd30cb07b269"
  }
}
```

Response

Status: 401, Unauthorized

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example response

```
{
  "type": "https://astra.netapp.io/problems/3",
  "title": "Missing bearer token",
  "detail": "The request is missing the required bearer token.",
  "status": "401"
}
```

Response

Status: 400, Bad request

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	
invalidParams	array[invalidParams]	False	List of invalid query parameters

Example response

```
{
  "type": "https://astra.netapp.io/problems/5",
  "title": "Invalid query parameters",
  "detail": "The supplied query parameters are invalid.",
  "status": "400"
}
```

Response

Status: 403, Forbidden

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example response

```
{
  "type": "https://astra.netapp.io/problems/11",
  "title": "Operation not permitted",
  "detail": "The requested operation isn't permitted.",
  "status": "403"
}
```

Error

Status: 404, Not found

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example error response

```
{
  "type": "https://astra.netapp.io/problems/2",
  "title": "Collection not found",
  "detail": "The collection specified in the request URI wasn't
found.",
  "status": "404"
}
```

Definitions

See Definitions

labels

Name	Type	Required	Description
name	string	True	JSON string containing the label name Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 63• Defined regex is: "<code>^([\S.]{1,253}V)?([a-z0-9A-Z_-]){1,63}\$</code>"
value	string	True	JSON string containing the label value Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 63• Defined regex is: "<code>^[a-z0-9A-Z_-]{1,63}\$</code>"

type_astra_label

Name	Type	Required	Description
name	string	True	
value	string	True	

type_astra_metadata

Client and service-specified metadata associated with the resource. Defined values are:

- Conforms to the Astra Metadata Schema

Name	Type	Required	Description
labels	array[type_astra_label]	True	
creationTimestamp	string	True	
modificationTimestamp	string	True	
createdBy	string	True	
modifiedBy	string	False	

clusterNode_1.0_get_response_body

Name	Type	Required	Description
type	string	True	Media type of the resource. Defined values are: <ul style="list-style-type: none"> "application/astra-clusterNode"
version	string	True	Version of the resource. Defined values are: <ul style="list-style-type: none"> "1.0"
id	string	True	Globally unique identifier of the resource. Defined values are: <ul style="list-style-type: none"> Conforms to the UUIDv4 Schema
name	string	True	JSON string containing a value that indicates the Kubernetes name for the node. Defined values are: <ul style="list-style-type: none"> Minimum length: 1 Maximum length: 254
role	string	True	JSON string containing a value that indicates the Kubernetes role for the node. Defined values are: <ul style="list-style-type: none"> Minimum length: 1 Maximum length: 254
labels	array[labels]	True	JSON array of JSON objects, each containing Kubernetes labels associated with the node. If no details are available, this array will be empty. <ul style="list-style-type: none"> Minimum items: 0

Name	Type	Required	Description
creationTime	string	True	JSON string containing an ISO 8601 timestamp that indicates when the node was created. Defined values are: <ul style="list-style-type: none"> • Conforms to the ISO-8601 Date Time Schema
externalIP	string	True	JSON string containing a value that indicates the internal IP address for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 63
internalIP	string	True	JSON string containing a value that indicates the external IP address for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 63
zone	string	True	JSON string containing a value that indicates the Kubernetes zone for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
region	string	True	JSON string containing a value that indicates the Kubernetes region for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254

Name	Type	Required	Description
instanceType	string	True	<p>JSON string containing a value that indicates the Kubernetes instance type for the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
kernelVersion	string	True	<p>JSON string containing a value that indicates the kernel version used by the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
osImage	string	True	<p>JSON string containing a value that indicates the operating system image used by the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
numCpus	string	True	<p>JSON string containing a value that indicates the number of CPUs assigned to the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254

Name	Type	Required	Description
memory	string	True	<p>JSON string containing a value that indicates the amount of memory assigned to the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
state	string	True	<p>JSON string containing a value indicating the operational state of the node. Defined values are:</p> <ul style="list-style-type: none"> • "running" - The node is running normally • "provisioning" - The node is in the process of being provisioned • "discovering" - Aspects of the node are in the process of being discovered • "pending" - The node is scheduled for discovery • "failed" - The node is in a failure state • "unknown" - The state of the node cannot be determined
metadata	type_astra_metadata	True	<p>Client and service-specified metadata associated with the resource. Defined values are:</p> <ul style="list-style-type: none"> • Conforms to the Astra Metadata Schema

[type_astra_metadata_list](#)

Name	Type	Required	Description
continue	string	False	
count	number	False	
labels	array[type_astra_label]	False	
creationTimestamp	string	False	
modificationTimestamp	string	False	
createdBy	string	False	
modifiedBy	string	False	

invalidParams

Name	Type	Required	Description
name	string	True	Name of the invalid query parameter
reason	string	True	Reason why the query parameter is invalid

Retrieve a cluster node for a cloud

GET

/accounts/{account_id}/topology/v1/clouds/{cloud_id}/clusters/{cluster_id}/clusterNodes/{clusterNode_id}

Returns the stored Cluster Node API resource in the JSON response body.

Parameters

Name	Type	In	Required	Description
account_id	string	path	True	ID of the containing account resource • example: {{.Account}}
cloud_id	string	path	True	ID of the containing cloud resource
cluster_id	string	path	True	ID of the containing cluster resource

Name	Type	In	Required	Description
clusterNode_id	string	path	True	ID of the clusterNode collection to list

Response

Status: 200, Returns the stored Cluster Node API resource in the JSON response body.

Name	Type	Required	Description
type	string	True	Media type of the resource. Defined values are: <ul style="list-style-type: none"> "application/astra-clusterNode"
version	string	True	Version of the resource. Defined values are: <ul style="list-style-type: none"> "1.0"
id	string	True	Globally unique identifier of the resource. Defined values are: <ul style="list-style-type: none"> Conforms to the UUIDv4 Schema
name	string	True	JSON string containing a value that indicates the Kubernetes name for the node. Defined values are: <ul style="list-style-type: none"> Minimum length: 1 Maximum length: 254
role	string	True	JSON string containing a value that indicates the Kubernetes role for the node. Defined values are: <ul style="list-style-type: none"> Minimum length: 1 Maximum length: 254

Name	Type	Required	Description
labels	array[labels]	True	<p>JSON array of JSON objects, each containing Kubernetes labels associated with the node. If no details are available, this array will be empty.</p> <ul style="list-style-type: none"> • Minimum items: 0
creationTime	string	True	<p>JSON string containing an ISO 8601 timestamp that indicates when the node was created. Defined values are:</p> <ul style="list-style-type: none"> • Conforms to the ISO-8601 Date Time Schema
externalIP	string	True	<p>JSON string containing a value that indicates the internal IP address for the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 63
internalIP	string	True	<p>JSON string containing a value that indicates the external IP address for the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 63
zone	string	True	<p>JSON string containing a value that indicates the Kubernetes zone for the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254

Name	Type	Required	Description
region	string	True	JSON string containing a value that indicates the Kubernetes region for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
instanceType	string	True	JSON string containing a value that indicates the Kubernetes instance type for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
kernelVersion	string	True	JSON string containing a value that indicates the kernel version used by the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
osImage	string	True	JSON string containing a value that indicates the operating system image used by the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
numCpus	string	True	JSON string containing a value that indicates the number of CPUs assigned to the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254

Name	Type	Required	Description
memory	string	True	<p>JSON string containing a value that indicates the amount of memory assigned to the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
state	string	True	<p>JSON string containing a value indicating the operational state of the node. Defined values are:</p> <ul style="list-style-type: none"> • "running" - The node is running normally • "provisioning" - The node is in the process of being provisioned • "discovering" - Aspects of the node are in the process of being discovered • "pending" - The node is scheduled for discovery • "failed" - The node is in a failure state • "unknown" - The state of the node cannot be determined
metadata	type_astra_metadata	True	<p>Client and service-specified metadata associated with the resource. Defined values are:</p> <ul style="list-style-type: none"> • Conforms to the Astra Metadata Schema

Example response

