NRP Base API Documentation

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This document serves as a developer’s guide to NRP Base API

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Overview

The Base API is used to store and manage employee, project and finance information of the company (NRP Properties and Contractors). It achieves this by sending and receiving data in JSON (JavaScript Object Notation) format.

Getting Started

With the Base API, you can be able to read and write NRP’s data, that includes; Employees, Clients, Projects and Financial information. The API is currently under development, thus, hosted locally. Use port given by your webserver as a base URL (e.g. [*http://localhost:8080*](http://localhost:8080)).

End Points:

|  |  |
| --- | --- |
| End point | What it does |
| /authentication | Signs a user in or out. |
| /project | Creates and manages projects. |
| /projectstatus | Creates and manages project status. |
| /timeline | Manages a project’s timelines. |
| /externalquoteitems | Creates and manages quote items on specified quote from suppliers. |
| /rfq | Creates and manages quotes to be requested from suppliers. |
| /supplier | Creates and manages suppliers. |
| /externalsupplieraccount | Creates and a manages supplier’s account information. |
| /client | Creates and manages clients |
| /clientcontact | Creates and manages a client’s contact details. |
| /employee | Creates and manages employee information |
| /employeeaccount | Creates and manages an employee’s account details. |
| /employeekin | Creates and manages an employee’s next of kin information. |
| /employeetimeline | Assigns employees to specific timelines on a project. |
| /costestimate | Creates and manages a cost estimate for a project. |
| /costestimateitem | Creates and manages items of a cost estimate. |
| /default | Creates and manages ‘snags’ that are encountered during a project. |
| /defaulttype | Creates and manages the kind of ‘snags’ encountered. |
| /invoice | Creates and manages invoices of a given project. |
| /invoiceitems | Creates and manages items on an invoice. |
| /quote | Creates and manages quotes on a given project. |
| /quoteitem | Creates and manages items on a given quote. |

