

# SDK NetTime6

August 6, 2020

## 1 nettime-sdk

sdk for netTime (SPEC, SA)

### 1.0.1 Add src folder to path

```
[1]: import sys, os
      sys.path.append(os.path.join(os.getcwd(), '..', 'src'))
```

### 1.0.2 Import module

```
[2]: import nettime6 as nt6
      from importlib import reload
```

### 1.0.3 Client settings

```
[3]: URL = 'http://localhost:6091'
      USERNAME = 'admin'
      PWD = 'Spec.2020'
```

### 1.0.4 Create a client

```
[24]: reload(nt6) # for reload changes only
      client = nt6.Client(url=URL, username=USERNAME, pwd=PWD)
      client.is_connected
```

```
[24]: True
```

### 1.0.5 Get employees with summary method

```
[45]: client.get_employees()
```

```
[45]: {'total': 2,
      'items': [{'id': 1, 'nif': '123789456'}, {'id': 2, 'nif': '987321654'}]}
```

### 1.0.6 Filter in response (frontend)

```
[46]: client.get_employees(search="1237")
```

```
[46]: {'total': 1, 'items': [{'id': 1, 'nif': '123789456'}]}
```

### 1.0.7 Specify fields

```
[47]: query = nt6.Query(fields=["nif", "Apellidos_Nombre", "Province", "birthdate"])
      client.get_employees(query=query)
```

```
[47]: {'total': 2,
      'items': [{'nif': '123789456',
                  'Apellidos_Nombre': 'Lucyk, Lucas',
                  'birthdate': '0001-01-01T00:00:00.0000000'},
                {'nif': '987321654',
                  'Apellidos_Nombre': 'Doe, John',
                  'Province': 'Ciudad Autónoma de Buenos Aires',
                  'birthdate': '1987-08-05T00:00:00.0000000'}]}
```

### 1.0.8 Filter in backend with nettime filter

```
[48]: query = nt6.Query(
      fields=["id", "nif", "Apellidos_Nombre", "Province", "birthdate"],
      filterExp='Contains(this.nif, "987321654")'
    )
      client.get_employees(query=query)
```

```
[48]: {'total': 1,
      'items': [{'id': 2,
                  'nif': '987321654',
                  'Apellidos_Nombre': 'Doe, John',
                  'Province': 'Ciudad Autónoma de Buenos Aires',
                  'birthdate': '1987-08-05T00:00:00.0000000'}]}
```

### 1.0.9 Fields definition

```
[49]: fields = client.get_fields("Persona")
      print('Total:', fields.get('total'))
      fields.get('items')[:2]
```

Total: 323

```
[49]: [{'id': 30,
      'name': 'id',
      'displayName': 'Id',
      'expr': 'this.id',
```

```

        'type': 'int',
        'align': 2,
        'sortable': False,
        'width': 0,
        'group': '',
        'numTempOperators': 0},
    {'id': 31,
     'name': 'name',
     'displayName': 'Clave',
     'expr': 'this.name',
     'type': 'String',
     'align': 2,
     'sortable': True,
     'width': 20,
     'group': 'Datos personales',
     'numTempOperators': 0}]

```

#### 1.0.10 Fields definition filtering Properties only

```

[50]: fields_filter = client.get_fields("Persona", filterFields=True)
      print('Total:', fields_filter.get('total'))
      fields_filter.get('items')[:2]

```

Total: 316

```

[50]: [{ 'id': 30,
        'name': 'id',
        'displayName': 'Id',
        'expr': 'this.id',
        'type': 'int',
        'align': 2,
        'sortable': False,
        'width': 0,
        'group': '',
        'numTempOperators': 0},
      { 'id': 31,
        'name': 'name',
        'displayName': 'Clave',
        'expr': 'this.name',
        'type': 'String',
        'align': 2,
        'sortable': True,
        'width': 20,
        'group': 'Datos personales',
        'numTempOperators': 0}]

```

### 1.0.11 Get incidencias, and update employee

```
[51]: nt_incidencias = client.get_elements("Incidencia").get('items')
      nt_incidencias[:10]
```

```
[51]: [{'id': 0, 'name': 'Sin incidencia'},
      {'id': 1, 'name': 'Inc. horas extra'},
      {'id': 2, 'name': 'Asuntos propios'},
      {'id': 3, 'name': 'Vacaciones'},
      {'id': 4, 'name': 'Lactancia 30 minutos'},
      {'id': 5, 'name': 'Lactancia 1 hora'},
      {'id': 6, 'name': 'Visita al médico'},
      {'id': 7, 'name': 'Horas sindicales'},
      {'id': 8, 'name': 'Accidente laboral'},
      {'id': 9, 'name': 'Enfermedad'}]
```

```
[52]: incidencias = []
      for incidencia in nt_incidencias:
          incidencias.append({"id": incidencia.get("id")})

      data = {
          "container": "Persona",
          "elements": [2],
          "dataObj": {
              "TimeTypesEmployee": incidencias
          }
      }

      client.save_element(**data)
```

```
[52]: [{'type': 6,
      'dataObject': {'_c_': 'Persona',
      'id': 2,
      'name': '987654',
      'created': '2020-08-03T10:51:59.1430000',
      'changePassword': False,
      'firstWONumDays': 0,
      'firstWO': -1,
      'firstWANumDays': 0,
      'firstWA': -1,
      'firstTTNumDays': 0,
      'firstTT': -1,
      'termVoice': False,
      'timeoutEnrollMinutes': 0,
      'timeoutEnrollDate': '0001-01-01T00:00:00.0000000',
      'enrollActive': False,
      'PersonalPhone': '5238-8000',
```

