
GNED-107: netTerrain API

Course Overview

This guide is for you, the tamer of netTerrain automation! It is also for all those software developers out there that can't wait to create integrations with netTerrain.

The duration of this course is 2 days.

Assumptions

Users of the API are typically programmers familiar with Postman, sending https requests, C# (or Java or Python or whatever you get your hands on that is able to connect to WCF). If you are not familiar with any of these vastly superior OO languages and all you did was write some spaghetti PHP scripts or hack some SQL you are still welcome, we forgive you. Plenty of examples are provided throughout the guide to help you along the way.

Now, go turn those cups of coffee into lines of code!

Course Materials

For training at Graphical Networks facilities we provide all necessary materials. For on-site training Graphical Networks may request students to bring a laptop. In addition, on-site training requires a room equipped with a large monitor or space for a projector as well as internet connection. For online training (Zoom, Teams, or Webex) you will need a computer and mouse and be able to get to one of our training servers on the internet via HTTP/HTTPS.

Resources

For this course we'll be using the exhilarating `netTerrain_Programming_Guide_9.5`.

Chapter	Title	Topic
1	Overview of netTerrain's API	netTerrain's APIs: REST, SOAP (WCF) What's SOAP for. Extension modules REST API, basics
2	Enable REST API	Admin Console checkbox, how to test the API availability
3	Swagger API guide	How to use, swagger authentication
4	REST API Authorization	Postman web client Bearer authentication (OAuth) with username and password User token authentication Basic authentication – why it's not used any more AD and Azure users Two factor authentication – how it works with the API
5	API request methods	GET, POST, PUT, DELETE methods. CRUD for a node.
6	Response status codes	200, 201, 401, 403, 409, 500 codes and meaning
7	Resources and Collections	What's a resource A collection resource A child resource. Reliable and flexible endpoints.
8	Working with collections	Collection basics – format, navigation links Pagination. "page", "per_page" and "offset" parameters. Expansion. Deep expansion, pagination for child resources. Cycled expansion protection, N levels expansion Filtering. Multi-filtering, deep filtering.
9	Working with resources	HREF – a resource reference REST API concept. Resource expansion – what's a difference with collections "Show child collections" flag "Same object, different resource" – Nodes vs Devices example
10	API areas access	Admin, Catalog and Diagram areas and required permissions
11	Admin resources	Users, Groups, Roles Expansion and filtering examples: User-Group-Role structure
12	Catalog resources	Node, Device, Rack and Slot types How to create a type of any kind Ports and Slots – how to add them to device and card types Slots mapping
13	Catalog/Diagram resources	What's a difference? Port vs Port Representation Slot vs Slot Representation
14	Racks	A structure of a rack, Rack Containers Container vs Container Design

Chapter	Title	Topic
		Inserting a device into a rack, moving device in a rack, removing
15	Devices, Cards	Working with a device
		Inserting a card, removing a card
16	Property values	Working with property values
		Searching a node by its property value – use cases
17	Nodes / Diagram settings	What's in there
18	Nodes / Hierarchy	A special type of a resource – a hierarchy. How to use
19	Linking	How to link nodes
		Analyzing a link. Port and Node link ends.
20	Search	How to search with the API (if filtering is not enough)
21	API 3rd Party Client C# App	A sample app. How to create and use
22	SOAP API Extensions	SOAP API and WCF
		Setting up net.pipe
		Creating and extension dll
		netTerrain custom settings to link the exrtension

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