

# API MANUAL

N-OPS & CREW

VERSION 22.6.16

2023-12-07

**NAVBLUE**

AN AIRBUS COMPANY

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# 1. General

CHAPTER 01

**NAVBLUE**

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# 1.1. Revisions

2016-02-16	1.3.0	- Initial document
2016-09-20	1.4.9	- Changes to GetFlights: <ul style="list-style-type: none"> <li>o ProjectCodes added to FlightRequestData. Setting this to true will return any Project codes assigned to the flight.</li> </ul> - SetRosterData added with support for Check In and Check Out times. SetRosterDesignator function will be removed in the future.
2016-09-27	1.4.11	- Changes to GetRosters: <ul style="list-style-type: none"> <li>o FilterId/FilterName can be a HumanResourceFilter RosterFilterId/RosterFilterName has been added so it's possible to filter on both Crew and Activities.</li> <li>o Times added to RosterRequestData Setting this to true will return various times related to the roster activity such as Check in and Check out.</li> </ul>
2016-09-27	1.4.12	- Changes to GetRosters: <ul style="list-style-type: none"> <li>o ReferenceActivity added to RosterRequestFilter</li> </ul>
2017-01-09	1.4.13	- SetCrewDocument added - SetRoster added - Changes to GetRosters: <ul style="list-style-type: none"> <li>o Notes added to RosterRequestData</li> </ul> - User Rights added to all API calls. API users need "Read" rights to use Get functions and "Edit" rights to use Set functions. It is also possible to select a Filter to limit the result.  API function - User right - Filter type GetCrews - HRE/HumanResources - Human resource filter GetRosters - HRE/HumanResources - Human resource filter GetRosters - HRE/Roster Filter - Roster filter GetFlights - SCH/Schedules - Leg filter GetSchedules - SCH/Schedules - Leg filter SetCrewDocument - HRE/HumanResources - Human resource filter SetFlightData - SCH/Schedules - Leg filter