'sex': 0,  
'Visitas.RecibirVisitas': False,  
'securityLevel': 0,  
'ticketEmail': False,  
'address': 'Reconquista 968',  
'timeoutEnroll': '0001-01-01T00:00:00.0000000',  
'createdBy': 'Admin',  
'modifiedBy': 'Admin',  
'useTasksWE': False,  
'useTasksWO': False,  
'useTasksWA': False,  
'useTasks': False,  
'ProfaceAdmin': False,  
'MobileClocking': False,  
'mobileId': '',  
'RemoteClocking': False,  
'Portal.DisablePasswordChange': False,  
'Portal.DisableCalendar': False,  
'Portal.DisablePlannings': False,  
'Portal.DisableVistaResumen': False,  
'Portal.DisableMovimientos': False,  
'Portal.NoPuedeEditar': False,  
'Portal.NoRequiereValidacionEnCorreccion': False,  
'Portal.UsaPortal': False,  
'virtualCard': False,  
'geolocalize': 'geoNever',  
'offline': False,  
'totalDocs': 0,  
'Portal.ChangeLanguage': True,  
'rev': 56,  
'modified': '2020-08-05T19:15:49.1907439-03:00',  
'birthdate': '1987-08-05T00:00:00.0000000',  
'Visitas.ProgramarVisitas': False,  
'acceptAllReaders': False,  
'acceptAllTT': False,  
'NoAttendance': False,  
'RegisterSystemDate': '2019-02-11T00:00:00.0000000',  
'htmlPortal': False,  
'inactive': True,  
'pwdCantChange': False,  
'exboss': True,  
'pwdNextLogin': False,  
'pwdExpires': True,  
'pwdRetries': 0,  
'lastPwdChange': '0001-01-01T00:00:00.0000000',  
'NumFingers': 0,  
'nif': '987321654',

```

'Town': 'CABA',
'PIN': 0,
'PostalCode': '1003',
'FirstDayNotValid': '2020-08-05T00:00:00.0000000-03:00',
'Province': 'Ciudad Autónoma de Buenos Aires',
'FingerIEV02EnrollDate': '0001-01-01T00:00:00.0000000',
'nameEmployee': 'John',
'companyCode': 'SPEC AR',
'Finger2EnrollDate': '0001-01-01T00:00:00.0000000',
'Finger1EnrollDate': '0001-01-01T00:00:00.0000000',
'LastName': 'Doe',
'employeeCode': '5048',
'FingerIEV01EnrollDate': '0001-01-01T00:00:00.0000000',
'ActiveDays': {'validity': [{'start': '2011-01-01T00:00:00.0000000',
    'end': '2040-12-31T00:00:00.0000000'}]},
'Readers': [1, 2],
'Cards': [],
'Calendar': {'id': 2,
    '_c_': '',
    'created': '0001-01-01T00:00:00.0000000',
    'modified': '0001-01-01T00:00:00.0000000',
    'name': '',
    'rev': 0,
    'years': [{'Year': 2012, 'days': {}},
        {'Year': 2016, 'days': {}},
        {'Year': 2017, 'days': {}},
        {'Year': 2018, 'days': {}},
        {'Year': 2019, 'days': {}},
        {'Year': 2020,
            'days': {'0': {'shifts': [4]},
                '1': {'shifts': [4]},
                '33': {'shifts': [3]},
                '34': {'shifts': [3]},
                '35': {'shifts': [3]},
                '36': {'shifts': [3]},
                '37': {'shifts': [3]},
                '54': {'shifts': [3]},
                '55': {'shifts': [3]},
                '56': {'shifts': [3]},
                '57': {'shifts': [3]},
                '58': {'shifts': [3]}}},
        {'Year': 2021, 'days': {}},
    ],
    'Cycles': [],
    'Calendars': [{'id': 3, 'name': 'LaV 09 a 18'}],
    'nodesSource': [],
    'multiName': {'es-ES': ''}},
'node': 1,

```

```

'doAccess': {'total': True, 'offsetIn': 0, 'offsetOut': 0},
'TimeTypesEmployee': [{'id': 0},
{'id': 1},
{'id': 2},
{'id': 3},
{'id': 4},
{'id': 5},
{'id': 6},
{'id': 7},
{'id': 8},
{'id': 9},
{'id': 10},
{'id': 11},
{'id': 12},
{'id': 13},
{'id': 14},
{'id': 15},
{'id': 16},
{'id': 17},
{'id': 18},
{'id': 19},
{'id': 20},
{'id': 21},
{'id': 22},
{'id': 23},
{'id': 24}],
'Departments': [{'id': 1}],
'enrollDevices': [],
'geolocSource': [{'data': 'geoAlways', 'label': 'Siempre'},
{'data': 'geoIfPossible', 'label': 'Si es posible'},
{'data': 'geoNever', 'label': 'Nunca'}],
'source': [{'id': 1,
'name': 'Proximity',
'displayName': 'Proximity',
'description': '',
'type': 'terminal',
'icon': 'Terminal',
'children': [{'id': 2,
'displayName': 'Proximity_1',
'type': 'reader',
'description': 'Lector 2 del terminal Proximity',
'icon': 'Lector',
'children': [{'type': 'device',
'name': 'CD1',
'displayName': 'Lector de proximidad interno conectado en CD1',
'description': 'CD1',
'default': 1,