```
{
  "type": "application/astra-clusterNode",
  "version": "1.0",
  "id": "5df0e09f-2c30-5b8a-b6b6-4fb4063525e4",
  "name": "test-0",
  "role": "node-role.kubernetes.io/worker",
  "labels": [],
  "creationTime": "2020-09-06T04:35:23.593845Z",
  "externalIP": "192.168.12.44",
  "internalIP": "10.0.1.1",
  "zone": "us-west1-c",
  "region": "us-east1",
  "instanceType": "e2-medium",
  "kernelVersion": "4.18.0-147.0.3.el8_1.x86_64",
  "osImage": "Red Hat Enterprise Linux CoreOS 42.81.20191203.0",
  "numCpus": "2",
  "memory": "67108864Ki",
  "state": "running",
  "metadata": {
    "labels": [],
    "creationTimestamp": "2022-10-06T20:58:16.305662Z",
    "modificationTimestamp": "2022-10-06T20:58:16.305662Z",
    "createdBy": "8f84cf09-8036-51e4-b579-bd30cb07b269"
  }
}
```

Response

Status: 401, Unauthorized

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example response

```
{
  "type": "https://astra.netapp.io/problems/3",
  "title": "Missing bearer token",
  "detail": "The request is missing the required bearer token.",
  "status": "401"
}
```

Response

Status: 400, Bad request

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	
invalidParams	array[invalidParams]	False	List of invalid query parameters

Example response

```
{
  "type": "https://astra.netapp.io/problems/5",
  "title": "Invalid query parameters",
  "detail": "The supplied query parameters are invalid.",
  "status": "400"
}
```

Response

Status: 403, Forbidden

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example response