API Calls

Get little more hands on approach. This API supports a data response in JSON format. Values in the “Parameters” and “Response” columns represent model names. You can view all models structure in appendix A. Please note that ‘id’ refers to unique identifiers.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| End point | HTTP Request | Description | Parameters | Response |
| /authentication | POST | Signs in an employee | UserCredential | Employee |
|  | POST {id} | Signs in a client | (id = 0) UserCredential | ClientContactInfo |
|  | DELETE | Signs out any user |  |  |
| /project | POST | Creates a new project | Project | Project |
|  | PUT {id} | Updates a project with the specified ‘id’ value | id, Project |  |
|  | DELETE {id} | Deletes a project with the specified ‘id’. | id |  |
|  | GET | Returns a list of projects |  | List<Project> |
|  | GET {id} | Returns a project of the specified ‘id’ | id | Project |
| /projectstatus | POST | Creates a new status of a project | ProjectStatus | ProjectStatus |
|  | PUT {id} | Updates the status with the specified ‘id’ value | id, ProjectStatus |  |
|  | DELETE {id} | Deletes a status with the specified ‘id’ value | id |  |
|  | GET | Returns a list of project status |  | List<ProjectStatus> |
|  | GET {id} | Returns project status with the specified ‘id’ value | id | ProjectStatus |
| /timeline | POST | Creates a new timeline to a project | Timeline | Timeline |
|  | PUT {id} | Updates a timeline with the specified ‘id’ value | id, Timeline |  |
|  | DELETE {id} | Deletes a timeline with the specified ‘id’ value | id |  |
|  | GET | Returns a list of all timelines. |  | List<Timeline> |
|  | GET {id} | Returns a timeline with the specified ‘id’ | id | Timeline |
| /externalquoteitems | POST | Creates a new quote item | QuoteItems | QuoteItems |
|  | PUT {id} | Updates a quote item with the specified ‘id’ value. | id, QuoteItems |  |
|  | DELETE {id} | Deletes a quote item with the specified ‘id’ value. | id |  |
|  | GET | Returns a list of all quote items |  | List<QuoteItems> |
|  | GET {id} | Returns a quote item with the specified ‘id’ value | id | QuoteItems |
| /rfq | POST | Create a new quote for suppliers | Quote | Quote |
|  | PUT {id} | Updates a quote with the specified ‘id’ | id, Quote |  |
|  | DELETE {id} | Deletes a quote with the specified ‘id’ | id |  |
|  | GET | Gets a list of all existing quotes |  | List<Quote> |
|  | GET {id} | Gets a quote with the specified ‘id’ | id | Quote |
| /supplier | POST | Create a new supplier | Supplier | Supplier |
|  | PUT {id} | Updates the supplier with the specified ‘id’ | id, Supplier |  |
|  | DELETE {id} | Deletes the supplier with the specified ‘id’ | id |  |
|  | GET | Returns a list of all suppliers |  | List<Supplier> |
|  | GET {id} | Returns a supplier with the specified ‘id’ | id | Supplier |
| /externalsupplieraccount | POST | Creates a new account for an existing supplier | SupplierAccount | SupplierAccount |
|  | PUT {id} | Updates account values of the specified ‘id’ | id, SupplierAccount |  |
|  | GET | Returns a list of all supplier accounts details |  | List<SupplierAccount> |
|  | GET {id} | Returns an account with the specified ‘id’ | id | SupplierAccount |
| /clientcontact | POST | Creates a new client contact | ClientContactInfo | ClientContactInfo |
|  | PUT {id} | Updates a client contact with the specified ‘id’ | id, ClientContactInfo |  |
|  | DELETE {id} | Deletes a client contact with the specified ‘id’ | id |  |
|  | GET | Returns a list of all client contacts |  | List<ClientContactInfo> |
|  | GET {id} | Returns a client contact with the specified ‘id’ | id | ClientContactInfo |
| /client | POST | Creates a new client | Client | Client |
|  | PUT {id} | Updates a client’s details with the specified ‘id’ | id, Client |  |
|  | DELETE {id} | Deletes a client with the specified ‘id’ | id |  |
|  | GET | Returns a list of all clients |  | List<Client> |
|  | GET {id} | Returns a client with the specified ‘id’ | id | Client |
| /employee | POST | Creates a new employee | Employee | Employee |
|  | PUT {id} | Updates an employee’s details with the specified ‘id’ | id, Employee |  |
|  | DELETE {id} | Deletes an employee with the specified ‘id’ | id |  |
|  | GET | Returns a list of all employees |  | List<Employee> |
|  | GET {id} | Returns an employee with the specified ‘id’ | id | Employee |