```

```

        'deviceType': 'Tarjeta',
        'hasElement': True,
        'expr': '',
        'allow': False,
        'id': 'Proximity_Proximity_1_CD1'}}]]}},
{'id': 3,
 'name': 'Fingerprint',
 'displayName': 'Fingerprint',
 'description': '',
 'type': 'terminal',
 'icon': 'Terminal',
 'children': [{ 'id': 1,
  'displayName': 'Fingerprint_1',
  'type': 'reader',
  'description': 'Lector 1 del terminal Fingerprint',
  'icon': 'Lector',
  'children': [{ 'type': 'device',
   'name': 'COM1',
   'displayName': 'Lector de huella interno conectado en COM1',
   'description': 'COM1',
   'default': 1,
   'deviceType': 'Huella',
   'hasElement': True,
   'expr': '',
   'allow': False,
   'id': 'Fingerprint_Fingerprint_1_COM1'},
  { 'type': 'device',
   'name': 'BI1',
   'displayName': 'Teclado interno conectado en BI1',
   'description': 'BI1',
   'default': 1,
   'deviceType': 'Teclado',
   'hasElement': False,
   'expr': '',
   'allow': False,
   'id': 'Fingerprint_Fingerprint_1_BI1'}}]]}},
'initialValuesList': [],
'nodesSource': [{ 'data': '1', 'label': 'SPEC SA'},
 { 'data': '2', 'label': 'SPEC SA · Argentina'},
 { 'data': '3', 'label': 'SPEC SA · Argentina · Information Technology'}],
'Accesos.Zona': 1,
'languages': [{ 'data': 'ca-ES', 'label': 'Català'},
 { 'data': 'en-GB', 'label': 'English'},
 { 'data': 'es-ES', 'label': 'Español'},
 { 'data': 'eu-ES', 'label': 'Euskara'},
 { 'data': 'fr-FR', 'label': 'Français'},
 { 'data': 'pt-PT', 'label': 'Português'}],

```



```
'message': 'El elemento se ha modificado correctamente.',
'showActions': True}]
```

To add periods, use the key “validity” with a list of elements like:

```
{
  "id": incidencia.get("id"),
  "validity": [{
    "end": "2040-12-31T00:00:00-03:00",
    "start": "2004-01-01T00:00:00-03:00",
  }]
}
```

### 1.0.12 Get elements definition

```
[53]: employee = client.get_element_def(container="Persona", elements=[2])
employee = employee[0]

# show calendars
employee.get('Calendar')
```

```
[53]: {'id': 2,
      '_c_': '',
      'created': '0001-01-01T00:00:00.0000000',
      'modified': '0001-01-01T00:00:00.0000000',
      'name': '',
      'rev': 0,
      'years': [{'Year': 2012, 'days': {}},
                 {'Year': 2016, 'days': {}},
                 {'Year': 2017, 'days': {}},
                 {'Year': 2018, 'days': {}},
                 {'Year': 2019, 'days': {}},
                 {'Year': 2020,
                  'days': {'0': {'shifts': [4]},
                            '1': {'shifts': [4]},
                            '33': {'shifts': [3]},
                            '34': {'shifts': [3]},
                            '35': {'shifts': [3]},
                            '36': {'shifts': [3]},
                            '37': {'shifts': [3]},
                            '54': {'shifts': [3]},
                            '55': {'shifts': [3]},
                            '56': {'shifts': [3]},
                            '57': {'shifts': [3]},
                            '58': {'shifts': [3]}}},
                 {'Year': 2021, 'days': {}}],
      'Cycles': [],
```

```
'Calendars': [{'id': 3, 'name': 'LaV 09 a 18'}],
'nodesSource': [],
'multiName': {'es-ES': ''}}
```

### 1.0.13 Get default values in create form

```
[54]: client.get_create_form("Jornada")
```

```
[54]: {'_c_': 'Jornada',
'id': -1,
'modified': '0001-01-01T00:00:00.0000000',
'created': '0001-01-01T00:00:00.0000000',
'color': '808080',
'rev': 0,
'minutosCortesia': 0,
'minutosPenalizacion': 0,
'totalTeorico': 480,
'minutoFinal': 2880,
'minutosRetraso': 0,
'resultados': [],
'multiName': {},
'nodesSource': [],
'incidencias': [],
'baObligada': [],
'baFlexible': [],
'pausas': [],
'intervalSource': [{'data': 'flex', 'label': 'Bloque flexible'},
{'data': 'oblig', 'label': 'Bloque obligatorio'},
{'data': 'all', 'label': 'Toda la jornada'},
{'data': 'bloque', 'label': 'Bloque del grupo de incidencia'},
{'data': 'relative', 'label': 'Relativo a...', 'state': 'relative'},
{'data': 'delete', 'label': 'Sin validez'}],
'ShifttimeTypesMassIdinci': [],
'relativeSource': [{'data': 'inishift', 'label': 'Inicio de la jornada'},
{'data': 'firstflexmin', 'label': 'Inicio bloque flexible'},
{'data': 'firstoblmin', 'label': 'Inicio bloque obligatorio'},
{'data': 'endshift', 'label': 'Final de la jornada'},
{'data': 'endflex', 'label': 'Final bloque flexible'},
{'data': 'endobli', 'label': 'Final bloque obligatorio'}]}
```