		<p>SetRoster - HRE/HumanResources - Human resource filter</p> <p>SetRosterData - HRE/HumanResources - Human resource filter</p> <p>SetRosterDesignator - HRE/HumanResources - Human resource filter</p>
2017-03-10	1.4.15	<ul style="list-style-type: none"> <li>- Changes to GetCrews <ul style="list-style-type: none"> <li>o OnlyActiveCrew and OnlyActiveRecords have been added to Crew Request Filter. Setting OnlyActiveCrew to true will only return crew with valid Base and Rank/Qual compared to ReferenceDate</li> <li>o Setting OnlyActiveRecords to true will only return sub data (Addresses, Phones etc) that are valid compared to ReferenceDate and marked as Active.</li> <li>o Bases, Ranks, Qualifications, SpecialRoles and Contracts have been added</li> <li>o Active, ValidFrom and ValidTo attributes have been added to Addresses, Phones, Emails, Documents (only Active attribute), Bases, Ranks, Qualifications, SpecialRoles and Contracts fields.</li> </ul> </li> <li>- Changes to GetRosters <ul style="list-style-type: none"> <li>o Manual Duty Start and Manual Duty End have been added to RosterActivity/Times.</li> </ul> </li> <li>- Bug fixes <ul style="list-style-type: none"> <li>o UTC diff is now set correctly on Reference activities</li> <li>o Country is now set correctly on Crew/Address/Country fields</li> <li>o Middle name is now set correctly on Crew</li> <li>o UniqueId is now set correctly on Aircraft</li> <li>o Filters are now working correctly in GetCrews request</li> </ul> </li> </ul>
2017-08-01	1.4.15.16	<ul style="list-style-type: none"> <li>- SetCrew added</li> </ul>
2017-10-06	2.0	<ul style="list-style-type: none"> <li>- GetAccumulatedValues added</li> <li>- Changes to GetMaintenances <ul style="list-style-type: none"> <li>o UniqueId has been added (note that this is used in combination with MaintenanceType)</li> <li>o MaintenanceType has been added, valid values are MAINTENANCE and VEHICLEREFERENCEACTIVITY</li> </ul> </li> <li>- Changes to GetRosters <ul style="list-style-type: none"> <li>o A new request filter has been added; OnlyActive. Setting it to true will only include "Active" crew members, setting it to false will include all crew members.</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>- Bug fixes <ul style="list-style-type: none"> <li>o GetVersion is now returning correct version</li> <li>o GetRoster is now returning correct crew Base. If a crew member is changing base in the requested period both bases will be returned, separated with a comma.</li> </ul> </li> </ul>
2018-06-25	2.1	<ul style="list-style-type: none"> <li>- SetUser added</li> <li>- SetMaintenance added</li> <li>- SetAircraftData added</li> <li>- GetPairings added</li> <li>- DeleteMaintenance added</li> <li>- Changes to SetCrew</li> <li>- SocialSecurityNumber has been added</li> <li>- SpecialRoles have been added</li> <li>- Changes to SetFlightData</li> <li>- Improved algorithm for finding Leg according to ValidFrom/ReferenceDate (for overmidnight flights)</li> <li>- Changes to SetRoster</li> <li>- Speed up function for longer periods</li> <li>- ActivityType.GROUND has been changed to ActivityType.REFERENCEACTIVITY</li> <li>- Changes to SetCrewDocument</li> <li>- Active has been added</li> <li>- Bug fixes: <ul style="list-style-type: none"> <li>- GetFlights is now returning delay codes</li> <li>- GetAccumulatedValues is now returning calculated negative values</li> </ul> </li> <li>- SetRoster, SetRosterDesignator and SetRosterData are now calculating correct period</li> <li>-</li> </ul>
2019-01-24	2.2	<ul style="list-style-type: none"> <li>- Added 'Total' value for CompartmentLoad in 'GetFlights'.</li> <li>- Added ASMReasons field for GetFlights function.</li> <li>- added 'ScheduleDepartureAirport' and 'ScheduleArrivalAirport' to the 'GetFlights' request.</li> <li>- CarryIn/CarryOut activities fixed for PBS import.</li> <li>- Added GetAircrafts SetAircraftData (to update MEL List)</li> </ul>
2019-04-24	2.3	<ul style="list-style-type: none"> <li>- 'Credit' field has been changed to so it's visible in both 'PairingActivity' and 'RosterActivity' ('GetPairings' and 'GetRosters')</li> </ul>
2019-08-28	2.4	<ul style="list-style-type: none"> <li>- Added "Landings" - Number of landings added to "VoyageReport" element.</li> </ul>

		<ul style="list-style-type: none"> <li>- Added "PADAmount" - Number of PADs added to "PassengerPerClass" element.</li> <li>- Added "DataElementIdentifiers" to "GetSchedule" function. Used to display RoundTrip data. Enable by setting "DataElementIdentifiers = true" in "ScheduleRequestData".</li> <li>- Added "AircraftConfig", "AircraftOwner", "CockpitCrewOwner", "CabinCrewEmployer" to "Schedule" element in "GetSchedule" function.</li> <li>- Added "Type" and "CrewType" to "Crew" element in "GetCrews" and "GetRosters". Enable "CrewType" by setting "CrewType = true" in "CrewRequestData".</li> <li>- "FlightPlan" added in "SetFlightData". "Callsign", "Route" and "EstimatedElapsedTime" can be set using this function.</li> </ul>
2019-11-28	19.8	<ul style="list-style-type: none"> <li>- AuthenticateUser added</li> <li>- DeleteRosters added</li> <li>- "Gate" added to "Airport" elements in "GetFlights" and "SetFlightData"</li> <li>- "Stand" added to "Airport" elements in "GetFlights" and "SetFlightData"</li> <li>- "CO2" added to "Flight" elements "GetFlights"</li> <li>- "CreatedAt" added to "Crew" elements</li> <li>- "ModifiedAt" added to "Crew" elements</li> <li>- "ActivityType" included "UNKOWN" now corrected to "UNKNOWN"</li> <li>- "MaintenanceType" added to "MaintenanceRequestFilter"</li> <li>- "MaintenanceType" included "UNKOWN" now corrected to "UNKNOWN"</li> <li>- "RosterType" included "UNKOWN" now corrected to "UNKNOWN"</li> <li>- "Uniqueld" has been added to "SetFlightData" to uniquely identify a flight leg.</li> <li>- "Airports" has been added to "SetFlightData" to be able to set "Gate" and/or "Stand"</li> <li>-</li> </ul>
2020-01-24	19.10	<ul style="list-style-type: none"> <li>- "Comment" has been added to "GetRosters" and "GetPairings"</li> </ul>
2020-03-30	20.2	<ul style="list-style-type: none"> <li>- "Jumpseaters" added to FlightRequestData</li> <li>- "Complement" added to "Flight" elements in "GetFlights"</li> <li>- "Jumpseaters" added to "Flight" elements in "GetFlights"</li> <li>- "FuelData" added to "Flight" elements in "GetFlights"</li> <li>- "NickName" added to "Aircraft" elements in "GetFlights", "GetAircrafts" and "GetMaintenances"</li> </ul>