```
{
  "type": "https://astra.netapp.io/problems/11",
  "title": "Operation not permitted",
  "detail": "The requested operation isn't permitted.",
  "status": "403"
}
```

Error

Status: 404, Not found

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example error response

```
{
  "type": "https://astra.netapp.io/problems/2",
  "title": "Collection not found",
  "detail": "The collection specified in the request URI wasn't
found.",
  "status": "404"
}
```

Definitions

See Definitions

labels

Name	Type	Required	Description
name	string	True	JSON string containing the label name Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 63• Defined regex is: "<code>^[\\S.]{1,253}V?([a-z0-9A-Z_-.]){1,63}\$</code>"
value	string	True	JSON string containing the label value Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 63• Defined regex is: "<code>^[a-z0-9A-Z_-.]{1,63}\$</code>"

type_astra_label

Name	Type	Required	Description
name	string	True	
value	string	True	

type_astra_metadata

Client and service-specified metadata associated with the resource. Defined values are:

- Conforms to the Astra Metadata Schema

Name	Type	Required	Description
labels	array[type_astra_label]	True	
creationTimestamp	string	True	
modificationTimestamp	string	True	
createdBy	string	True	
modifiedBy	string	False	

invalidParams

Name	Type	Required	Description
name	string	True	Name of the invalid query parameter
reason	string	True	Reason why the query parameter is invalid

List the cluster nodes for a cluster

GET /accounts/{account_id}/topology/v1/clusters/{cluster_id}/clusterNodes

Returns a JSON array of all matching resources in the collection. If individual fields are specified in the request, the items JSON array will contain the fields requested for each matching resource in the order specified.

Parameters

Name	Type	In	Required	Description
account_id	string	path	True	ID of the containing account resource <ul style="list-style-type: none"> example: <code>{{.Account}}</code>
cluster_id	string	path	True	ID of the containing cluster resource
include	string	query	False	Indicates which fields should be returned when listing a collection. <p>URL examples: "include=id", "include=id,name"</p> <p>OpenAPI examples: "id"</p> <ul style="list-style-type: none"> example: <code>name,instanceType</code>

Name	Type	In	Required	Description
limit	string	query	False	Indicates the maximum number of resources to return when listing a collection. URL examples: "limit=2" OpenAPI examples: "2"

Response

Status: 200, Returns a JSON array of all matching resources in the collection. If individual fields are specified in the request, the items JSON array will contain the fields requested for each matching resource in the order specified.

Name	Type	Required	Description
items	array[Any of: clusterNode_1.0_get_response_body , array[]]	True	
metadata	type_astra_metadata_list	True	

Example response

```
{
  "type": "application/astra-clusterNodes",
  "version": "1.0",
  "items": [
    [
      "test-0",
      "e2-medium"
    ],
    [
      "test-1",
      "e2-medium"
    ],
    [
      "test-2",
      "e2-medium"
    ],
    [
      "test-3",
      "e2-micro"
    ]
  ],
  "metadata": {
    "labels": [],
    "creationTimestamp": "2022-10-06T20:58:16.305662Z",
    "modificationTimestamp": "2022-10-06T20:58:16.305662Z",
    "createdBy": "8f84cf09-8036-51e4-b579-bd30cb07b269"
  }
}
```

Response

Status: 401, Unauthorized

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example response

```
{
  "type": "https://astra.netapp.io/problems/3",
  "title": "Missing bearer token",
  "detail": "The request is missing the required bearer token.",
  "status": "401"
}
```

Response

Status: 400, Bad request

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	
invalidParams	array[invalidParams]	False	List of invalid query parameters

Example response

```
{
  "type": "https://astra.netapp.io/problems/5",
  "title": "Invalid query parameters",
  "detail": "The supplied query parameters are invalid.",
  "status": "400"
}
```

Response

Status: 403, Forbidden

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example response

```
{
  "type": "https://astra.netapp.io/problems/11",
  "title": "Operation not permitted",
  "detail": "The requested operation isn't permitted.",
  "status": "403"
}
```

Error

Status: 404, Not found

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example error response