### 1.0.14 Get dataObj for duplicate element

```
[55]: client.get_for_duplicate(container="Arbol", element=3)
# edit and then use client.save_element() method
```

```
[55]: {'_c_': 'Arbol',
      'id': -1,
      'name': 'Information Technology',
      'rev': 0,
      'createdBy': 'Admin',
      'created': '2020-08-03T11:08:27.4050000',
      'modified': '0001-01-01T00:00:00.0000000',
      'color': '7D7D7D',
      'allowedContainerNames': 'Empleados',
      'order': 0,
      'internalName': 'Information_Technology',
      'idNodeParent': 2,
      'baAllowedContainers': [14],
      'nodesSource': [],
      'nodes': [],
      'multiName': {'es-ES': 'Information Technology'}}
```

#### 1.0.15 Delete element

```
[56]: client.get_elements("Jornada", search="TEST")
```

```
[56]: {'total': 1, 'items': [{'id': 6, 'name': 'TEST'}]}
```

```
[58]: client.delete_element(container="Jornada", elements=[6])
```

```
[58]: [{'type': 8,
      'id': 'BwAAAAEAAgeAAA==',
      'rev': 60,
      'message': 'Los elementos se han eliminado correctamente.'}]
```

```
[59]: client.get_elements("Jornada", search="TEST")
```

```
[59]: {'total': 0, 'items': []}
```

#### 1.0.16 Getting day results info

```
[60]: client.get_day_info(employee=2, _from="2020-07-03", to="2020-07-03")
```

```
[60]: {'idEmp': 2,
      'days': [{'date': '2020-07-03T00:00:00.0000000',
      'shift': {'date': '2020-07-03T00:00:00.0000000',
      'idEmp': 2,
      'shift': 5,
      'minFin': 2880,
      'minFinForced': False,
      'shiftPetition': {'actions': ['Change']}},
      'clockings': [{'id': 1,
```

```

    'date': '2020-07-03T08:55:00.0000000',
    'idElem': 0,
    'type': 'timetypes',
    'idReader': 0,
    'user': 'Admin',
    'ip': '127.0.0.1',
    'status': {'effective': True,
    'desc': 'Entrando',
    'state': '',
    'entering': True,
    'actions': ['Delete', 'Edit', 'Comment']}},
    'app': True,
    'numDocuments': 0},
  {'id': 2,
    'date': '2020-07-03T18:30:00.0000000',
    'idElem': 0,
    'type': 'timetypes',
    'idReader': 0,
    'user': 'Admin',
    'ip': '127.0.0.1',
    'status': {'effective': True,
    'desc': 'Saliendo',
    'state': '',
    'entering': False,
    'actions': ['Delete', 'Edit', 'Comment']}},
    'app': True,
    'numDocuments': 0}],
  'info': {'Change': 'Cambiar',
    'Delete': 'Eliminar',
    'Edit': 'Editar',
    'Comment': 'Comentar'}},
  'results': {'date': '2020-07-03T00:00:00.0000000',
    'hasComments': False,
    'hasPending': False,
    'shift': {'id': 5, 'minutes': {'start': 1440, 'end': 2880}},
    'minutesTypes': [{'name': 'Incidencia',
      'results': [{'id': 0,
        'minutes': [{'start': 1975, 'end': 2160, 'endApr': True},
          {'start': 2220, 'end': 2550, 'startApr': True}]}]},
      {'name': 'Sistema',
        'results': [{'id': 9, 'minutes': [{'start': 2160, 'end': 2220}]}]}]},
    'taskConfig': 71,
    'info': [{'id': 0,
      'type': 'Incidencia',
      'name': 'Sin incidencia',
      'color': '009933'},
      {'id': 5, 'type': 'Jornada', 'name': '09:00 a 18:00', 'color': '808080'},

```

```
{'id': 9, 'type': 'Sistema', 'name': 'Pausas', 'color': 'F0F0F0']}]}
```