| /employeekin | POST | Creates a new next of kin to an existing employee | EmployeeKin | EmployeeKin |
|  | PUT {id} | Updates details of an employee’s next of kin with the specified ‘id’ | id, EmployeeKin |  |
|  | DELETE {id} | Deletes an employee’s next of kin with the specified ‘id’ | id |  |
|  | GET | Returns a list of all employees’ next of kin |  | List<EmployeeKin> |
|  | GET {id} | Returns an employee’s next of kin with the specified ‘id’ | id | EmployeeKin |
| /employeeaccount | POST | Creates a new account linked to an existing employee | EmployeeAccounts | EmployeeAccounts |
|  | PUT {id} | Updates an employee’s account with the specified ‘id’ | id, EmployeeAccounts |  |
|  | DELETE {id} | Deletes an employee’s account with the specified ‘id’ | id |  |
|  | GET | Returns a list of all employee accounts |  | List<EmployeeAccounts> |
|  | GET {id} | Returns an employee’s account with the specified ‘id’ | id | EmployeeAccounts |
| /costestimate | POST | Creates a new cost estimate of a project | CostEstimate | CostEstimate |
|  | PUT {id} | Updates a cost estimate with the specified ‘id’ | id, CostEstimate |  |
|  | DELETE {id} | Deletes a cost estimate with the specified ‘id’ | id |  |
|  | GET | Returns a list of all existing cost estimates |  | List<CostEstimate> |
|  | GET {id} | Returns a cost estimate with the specified ‘id’ | id | CostEstimate |
| /costestimateitem | POST | Creates new cost estimate items to be added on an existing cost estimate | CostEstimateItem | CostEstimateItem |
|  | PUT {id} | Updates a cost estimate item with the specified ‘id’ | id, CostEstimateItem |  |
|  | GET | Returns a list all cost estimate items |  | List<CostEstimateItem> |
|  | GET {id} | Returns a cost estimate item with the specified ‘id’ | id | CostEstimateItem |
| /default | POST | Creates a new default | Default | Default |
|  | PUT {id} | Updates a default with the specified ‘id’ | id, Default |  |
|  | DELETE {id} | Deletes a default with the specified ‘id’ | id |  |
|  | GET | Returns a list of all defaults |  | List<Default> |
|  | GET {id} | Returns a default with the specified ‘id’ | id | Default |
| /defaulttype | POST | Creates a default type | DefaultType | DefaultType |
|  | PUT {id} | Updates a default type with the specified ‘id’ | id, DefaultType |  |
|  | DELETE {id} | Deletes a default type with the specified ‘id’ | id |  |
|  | GET | Returns a list of all default types |  | List<DefaultType> |
|  | GET {id} | Returns a default type with the specified ‘id’ | id | DefaultType |
| /invoice | POST | Creates a new invoice | Invoice | Invoice |
|  | PUT {id} | Updates an invoice with the specified ‘id’ | id, Invoice |  |
|  | DELETE {id} | Deletes an invoice with the specified ‘id’ | id |  |
|  | GET | Returns a list of all invoices |  | List<Invoice> |
|  | GET {id} | Returns an invoice with the specified ‘id’ | id | Invoice |
| /invoiceitem | POST | Creates a new invoice item | InvoiceItem | InvoiceItem |
|  | PUT {id} | Updates an invoice item with the specified ‘id’ | id, InvoiceItem |  |
|  | GET | Returns a list of all invoice items |  | List<InvoiceItem> |
|  | GET {id} | Returns an invoice item | id | InvoiceItem |
| /quote | POST | Creates a new quote to clients | Quote | Quote |
|  | PUT {id} | Updates a quote with the specified ‘id’ | id, Quote |  |
|  | DELETE {id} | Deletes a quote with the specified ‘id’ | id |  |
|  | GET | Returns a list of all quotes |  | List<Quote> |
|  | GET {id} | Returns a quote with the specified ‘id’ | id | Quote |
| /quoteitem | POST | Creates a new quote item | QuoteItem | QuoteItem |
|  | PUT {id} | Updates a quote item with the specified ‘id’ | id, QuoteItem |  |
|  | DELETE {id} | Deletes a quote item with the specified ‘id’ | id |  |
|  | GET | Returns a list of all quote items |  | List<QuoteItem> |
|  | GET {id} | Returns a quote item with the specified ‘id’ | id | QuoteItem |
| /employeetimeline | POST | Creates a new link between employees and certain time lines of a project | EmployeeTimeline | EmployeeTimeline |
|  | PUT {id} | Updates a link with the specified ‘id’ | id, EmployeeTimeline |  |
|  | DELETE {id} | Deletes a link with the specified ‘id’ | id |  |
|  | GET | Returns a list of links between employee and project time lines |  | List<EmployeeTimeline> |
|  | GET {id} | Returns a link with the specified ‘id’ | id | EmployeeTimeline |