```
{
  "type": "https://astra.netapp.io/problems/2",
  "title": "Collection not found",
  "detail": "The collection specified in the request URI wasn't
found.",
  "status": "404"
}
```

Definitions

See Definitions

labels

Name	Type	Required	Description
name	string	True	JSON string containing the label name Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 63• Defined regex is: "<code>^([\S.]{1,253}V)?([a-z0-9A-Z_-.]{1,63})\$"</code>
value	string	True	JSON string containing the label value Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 63• Defined regex is: "<code>^[a-z0-9A-Z_-.]{1,63}\$"</code>

type_astra_label

Name	Type	Required	Description
name	string	True	
value	string	True	

type_astra_metadata

Client and service-specified metadata associated with the resource. Defined values are:

- Conforms to the Astra Metadata Schema

Name	Type	Required	Description
labels	array[type_astra_label]	True	
creationTimestamp	string	True	
modificationTimestamp	string	True	
createdBy	string	True	
modifiedBy	string	False	

clusterNode_1.0_get_response_body

Name	Type	Required	Description
type	string	True	Media type of the resource. Defined values are: <ul style="list-style-type: none"> "application/astra-clusterNode"
version	string	True	Version of the resource. Defined values are: <ul style="list-style-type: none"> "1.0"
id	string	True	Globally unique identifier of the resource. Defined values are: <ul style="list-style-type: none"> Conforms to the UUIDv4 Schema
name	string	True	JSON string containing a value that indicates the Kubernetes name for the node. Defined values are: <ul style="list-style-type: none"> Minimum length: 1 Maximum length: 254
role	string	True	JSON string containing a value that indicates the Kubernetes role for the node. Defined values are: <ul style="list-style-type: none"> Minimum length: 1 Maximum length: 254
labels	array[labels]	True	JSON array of JSON objects, each containing Kubernetes labels associated with the node. If no details are available, this array will be empty. <ul style="list-style-type: none"> Minimum items: 0

Name	Type	Required	Description
creationTime	string	True	JSON string containing an ISO 8601 timestamp that indicates when the node was created. Defined values are: <ul style="list-style-type: none"> • Conforms to the ISO-8601 Date Time Schema
externalIP	string	True	JSON string containing a value that indicates the internal IP address for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 63
internalIP	string	True	JSON string containing a value that indicates the external IP address for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 63
zone	string	True	JSON string containing a value that indicates the Kubernetes zone for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
region	string	True	JSON string containing a value that indicates the Kubernetes region for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254

Name	Type	Required	Description
instanceType	string	True	<p>JSON string containing a value that indicates the Kubernetes instance type for the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
kernelVersion	string	True	<p>JSON string containing a value that indicates the kernel version used by the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
osImage	string	True	<p>JSON string containing a value that indicates the operating system image used by the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
numCpus	string	True	<p>JSON string containing a value that indicates the number of CPUs assigned to the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254

Name	Type	Required	Description
memory	string	True	<p>JSON string containing a value that indicates the amount of memory assigned to the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
state	string	True	<p>JSON string containing a value indicating the operational state of the node. Defined values are:</p> <ul style="list-style-type: none"> • "running" - The node is running normally • "provisioning" - The node is in the process of being provisioned • "discovering" - Aspects of the node are in the process of being discovered • "pending" - The node is scheduled for discovery • "failed" - The node is in a failure state • "unknown" - The state of the node cannot be determined
metadata	type_astra_metadata	True	<p>Client and service-specified metadata associated with the resource. Defined values are:</p> <ul style="list-style-type: none"> • Conforms to the Astra Metadata Schema

[type_astra_metadata_list](#)

Name	Type	Required	Description
continue	string	False	
count	number	False	
labels	array[type_astra_label]	False	
creationTimestamp	string	False	
modificationTimestamp	string	False	
createdBy	string	False	
modifiedBy	string	False	

invalidParams

Name	Type	Required	Description
name	string	True	Name of the invalid query parameter
reason	string	True	Reason why the query parameter is invalid

Retrieve a cluster node for a cluster

GET

/accounts/{account_id}/topology/v1/clusters/{cluster_id}/clusterNodes/{clusterNode_id}

Returns the stored Cluster Node API resource in the JSON response body.

Parameters

Name	Type	In	Required	Description
account_id	string	path	True	ID of the containing account resource • example: {{.Account}}
cluster_id	string	path	True	ID of the containing cluster resource
clusterNode_id	string	path	True	ID of the clusterNode collection to list

Response

Status: 200, Returns the stored Cluster Node API resource in the JSON response body.

Name	Type	Required	Description
type	string	True	Media type of the resource. Defined values are: <ul style="list-style-type: none">• "application/astra-clusterNode"
version	string	True	Version of the resource. Defined values are: <ul style="list-style-type: none">• "1.0"
id	string	True	Globally unique identifier of the resource. Defined values are: <ul style="list-style-type: none">• Conforms to the UUIDv4 Schema
name	string	True	JSON string containing a value that indicates the Kubernetes name for the node. Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 254
role	string	True	JSON string containing a value that indicates the Kubernetes role for the node. Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 254

Name	Type	Required	Description
labels	array[labels]	True	<p>JSON array of JSON objects, each containing Kubernetes labels associated with the node. If no details are available, this array will be empty.</p> <ul style="list-style-type: none"> • Minimum items: 0
creationTime	string	True	<p>JSON string containing an ISO 8601 timestamp that indicates when the node was created. Defined values are:</p> <ul style="list-style-type: none"> • Conforms to the ISO-8601 Date Time Schema
externalIP	string	True	<p>JSON string containing a value that indicates the internal IP address for the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 63
internalIP	string	True	<p>JSON string containing a value that indicates the external IP address for the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 63
zone	string	True	<p>JSON string containing a value that indicates the Kubernetes zone for the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254

Name	Type	Required	Description
region	string	True	JSON string containing a value that indicates the Kubernetes region for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
instanceType	string	True	JSON string containing a value that indicates the Kubernetes instance type for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
kernelVersion	string	True	JSON string containing a value that indicates the kernel version used by the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
osImage	string	True	JSON string containing a value that indicates the operating system image used by the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
numCpus	string	True	JSON string containing a value that indicates the number of CPUs assigned to the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254

Name	Type	Required	Description
memory	string	True	<p>JSON string containing a value that indicates the amount of memory assigned to the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
state	string	True	<p>JSON string containing a value indicating the operational state of the node. Defined values are:</p> <ul style="list-style-type: none"> • "running" - The node is running normally • "provisioning" - The node is in the process of being provisioned • "discovering" - Aspects of the node are in the process of being discovered • "pending" - The node is scheduled for discovery • "failed" - The node is in a failure state • "unknown" - The state of the node cannot be determined
metadata	type_astra_metadata	True	<p>Client and service-specified metadata associated with the resource. Defined values are:</p> <ul style="list-style-type: none"> • Conforms to the Astra Metadata Schema

Example response