### 1.0.17 Get day results

```
[61]: client.get_results(employee=2, _from="2020-07-03", to="2020-07-03")
```

```
[61]: {'results': [{'date': '2020-07-03T00:00:00.0000000',  
  'hasComments': False,  
  'hasPending': False,  
  'shift': {'id': 5, 'minutes': {'start': 1440, 'end': 2880}},  
  'minutesTypes': [{'name': 'Lector',  
    'results': [{'id': -1,  
      'values': [{'name': 'Min', 'value': 575},  
        {'name': 'MinDes', 'value': 0},  
        {'name': 'Evt', 'value': 1},  
        {'name': 'EvtDes', 'value': 0}]}]}],  
  {'name': 'Incidencia',  
    'results': [{'id': 0,  
      'values': [{'name': 'Min', 'value': 515},  
        {'name': 'MinDes', 'value': 60},  
        {'name': 'Evt', 'value': 1},  
        {'name': 'EvtDes', 'value': 1}]}]}],  
  {'name': 'Sistema',  
    'results': [{'id': 0,  
      'values': [{'name': 'Min', 'value': 515},  
        {'name': 'MinDes', 'value': 60},  
        {'name': 'Evt', 'value': 1},  
        {'name': 'EvtDes', 'value': 1}]}]}],  
  {'id': 5,  
    'values': [{'name': 'Min', 'value': 0},  
      {'name': 'MinDes', 'value': 0},  
      {'name': 'Evt', 'value': 0},  
      {'name': 'EvtDes', 'value': 0}]}],  
  {'id': 6,  
    'values': [{'name': 'Min', 'value': 515},  
      {'name': 'MinDes', 'value': 60},  
      {'name': 'Evt', 'value': 1},  
      {'name': 'EvtDes', 'value': 1}]}],  
  {'id': 8,  
    'values': [{'name': 'Min', 'value': 480},  
      {'name': 'MinDes', 'value': 35},  
      {'name': 'Evt', 'value': 1},  
      {'name': 'EvtDes', 'value': 1}]}],  
  {'id': 9,  
    'values': [{'name': 'Min', 'value': 60},  
      {'name': 'MinDes', 'value': 0},  
      {'name': 'Evt', 'value': 1},
```

```

    {'name': 'EvtDes', 'value': 0}}],
{'id': 10,
 'values': [{'name': 'Min', 'value': 0},
             {'name': 'MinDes', 'value': 0},
             {'name': 'Evt', 'value': 0},
             {'name': 'EvtDes', 'value': 0}]},
{'id': 11,
 'values': [{'name': 'Min', 'value': 480},
             {'name': 'MinDes', 'value': 0},
             {'name': 'Evt', 'value': 1},
             {'name': 'EvtDes', 'value': 0}]},
{'id': 12,
 'values': [{'name': 'Min', 'value': 1380},
             {'name': 'MinDes', 'value': 0},
             {'name': 'Evt', 'value': 1},
             {'name': 'EvtDes', 'value': 0}]]}],
{'name': 'Anomalia',
 'results': [{'id': 0,
               'values': [{'name': 'Min', 'value': 0},
                           {'name': 'MinDes', 'value': 0},
                           {'name': 'Evt', 'value': 1},
                           {'name': 'EvtDes', 'value': 0}]]}],
{'name': 'Calculo',
 'results': [{'id': 1,
               'values': [{'name': 'Min', 'value': 515},
                           {'name': 'MinDes', 'value': 60},
                           {'name': 'Evt', 'value': 1},
                           {'name': 'EvtDes', 'value': 1}]]},
             {'id': 2,
               'values': [{'name': 'Min', 'value': 480},
                           {'name': 'MinDes', 'value': 0},
                           {'name': 'Evt', 'value': 1},
                           {'name': 'EvtDes', 'value': 0}]]}],
{'name': 'Jornada',
 'results': [{'id': 5,
               'values': [{'name': 'Min', 'value': 480},
                           {'name': 'MinDes', 'value': 0},
                           {'name': 'Evt', 'value': 1},
                           {'name': 'EvtDes', 'value': 0}]]}],
{'name': 'Aritmetico',
 'results': [{'id': 1,
               'values': [{'name': 'Value', 'value': 35},
                           {'name': 'Accumulated', 'value': 35},
                           {'name': 'Available', 'value': -35},
                           {'name': 'Discard', 'value': 0}]]},
             {'id': 2,
               'values': [{'name': 'Value', 'value': 35},

```

```

        {'name': 'Accumulated', 'value': -925},
        {'name': 'Available', 'value': 925},
        {'name': 'Discard', 'value': 0}]],
    {'id': 3,
     'values': [{'name': 'Value', 'value': 35},
                 {'name': 'Accumulated', 'value': -63325},
                 {'name': 'Available', 'value': 63325},
                 {'name': 'Discard', 'value': 0}]],
    {'id': 4,
     'values': [{'name': 'Value', 'value': 0},
                 {'name': 'Accumulated', 'value': 0},
                 {'name': 'Available', 'value': 22},
                 {'name': 'Discard', 'value': 0}]]]]]],
'info': [{'id': -1, 'type': 'Lector', 'name': 'UNKNOWN', 'color': 'FDFDFD'},
         {'id': 0, 'type': 'Incidencia', 'name': 'Sin incidencia', 'color': '009933'},
         {'id': 0,
          'type': 'Sistema',
          'name': 'Productivas en el centro',
          'color': '009933'},
         {'id': 0, 'type': 'Anomalia', 'name': 'Sin anomalía', 'color': 'EEEEEE'},
         {'id': 1, 'type': 'Calculo', 'name': 'PROD', 'color': 'CCCCCC'},
         {'id': 2, 'type': 'Calculo', 'name': 'NORMALES', 'color': 'ffffff'},
         {'id': 5,
          'type': 'Sistema',
          'name': 'Ausencias no justificadas',
          'color': 'C83327'},
         {'id': 5, 'type': 'Jornada', 'name': '09:00 a 18:00', 'color': '808080'},
         {'id': 6, 'type': 'Sistema', 'name': 'Productivas', 'color': '3399FF'},
         {'id': 8, 'type': 'Sistema', 'name': 'Trabajadas', 'color': '009933'},
         {'id': 9, 'type': 'Sistema', 'name': 'Pausas', 'color': 'F0F0F0'},
         {'id': 10, 'type': 'Sistema', 'name': 'Retrasos', 'color': 'CC6600'},
         {'id': 11, 'type': 'Sistema', 'name': 'Jornada teórica', 'color': 'FFFFFF'},
         {'id': 12, 'type': 'Sistema', 'name': 'Filtro día', 'color': 'FFFFFF'},
         {'id': 1, 'type': 'Aritmetico', 'name': 'Saldo diario', 'color': '0066CC'},
         {'id': 2, 'type': 'Aritmetico', 'name': 'Saldo mensual', 'color': 'CC9900'},
         {'id': 3, 'type': 'Aritmetico', 'name': 'Saldo anual', 'color': 'FF6600'},
         {'id': 4,
          'type': 'Aritmetico',
          'name': 'Saldo Días Vacaciones',
          'color': '007373',
          'numeric': True}]]}