Further reading

More on APIs

* <https://en.m.wikipedia.org/wiki/Application_programming_interface>
* <https://dev.socrata.com/docs/endpoints.html>

More on http requests

* <https://www.tutorialspoint.com/http/http_requests.html>
* <https://www.toolsqa.com/client-server/http-request/>

More on ASP.NET cookie authentication

* <https://docs.microsoft.com/en-us/aspnet/core/security/authentication/cookie?view=aspnetcore-2.2>
* <https://www.c-sharpcorner.com/article/cookie-authentication-with-asp-net-core-2-0/>

Appendix A.

**Models and their structures:**

|  |  |  |  |
| --- | --- | --- | --- |
| Model | Field Name | Description | Data type |
| **UserCredential** |  |  |  |
|  | Username | A user’s access name | string |
|  |  |  |  |
|  | Password | A user’s secrete key combination. | string |
| **Employee** |  |  |  |
|  | EmployeeId | Unique identifier | integer |
|  | FirstName | Employee name | string |
|  | MaidenName | Employee maiden name (if applicable) | string |
|  | LastName | Employee last name | string |
|  | Email | Employee personal email | string |
|  | ContactNumber | Employee contact number | string |
|  | AlternativeNumber | Employee secondary contact number | string |
|  | PhysicalAddress | Employee physical address | string |
|  | PostalAddress | Employee postal address | string |
|  | SAID | Employee SA ID number if applicable | string |
|  | PassportNumber | Employee Passport number if applicable | string |
|  | AccessCode | Employee access codes to the API | string |
| **Quote** |  |  |  |
|  | QuoteId | Unique identifier for quotes | integer |
|  | ReferenceNumber | Quote reference number | string |
|  | Discount | Discount given for the specific quote | nullable double |
|  | Date | Creation date | datetime |
|  | SupplierId | Reference to a supplier | interger |
| **QuoteItems** |  |  |  |
|  | QuoteItemsId | Unique identifier to quote items | integer |
|  | Description | Describes the item | string |
|  | Quantity | The quantity of this particular item | integer |
|  | Price | Price per unit | double |
|  | Vat | At point VAT value | double |
|  | QuoteId | Reference to a quote | integer |
| **Supplier** |  |  |  |
|  | SupplierId | Unique identifier for suppliers | integer |
|  | Name | Name of the supplier | string |
|  | Address | Address of the supplier | string |
|  | Tell | Telephone number of the supplier | string |
|  | Email | Email address of the supplier | string |
| **SupplieAccount** |  |  |  |
|  | SupplierAccountId | Unique identifier for supplier’s accounts | integer |
|  | ReferenceNumber | Reference number given by the supplier | string |
|  | BankName | Supplier’s bank name | string |
|  | BankAccount | Supplier’s bank account number | string |
|  | BranchCode | Supplier’s bank branch code | string |
|  | SupplierId | Reference to a supplier | integer |
| **Client** |  |  |  |
|  | ClientId | Unique identifier to a client | integer |
|  | ClientName | Client’s name (preferably a company name) | string |
|  | VatNumber | Company’s vat number | string |
|  | Address | Company physical address | string |
| **ClientContactInfo** |  |  |  |
|  | ClientContactInfoId | Unique identifier | integer |
|  | FirstName | Name of the client’s representative | string |
|  | LastName | Last name of the client’s representative | string |
|  | Email | Email address of the client’s representative | string |
|  | Cell | Cell phone number of the client’s representative | string |
|  | Tell | Telephone of the client’s representative | string |
|  | AccessCode | Access given to the client’s representative | string |
|  | AcquisitionNumber |  | string |
|  | Date | Creation date | datetime |
|  | ClientId | Reference to a client | integer |
| **EmployeeAccounts** |  |  |  |
|  | EmployeeAccountsId | Unique Identifier | integer |
|  | BankName | Name of bank the employee uses | string |
|  | AccountNumber | Account number o | string |
|  | BranchCode | Bank’s branch code | string |
|  | EmployeeId | Reference to Employee | integer |
| **EmployeeKin** |  |  |  |