```
{
  "type": "application/astra-clusterNode",
  "version": "1.0",
  "id": "5df0e09f-2c30-5b8a-b6b6-4fb4063525e4",
  "name": "test-0",
  "role": "node-role.kubernetes.io/worker",
  "labels": [],
  "creationTime": "2020-09-06T04:35:23.593845Z",
  "externalIP": "192.168.12.44",
  "internalIP": "10.0.1.1",
  "zone": "us-west1-c",
  "region": "us-east1",
  "instanceType": "e2-medium",
  "kernelVersion": "4.18.0-147.0.3.el8_1.x86_64",
  "osImage": "Red Hat Enterprise Linux CoreOS 42.81.20191203.0",
  "numCpus": "2",
  "memory": "67108864Ki",
  "state": "running",
  "metadata": {
    "labels": [],
    "creationTimestamp": "2022-10-06T20:58:16.305662Z",
    "modificationTimestamp": "2022-10-06T20:58:16.305662Z",
    "createdBy": "8f84cf09-8036-51e4-b579-bd30cb07b269"
  }
}
```

Response

Status: 401, Unauthorized

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example response

```
{
  "type": "https://astra.netapp.io/problems/3",
  "title": "Missing bearer token",
  "detail": "The request is missing the required bearer token.",
  "status": "401"
}
```

Response

Status: 400, Bad request

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	
invalidParams	array[invalidParams]	False	List of invalid query parameters

Example response

```
{
  "type": "https://astra.netapp.io/problems/5",
  "title": "Invalid query parameters",
  "detail": "The supplied query parameters are invalid.",
  "status": "400"
}
```

Response

Status: 403, Forbidden

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example response

```
{
  "type": "https://astra.netapp.io/problems/11",
  "title": "Operation not permitted",
  "detail": "The requested operation isn't permitted.",
  "status": "403"
}
```

Error

Status: 404, Not found

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example error response

```
{
  "type": "https://astra.netapp.io/problems/2",
  "title": "Collection not found",
  "detail": "The collection specified in the request URI wasn't
found.",
  "status": "404"
}
```

Definitions

See Definitions

labels

Name	Type	Required	Description
name	string	True	JSON string containing the label name Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 63• Defined regex is: "<code>^([\S.]{1,253}V)?([a-z0-9A-Z_-]){1,63}\$</code>"
value	string	True	JSON string containing the label value Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 63• Defined regex is: "<code>^[a-z0-9A-Z_-]{1,63}\$</code>"

type_astra_label

Name	Type	Required	Description
name	string	True	
value	string	True	

type_astra_metadata

Client and service-specified metadata associated with the resource. Defined values are:

- Conforms to the Astra Metadata Schema

Name	Type	Required	Description
labels	array[type_astra_label]	True	
creationTimestamp	string	True	
modificationTimestamp	string	True	
createdBy	string	True	
modifiedBy	string	False	

invalidParams

Name	Type	Required	Description
name	string	True	Name of the invalid query parameter
reason	string	True	Reason why the query parameter is invalid

List the cluster nodes for a managed cluster

GET

/accounts/{account_id}/topology/v1/managedClusters/{managedCluster_id}/clusterNodes

Returns a JSON array of all matching resources in the collection. If individual fields are specified in the request, the items JSON array will contain the fields requested for each matching resource in the order specified.

Parameters

Name	Type	In	Required	Description
account_id	string	path	True	ID of the containing account resource <ul style="list-style-type: none"> example: <code>{{.Account}}</code>
managedCluster_id	string	path	True	ID of the containing managedCluster resource
include	string	query	False	Indicates which fields should be returned when listing a collection. <p>URL examples: "include=id", "include=id,name"</p> <p>OpenAPI examples: "id"</p> <ul style="list-style-type: none"> example: <code>name,instanceType</code>

Name	Type	In	Required	Description
limit	string	query	False	Indicates the maximum number of resources to return when listing a collection. URL examples: "limit=2" OpenAPI examples: "2"

Response

Status: 200, Returns a JSON array of all matching resources in the collection. If individual fields are specified in the request, the items JSON array will contain the fields requested for each matching resource in the order specified.

Name	Type	Required	Description
items	array[Any of: clusterNode_1.0_get_response_body , array[]]	True	
metadata	type_astra_metadata_list	True	

Example response