```

### 1.0.18 Add clocking

```
[62]: client.add_clocking(employee=2, date="2020-07-02", time="18:30")
```

```
[62]: {'ok': True}
```

### 1.0.19 Get day clockings

```
[63]: client.get_day_clockings(employee=2, date="2020-07-02")
```

```
[63]: {'date': '2020-07-02T00:00:00.0000000',  
      'idEmp': 2,  
      'shift': 5,  
      'minFin': 0,  
      'minFinForced': False,  
      'shiftPetition': {'actions': ['Change']},  
      'clockings': [{'id': 3,  
                     'date': '2020-07-02T09:00:00.0000000',  
                     'idElem': 0,  
                     'type': 'timetypes',  
                     'idReader': 0,  
                     'user': 'Admin',  
                     'ip': '127.0.0.1',  
                     'status': {'effective': True,  
                                'desc': 'Entrando',  
                                'state': '',  
                                'entering': True,  
                                'actions': ['Delete', 'Edit', 'Comment']}},  
                     'app': True,  
                     'numDocuments': 0},  
                    {'id': 7,  
                     'date': '2020-07-02T18:30:00.0000000',  
                     'idElem': 0,  
                     'type': 'timetypes',  
                     'idReader': 0,  
                     'user': 'Admin',  
                     'ip': '::1',  
                     'status': {'effective': True,  
                                'desc': 'Saliendo',  
                                'state': '',  
                                'entering': False,  
                                'actions': ['Delete', 'Edit', 'Comment']}},  
                     'app': True,  
                     'numDocuments': 0}],  
      'info': {'Change': 'Cambiar',  
               'Delete': 'Eliminar',  
               'Edit': 'Editar',  
               'Comment': 'Comentar'}}
```

### 1.0.20 Edit clocking

```
[64]: client.edit_clocking(employee=2, clocking_id=7, date="2020-07-02", time="20:30")
```



```
[64]: {'ok': True}
```

### 1.0.21 Delete clocking

```
[65]: client.delete_clocking(employee=2, clocking_id=7, date="2020-07-02", time="20:↪30")
```

```
[65]: {'ok': True}
```

### 1.0.22 Plannings

```
[66]: planning = client.get_create_form("Persona", action="NewPlanificacion")
planning.update({
    "name": "Testing Planning",
    "allDay": True,
    "allDayId": 9, #Timetype ID
    "employee": [2], #Employee ID
    "dateInterval": client.get_days_offset(["2020-10-10", "2020-10-11"]),
})
# dateInterval is a list of int with differences between setting firstDate
# can use get_days_offset() method
```

```
[67]: data = {
    "container": "IncidenciaFutura",
    "dataObj": planning,
}
client.save_element(**data)
```

```
[67]: [{'type': 6,
  'dataObject': {'id': 3,
    '_c_': 'IncidenciaFutura',
    'firstDay': '2020-10-10T00:00:00.0000000',
    'rev': 47,
    'modifiedBy': 'Admin',
    'modified': '2020-08-05T19:19:48.5323882-03:00',
    'createdBy': 'Admin',
    'created': '2020-08-05T19:19:48.5023432-03:00',
    'allDayId': 9,
    'allDay': True,
    'selfOwner': False,
    'state': '0',
    'name': 'Testing Planning',
    'comments': '',
    'intState': 0,
    'isAccepted': True,
    'lastDay': '2020-10-11T00:00:00.0000000',
```

```

    'numDays': 2,
    'confirmBy': 'Admin',
    'confirm': '2020-08-05T19:19:48.5173865-03:00',
    'describe': '2 días, del 10/10/2020 al 11/10/2020 Todo el día con incidencia
Enfermedad',
    'hasComment': False,
    'error': '',
    'stateDescription': 'Aceptada',
    'describeTT': 'Enfermedad',
    'isPending': False,
    'isValidationPending': False,
    'isDenied': False,
    'totalDocs': 0,
    'validatedDays': [],
    'dateInterval': [6127, 6128],
    'baValidElems': [1,
2,
3,
4,
5,
6,
7,
8,
9,
10,
11,
12,
13,
14,
15,
16,
17,
18,
19,
20,
21,
22,
23,
24],
    'timeTypes': [9],
    'nodesSource': [],
    'employee': 2},
    'message': 'El elemento se ha creado correctamente.',
    'showActions': True}]