|  | EmployeeKinId | Unique Identifier | integer |
|  | FirstName | Employee’s next of kin name | string |
|  | MaidenName | Employee’s next of kin maiden name (if applicable) | string |
|  | LastName | Employee’s next of kin last name | string |
|  | Email | Employee’s next of kin personal email | string |
|  | ContactNumber | Employee’s next of kin contact number | string |
|  | AlternativeNumber | Employee’s next of kin secondary contact number | string |
|  | PhysicalAddress | Employee’s next of kin physical address | string |
|  | PostalAddress | Employee’s next of kin postal address | string |
|  | SAID | Employee’s next of kin SA ID number if applicable | string |
|  | PassportNumber | Employee’s next of kin Passport number if applicable | string |
|  | EmployeeId | Reference to Employee | integer |
| **CostEstimate** |  |  |  |
|  | CostEstimateId | Unique identifier | integer |
|  | Date | Date of creation | datetime |
|  | EmployeeId | Reference to the employee who created it | integer |
|  | ProjectId | Reference to a project being estimated | integer |
| **CostEstimateItems** |  |  |  |
|  | CostEstimateItemId | Unique identifier | integer |
|  | MaterialPrice | Total price of material to be purchased | double |
|  | MaterialPercentage | Profit to be made | double |
|  | LabourPrice | Total amount of labour | double |
|  | EquipmentPrice | Total cost of equipment to be used | double |
|  | EquipmentPercentage | Profit to be made | double |
|  | CostEstimateId | Reference to CostEstimate | integer |
| **Default** |  |  |  |
|  | DefaultId | Unique Identifier | integer |
|  | Description | Describes the default encountered | string |
|  | Cost | How much was spent on the default | double |
|  | StartDate | Represents the start date | datetime |
|  | EndDate | Represents the end date | datetime |
|  | DefaultTypeId | Reference to DefaultType | integer |
| **DefaultType** |  |  |  |
|  | DefaultTypeId | Unique identifier | Integer |
|  | Description | Describes the kind of default it is | String |
| **Invoice** |  |  |  |
|  | InvoiceId | Unique identifier | integer |
|  | Description | Describes the invoice | string |
|  | ProjectId | Reference to the Project | integer |
| **InvoiceItems** |  |  |  |
|  | InvoiceItemsId | Unique identifier | integer |
|  | Description | Describes the item on invoice | string |
|  | Quantity | Gives quantity of item | integer |
|  | Rate | How much is to be charged in the item | double |
|  | Vat | VAT value | double |
|  | InvoiceId | Reference to an invoice | integer |
|  | DefaultId | Reference to Default, if applicable | nullable integer |
| **Project** |  |  |  |
|  | ProjectId | Unique identifier | integer |
|  | Title | Provides a title to the project | string |
|  | Facility | Specify where the project will take place | string |
|  | Description | Describes what the project does | string |
|  | Date | Creation date | datetime |
|  | ClientId | Refence to client | integer |
| **ProjectStatus** |  |  |  |
|  | ProjectStatusId | Unique identifier | integer |
|  | Description | Describes what is meant to happen at a given stage | string |
|  | Stage | Describes the stage of the project | string |
| **Timeline** |  |  |  |
|  | TimelineId | Unique Identifier | integer |
|  | Stage | Describes the stage at which the project is at | string |
|  | Description | Provides more details of what should be done at this stage | string |
|  | StartDate | Represents the start date of the project | datetime |
|  | EndDate | Represents the end date of the project | datetime |
|  | Extension | Represents an extension date of the project if applicable | nullable datetime |
|  | ProjectId | Reference to Project | integer |
|  | ProjectStatusId | Reference to ProjectStatus | integer |
| **EmployeeTimline** |  |  |  |
|  | EmployeeTimelineId | Unique identifier | integer |
|  | EmployeeId | Reference to Employee, if applicable | nullable integer |
|  | TimelineId | Reference to Timeline, if applicable | nullable integer |
|  | ProjectId | Reference to Project, if applicable | nullable integer |
|  |  |  |  |