```
{
  "type": "application/astra-clusterNodes",
  "version": "1.0",
  "items": [
    [
      "test-0",
      "e2-medium"
    ],
    [
      "test-1",
      "e2-medium"
    ],
    [
      "test-2",
      "e2-medium"
    ],
    [
      "test-3",
      "e2-micro"
    ]
  ],
  "metadata": {
    "labels": [],
    "creationTimestamp": "2022-10-06T20:58:16.305662Z",
    "modificationTimestamp": "2022-10-06T20:58:16.305662Z",
    "createdBy": "8f84cf09-8036-51e4-b579-bd30cb07b269"
  }
}
```

Response

Status: 401, Unauthorized

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example response

```
{
  "type": "https://astra.netapp.io/problems/3",
  "title": "Missing bearer token",
  "detail": "The request is missing the required bearer token.",
  "status": "401"
}
```

Response

Status: 400, Bad request

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	
invalidParams	array[invalidParams]	False	List of invalid query parameters

Example response

```
{
  "type": "https://astra.netapp.io/problems/5",
  "title": "Invalid query parameters",
  "detail": "The supplied query parameters are invalid.",
  "status": "400"
}
```

Response

Status: 403, Forbidden

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example response

```
{
  "type": "https://astra.netapp.io/problems/11",
  "title": "Operation not permitted",
  "detail": "The requested operation isn't permitted.",
  "status": "403"
}
```

Error

Status: 404, Not found

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example error response