```

### 1.0.23 Add planning with summary method

```
[68]: # Delete last added element
client.delete_element(container="IncidenciaFutura", elements=[3])
```

```
[68]: [{'type': 8,
      'id': 'BAAAAAEAEAAA==',
      'rev': 50,
      'message': 'Realizada la solicitud de eliminación.'}]
```

```
[69]: client.add_planning(
      employee=2,
      name="Testing summary planning",
      timetype=9,
      days=["2020-10-10", "2020-10-11"],
    )
```

```
[69]: [{'type': 6,
      'dataObject': {'id': 4,
        '_c_': 'IncidenciaFutura',
        'firstDay': '2020-10-10T00:00:00.0000000',
        'rev': 53,
        'modifiedBy': 'Admin',
        'modified': '2020-08-05T19:20:18.5712279-03:00',
        'createdBy': 'Admin',
        'created': '2020-08-05T19:20:18.5457647-03:00',
        'allDayId': 9,
        'allDay': True,
        'selfOwner': False,
        'state': '0',
        'name': 'Testing summary planning',
        'comments': '',
        'intState': 0,
        'isAccepted': True,
        'lastDay': '2020-10-11T00:00:00.0000000',
        'numDays': 2,
        'confirmBy': 'Admin',
        'confirm': '2020-08-05T19:20:18.5586427-03:00',
        'describe': '2 días, del 10/10/2020 al 11/10/2020 Todo el día con incidencia
Enfermedad',
        'hasComment': False,
        'error': '',
        'stateDescription': 'Aceptada',
        'describeTT': 'Enfermedad',
        'isPending': False,
        'isValidationPending': False,
        'isDenied': False,
```

```

'totalDocs': 0,
'validatedDays': [],
'dateInterval': [6127, 6128],
'baValidElems': [1,
2,
3,
4,
5,
6,
7,
8,
9,
10,
11,
12,
13,
14,
15,
16,
17,
18,
19,
20,
21,
22,
23,
24],
'timeTypes': [9],
'nodesSource': [],
'employee': 2},
'message': 'El elemento se ha creado correctamente.',
'showActions': True}]

```

#### 1.0.24 Edit planning

```

[70]: # search planning
planning_query = nt6.Query(
    fields=["id", "name", "allDayId", ],
    filterExp="((this.employee.nif = '987321654') && (this.firstDay =
↪ '2020-10-10'))"
)
client.get_elements(container="IncidenciaFutura", query=planning_query)

```

```

[70]: {'total': 1,
      'items': [{'id': 4, 'name': 'Testing summary planning', 'allDayId': 9}]}

```

```
[71]: edit_planning = client.get_element_def(container="IncidenciaFutura",  
      ↪elements=[4])  
edit_planning = edit_planning[0]  
edit_planning["dateInterval"]
```

```
[71]: [6127, 6128]
```

```
[72]: # ever fix employee; must be a list  
edit_planning["employee"] = [edit_planning.get("employee")]  
  
# apply your changes  
day_to_add = client.get_days_offset(["2020-10-12"])  
edit_planning["dateInterval"].extend(day_to_add)  
edit_planning["dateInterval"]
```

```
[72]: [6127, 6128, 6129]
```

```
[73]: response = client.save_element(  
      container="IncidenciaFutura",  
      elements=[4],  
      dataObj=edit_planning  
    )  
response[0].get('message')
```

```
[73]: 'El elemento se ha modificado correctamente.'
```

### 1.0.25 Add Activator

```
[74]: client.get_elements("Activadores")
```

```
[74]: {'total': 1, 'items': [{'id': 1, 'name': 'APROBACION HS'}]}
```

```
[75]: client.add_activator(  
      name="Testing summary activator",  
      employees=[2],           #list of id's  
      days=["2020-07-03"],     #list of str with isoformat date  
      activator=1,             #activator id  
      value=1,                 #required depending activator config  
      comment="testing"        #optional  
    )
```

```
[75]: [{'type': 6,  
      'dataObject': {'_c_': 'UsoActivadores',  
      'id': 3,  
      'name': 'Testing summary activator',  
      'modified': '0001-01-01T00:00:00.0000000',  
      'createdBy': 'Admin',
```

```

'rev': 40,
'created': '2020-08-05T19:21:16.8877146-03:00',
'numDays': 1,
'lastDay': '2020-07-03T00:00:00.0000000',
'firstDay': '2020-07-03T00:00:00.0000000',
'comment': 'testing',
'employees': [2],
'activators': [{'value': 1, 'activator': 1}],
'days': [6028],
'nodesSource': [],
'multiName': {'es-ES': 'Testing summary activator'},
'validActvs': [1]},
'message': 'El elemento se ha creado correctamente.',
'showActions': True}]

```

### 1.0.26 Get activity monitor

```
[76]: client.get_activity_monitor(employees=[2], _from="2020-07-02", to="2020-07-03")
```

```

[76]: [{'id': 2,
      'days': [{'id': 6027,
                  'idAno': 2,
                  'mars': [{'m': 540,
                           'i': 0,
                           't': 18,
                           'e': 268435457,
                           'o': 8,
                           'c': '009933'}]},
                {'mi': 780, 'mf': 1080, 'ia': True, 'fa': True, 'tv': 2, 'idv': 5},
                {'mi': 720, 'mf': 780, 'ia': True, 'fa': True, 'tv': 2, 'idv': 9}],
      'horari': [{'mi': 540,
                  'mf': 720,
                  'ia': False,
                  'fa': True,
                  'tv': 2,
                  'idv': 5}],
      'idJor': 5,
      'bJor': [{'startTime': 0, 'endTime': 1440}]],
      'planInfos': {}},
      {'info': {}}]