```
{
  "type": "https://astra.netapp.io/problems/2",
  "title": "Collection not found",
  "detail": "The collection specified in the request URI wasn't
found.",
  "status": "404"
}
```

Definitions

See Definitions

labels

Name	Type	Required	Description
name	string	True	JSON string containing the label name Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 63• Defined regex is: "<code>^([\S.]{1,253}V)?([a-z0-9A-Z_-]){1,63}\$</code>"
value	string	True	JSON string containing the label value Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 63• Defined regex is: "<code>^[a-z0-9A-Z_-]{1,63}\$</code>"

type_astra_label

Name	Type	Required	Description
name	string	True	
value	string	True	

type_astra_metadata

Client and service-specified metadata associated with the resource. Defined values are:

- Conforms to the Astra Metadata Schema

Name	Type	Required	Description
labels	array[type_astra_label]	True	
creationTimestamp	string	True	
modificationTimestamp	string	True	
createdBy	string	True	
modifiedBy	string	False	

clusterNode_1.0_get_response_body

Name	Type	Required	Description
type	string	True	Media type of the resource. Defined values are: <ul style="list-style-type: none"> "application/astra-clusterNode"
version	string	True	Version of the resource. Defined values are: <ul style="list-style-type: none"> "1.0"
id	string	True	Globally unique identifier of the resource. Defined values are: <ul style="list-style-type: none"> Conforms to the UUIDv4 Schema
name	string	True	JSON string containing a value that indicates the Kubernetes name for the node. Defined values are: <ul style="list-style-type: none"> Minimum length: 1 Maximum length: 254
role	string	True	JSON string containing a value that indicates the Kubernetes role for the node. Defined values are: <ul style="list-style-type: none"> Minimum length: 1 Maximum length: 254
labels	array[labels]	True	JSON array of JSON objects, each containing Kubernetes labels associated with the node. If no details are available, this array will be empty. <ul style="list-style-type: none"> Minimum items: 0

Name	Type	Required	Description
creationTime	string	True	JSON string containing an ISO 8601 timestamp that indicates when the node was created. Defined values are: <ul style="list-style-type: none"> • Conforms to the ISO-8601 Date Time Schema
externalIP	string	True	JSON string containing a value that indicates the internal IP address for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 63
internalIP	string	True	JSON string containing a value that indicates the external IP address for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 63
zone	string	True	JSON string containing a value that indicates the Kubernetes zone for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
region	string	True	JSON string containing a value that indicates the Kubernetes region for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254

Name	Type	Required	Description
instanceType	string	True	JSON string containing a value that indicates the Kubernetes instance type for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
kernelVersion	string	True	JSON string containing a value that indicates the kernel version used by the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
osImage	string	True	JSON string containing a value that indicates the operating system image used by the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
numCpus	string	True	JSON string containing a value that indicates the number of CPUs assigned to the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254

Name	Type	Required	Description
memory	string	True	<p>JSON string containing a value that indicates the amount of memory assigned to the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
state	string	True	<p>JSON string containing a value indicating the operational state of the node. Defined values are:</p> <ul style="list-style-type: none"> • "running" - The node is running normally • "provisioning" - The node is in the process of being provisioned • "discovering" - Aspects of the node are in the process of being discovered • "pending" - The node is scheduled for discovery • "failed" - The node is in a failure state • "unknown" - The state of the node cannot be determined
metadata	type_astra_metadata	True	<p>Client and service-specified metadata associated with the resource. Defined values are:</p> <ul style="list-style-type: none"> • Conforms to the Astra Metadata Schema

[type_astra_metadata_list](#)

Name	Type	Required	Description
continue	string	False	
count	number	False	
labels	array[type_astra_label]	False	
creationTimestamp	string	False	
modificationTimestamp	string	False	
createdBy	string	False	
modifiedBy	string	False	

invalidParams

Name	Type	Required	Description
name	string	True	Name of the invalid query parameter
reason	string	True	Reason why the query parameter is invalid

Retrieve a cluster node for a managed cluster

GET

/accounts/{account_id}/topology/v1/managedClusters/{managedCluster_id}/clusterNodes/{clusterNode_id}

Returns the stored Cluster Node API resource in the JSON response body.

Parameters

Name	Type	In	Required	Description
account_id	string	path	True	ID of the containing account resource • example: {{.Account}}
managedCluster_id	string	path	True	ID of the containing managedCluster resource
clusterNode_id	string	path	True	ID of the clusterNode collection to list

Response

Status: 200, Returns the stored Cluster Node API resource in the JSON response body.

Name	Type	Required	Description
type	string	True	Media type of the resource. Defined values are: <ul style="list-style-type: none">• "application/astra-clusterNode"
version	string	True	Version of the resource. Defined values are: <ul style="list-style-type: none">• "1.0"
id	string	True	Globally unique identifier of the resource. Defined values are: <ul style="list-style-type: none">• Conforms to the UUIDv4 Schema
name	string	True	JSON string containing a value that indicates the Kubernetes name for the node. Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 254
role	string	True	JSON string containing a value that indicates the Kubernetes role for the node. Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 254

Name	Type	Required	Description
labels	array[labels]	True	<p>JSON array of JSON objects, each containing Kubernetes labels associated with the node. If no details are available, this array will be empty.</p> <ul style="list-style-type: none"> • Minimum items: 0
creationTime	string	True	<p>JSON string containing an ISO 8601 timestamp that indicates when the node was created. Defined values are:</p> <ul style="list-style-type: none"> • Conforms to the ISO-8601 Date Time Schema
externalIP	string	True	<p>JSON string containing a value that indicates the internal IP address for the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 63
internalIP	string	True	<p>JSON string containing a value that indicates the external IP address for the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 63
zone	string	True	<p>JSON string containing a value that indicates the Kubernetes zone for the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254

Name	Type	Required	Description
region	string	True	JSON string containing a value that indicates the Kubernetes region for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
instanceType	string	True	JSON string containing a value that indicates the Kubernetes instance type for the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
kernelVersion	string	True	JSON string containing a value that indicates the kernel version used by the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
osImage	string	True	JSON string containing a value that indicates the operating system image used by the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
numCpus	string	True	JSON string containing a value that indicates the number of CPUs assigned to the node. Defined values are: <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254

Name	Type	Required	Description
memory	string	True	<p>JSON string containing a value that indicates the amount of memory assigned to the node. Defined values are:</p> <ul style="list-style-type: none"> • Minimum length: 1 • Maximum length: 254
state	string	True	<p>JSON string containing a value indicating the operational state of the node. Defined values are:</p> <ul style="list-style-type: none"> • "running" - The node is running normally • "provisioning" - The node is in the process of being provisioned • "discovering" - Aspects of the node are in the process of being discovered • "pending" - The node is scheduled for discovery • "failed" - The node is in a failure state • "unknown" - The state of the node cannot be determined
metadata	type_astra_metadata	True	<p>Client and service-specified metadata associated with the resource. Defined values are:</p> <ul style="list-style-type: none"> • Conforms to the Astra Metadata Schema

Example response

```
{
  "type": "application/astra-clusterNode",
  "version": "1.0",
  "id": "5df0e09f-2c30-5b8a-b6b6-4fb4063525e4",
  "name": "test-0",
  "role": "node-role.kubernetes.io/worker",
  "labels": [],
  "creationTime": "2020-09-06T04:35:23.593845Z",
  "externalIP": "192.168.12.44",
  "internalIP": "10.0.1.1",
  "zone": "us-west1-c",
  "region": "us-east1",
  "instanceType": "e2-medium",
  "kernelVersion": "4.18.0-147.0.3.el8_1.x86_64",
  "osImage": "Red Hat Enterprise Linux CoreOS 42.81.20191203.0",
  "numCpus": "2",
  "memory": "67108864Ki",
  "state": "running",
  "metadata": {
    "labels": [],
    "creationTimestamp": "2022-10-06T20:58:16.305662Z",
    "modificationTimestamp": "2022-10-06T20:58:16.305662Z",
    "createdBy": "8f84cf09-8036-51e4-b579-bd30cb07b269"
  }
}
```

Response

Status: 401, Unauthorized

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example response

```
{
  "type": "https://astra.netapp.io/problems/3",
  "title": "Missing bearer token",
  "detail": "The request is missing the required bearer token.",
  "status": "401"
}
```

Response

Status: 400, Bad request

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	
invalidParams	array[invalidParams]	False	List of invalid query parameters

Example response

```
{
  "type": "https://astra.netapp.io/problems/5",
  "title": "Invalid query parameters",
  "detail": "The supplied query parameters are invalid.",
  "status": "400"
}
```

Response

Status: 403, Forbidden

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example response

```
{
  "type": "https://astra.netapp.io/problems/11",
  "title": "Operation not permitted",
  "detail": "The requested operation isn't permitted.",
  "status": "403"
}
```

Error

Status: 404, Not found

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

Example error response

```
{
  "type": "https://astra.netapp.io/problems/2",
  "title": "Collection not found",
  "detail": "The collection specified in the request URI wasn't
found.",
  "status": "404"
}
```

Definitions

See Definitions

labels

Name	Type	Required	Description
name	string	True	JSON string containing the label name Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 63• Defined regex is: "<code>^[\\S.]{1,253}V?([a-z0-9A-Z_-.]){1,63}\$</code>"
value	string	True	JSON string containing the label value Defined values are: <ul style="list-style-type: none">• Minimum length: 1• Maximum length: 63• Defined regex is: "<code>^[a-z0-9A-Z_-.]{1,63}\$</code>"

type_astra_label

Name	Type	Required	Description
name	string	True	
value	string	True	

type_astra_metadata

Client and service-specified metadata associated with the resource. Defined values are:

- Conforms to the Astra Metadata Schema

Name	Type	Required	Description
labels	array[type_astra_label]	True	
creationTimestamp	string	True	
modificationTimestamp	string	True	
createdBy	string	True	
modifiedBy	string	False	

invalidParams

Name	Type	Required	Description
name	string	True	Name of the invalid query parameter
reason	string	True	Reason why the query parameter is invalid

版權資訊

Copyright © 2024 NetApp, Inc. 版權所有。台灣印製。非經版權所有人事先書面同意，不得將本受版權保護文件的任何部分以任何形式或任何方法（圖形、電子或機械）重製，包括影印、錄影、錄音或儲存至電子檢索系統中。

由 NetApp 版權資料衍伸之軟體必須遵守下列授權和免責聲明：

此軟體以 NETAPP「原樣」提供，不含任何明示或暗示的擔保，包括但不限於有關適售性或特定目的適用性之擔保，特此聲明。於任何情況下，就任何已造成或基於任何理論上責任之直接性、間接性、附隨性、特殊性、懲罰性或衍生性損害（包括但不限於替代商品或服務之採購；使用、資料或利潤上的損失；或企業營運中斷），無論是在使用此軟體時以任何方式所產生的契約、嚴格責任或侵權行為（包括疏忽或其他）等方面，NetApp 概不負責，即使已被告知有前述損害存在之可能性亦然。

NetApp 保留隨時變更本文所述之任何產品的權利，恕不另行通知。NetApp 不承擔因使用本文所述之產品而產生的責任或義務，除非明確經過 NetApp 書面同意。使用或購買此產品並不會在依據任何專利權、商標權或任何其他 NetApp 智慧財產權的情況下轉讓授權。

本手冊所述之產品受到一項（含）以上的美國專利、國外專利或申請中專利所保障。

有限權利說明：政府機關的使用、複製或公開揭露須受 DFARS 252.227-7013（2014 年 2 月）和 FAR 52.227-19（2007 年 12 月）中的「技術資料權利 - 非商業項目」條款 (b)(3) 小段所述之限制。

此處所含屬於商業產品和 / 或商業服務（如 FAR 2.101 所定義）的資料均為 NetApp, Inc. 所有。根據本協議提供的所有 NetApp 技術資料和電腦軟體皆屬於商業性質，並且完全由私人出資開發。美國政府對於該資料具有非專屬、非轉讓、非轉授權、全球性、有限且不可撤銷的使用權限，僅限於美國政府為傳輸此資料所訂合約所允許之範圍，並基於履行該合約之目的方可使用。除非本文另有規定，否則未經 NetApp Inc. 事前書面許可，不得逕行使用、揭露、重製、修改、履行或展示該資料。美國政府授予國防部之許可權利，僅適用於 DFARS 條款 252.227-7015(b)（2014 年 2 月）所述權利。

商標資訊

NETAPP、NETAPP 標誌及 <http://www.netapp.com/TM> 所列之標章均為 NetApp, Inc. 的商標。文中所涉及的所有其他公司或產品名稱，均為其各自所有者的商標，不得侵犯。