```

Data structured like:

```

[{'id': Employee_ID,
  'days': [{
    'id': offset_day_number #(settings.firstDate),
    'idAno': anomaly_id,

```

```

'mars': [{ # Clockings
    'm': minute_of_day,
    'i': timtype_id,
    't': type,
    'e': state,
    'o': order,
    'c': color}],
'horari': [{ # Jornada
    'mi': start,
    'mf': end,
    'ia': False,
    'fa': True,
    'tv': 2,
    'idv': 5},
{'mi': 780, 'mf': 1080, 'ia': True, 'fa': True, 'tv': 2, 'idv': 5},
{'mi': 720, 'mf': 780, 'ia': True, 'fa': True, 'tv': 2, 'idv': 9}],
'idJor': Jornada ID,
'bJor': [{'startTime': shift_start, 'endTime': shift_end}]],
'planInfos': {},
{'info': {}}]

```

### 1.0.27 Get cube results (like results query window)

```

[5]: client.get_cube_results(
    dateIni="2020-07-02",
    dateEnd="2020-07-04",
    dimensions=[
        ["id", "Apellidos_Nombre"],
        ["date"],
        ["ResultValue_C.Min.NORMALES", "ResultValue_S.Min.Jornada_teorica"]
    ]
)

```

```

[5]: [{'dimKey': [1, 'Lucyk, Lucas'],
    'values': [0, 1440],
    'children': [{'dimKey': ['2020-07-02'], 'values': [0, 480]},
        {'dimKey': ['2020-07-03'], 'values': [0, 480]},
        {'dimKey': ['2020-07-04'], 'values': [0, 480]}]},
    {'dimKey': [2, 'Doe, John'],
    'values': [480, 960],
    'children': [{'dimKey': ['2020-07-02'], 'values': [0, 480]},
        {'dimKey': ['2020-07-03'], 'values': [480, 480]},
        {'dimKey': ['2020-07-04'], 'values': [0, 0]}]}]

```

**For more information see the documentation**

```

[15]: help(client.get_cube_results)

```

Help on method `get_cube_results` in module `nettime6`:

`get_cube_results(dimensions: list, dateIni: str, dateEnd: str, interfilters: list = [], filters: list = [], ids: list = [])` method of `nettime6.Client` instance

Gets `nettime` results using the "Results Query" window engine.

:param dimensions: List of list where each one contains the desired fields or results. The order of the values does matter.  
:param dateIni: Start day where you want to calculate.  
:param dateEnd: End day where you want to calculate.  
:param interfilters: (Optional) If you use the dimension "system", specify the ids of the results in this parameter.  
:param filters: (Optional) `Nettime` compatible filter expression.  
:param ids: (Optional) List of employee ids in case you want to filter.  
  
:return: :class:`list` object  
:rtype: json

#### Another example...

```
[17]: # get system result ids
client.get_elements("SystemResult")
```

```
[17]: {'total': 13,
      'items': [{'id': 0, 'name': 'Productivas en el centro'},
                 {'id': 1, 'name': 'Productivas fuera del centro'},
                 {'id': 2, 'name': 'No productivas en el centro'},
                 {'id': 3, 'name': 'No productivas fuera del centro'},
                 {'id': 4, 'name': 'Ausencias justificadas'},
                 {'id': 5, 'name': 'Ausencias no justificadas'},
                 {'id': 6, 'name': 'Productivas'},
                 {'id': 7, 'name': 'No productivas'},
                 {'id': 8, 'name': 'Trabajadas'},
                 {'id': 9, 'name': 'Pausas'},
                 {'id': 10, 'name': 'Retrasos'},
                 {'id': 11, 'name': 'Jornada teórica'},
                 {'id': 12, 'name': 'Filtro día'}]}
```

```
[26]: # get results with system engine
client.get_cube_results(
    dateIni="2020-07-02",
    dateEnd="2020-07-04",
    dimensions=[
        ["id", "Apellidos_Nombre"],
        ["date"],
        ["sistema"],
```



```

        ["interTotal"]
    ],
    interFilters=[{
        "dimension": "sistema",
        "elements": [6, 11] #Productivas and Jornada teórica
    }]
)

```

```

[26]: [{ 'dimKey': [1, 'Lucyk, Lucas'],
        'values': [1440],
        'children': [{ 'dimKey': ['2020-07-02'],
                        'values': [480],
                        'children': [{ 'dimKey': ['Jornada teórica'], 'values': [480]}] },
                      { 'dimKey': ['2020-07-03'],
                        'values': [480],
                        'children': [{ 'dimKey': ['Jornada teórica'], 'values': [480]}] },
                      { 'dimKey': ['2020-07-04'],
                        'values': [480],
                        'children': [{ 'dimKey': ['Jornada teórica'], 'values': [480]}] } ] },
      { 'dimKey': [2, 'Doe, John'],
        'values': [1475],
        'children': [{ 'dimKey': ['2020-07-02'],
                        'values': [480],
                        'children': [{ 'dimKey': ['Jornada teórica'], 'values': [480]}] },
                      { 'dimKey': ['2020-07-03'],
                        'values': [995],
                        'children': [{ 'dimKey': ['Productivas'], 'values': [515]},
                                   { 'dimKey': ['Jornada teórica'], 'values': [480]}] } ] } ]

```

### 1.0.28 Disconnect

```

[27]: client.disconnect()
      client.is_connected

```

```

[27]: False

```