		<ul style="list-style-type: none"> <li>- "Name" added to "Aircraft" elements in "GetFlights", "GetAircrafts" and "GetMaintenances"</li> <li>- "CruisingSpeedLevel" added to "Flightplan" elements in "GetFlights"</li> <li>- GetConfigurationData added</li> </ul>
2020-06-05	20.4	<ul style="list-style-type: none"> <li>- "Revision" added to "Crew" elements.</li> <li>- "GetCrewRevisions" added.</li> <li>- "SetCrewRevision" added.</li> <li>- "SetExternalCrew" added.</li> </ul>
2020-07-17	20.6	<ul style="list-style-type: none"> <li>- "HOTEL_INFO" added to "ConfigurationType" in "GetConfigurationData".</li> <li>- "HotelInfos" added to "ConfigurationData".</li> <li>- "HotelInfoFilter" added to "ConfigurationDataFilter".</li> <li>- "GetAirports" added.</li> <li>- The following has been added to "Airport": LocalName, SlotLevel, DaylightSavingTimes, Timezones, SlotLevels, StationFacilities.</li> <li>- The following has been added to "RosterActivity": Code, TrainingSession, HotelDetail</li> <li>- The following has been added to "RosterRequestData": TrainingSessions, HotelDetails</li> <li>- "Times" added to "SetRosterData" to allow to set any time to a Roster activity. This should be used instead of "RosterTime".</li> <li>- UniqueID in GetRosters has changed to return the RosterID instead of PublishedRosterID, please note that this affects historical GetRosters queries. Please contact Support if there is a need for a historical translation table.</li> </ul>
2020-10-21	20.8	<ul style="list-style-type: none"> <li>- UniqueID change from int to string in BasicRequestFilter, note that this field is used in almost all Get functions.</li> <li>- TimeChanges added to Timezone and DaylightSavingTime used in GetAirports</li> <li>- ExternalReferenceId added to MinimumEquipment and Maintenance used in GetAircrafts and GetMaintenances, and SetMaintenance</li> <li>- RefUniqueID and CrewOnBoard added to RosterActivity, used in GetRosters</li> <li>- UniqueID added to TrainingSession used in GetRosters</li> <li>- HotelPickup added as PickupFrom and PickupTo in HotelDetail used in GetRosters</li> <li>- Credit added to Pairing used in GetPairings</li> <li>- ArrivalDelay1, ArrivalDelay2, ReturnToRampDelay1, ReturnToRampDelay2, ForcedReturnDelay1,</li> </ul>



		<p>ForcedReturnDelay2, DivertDelay1 and DivertDelay2 added to Delays used in GetFlights</p> <ul style="list-style-type: none"> <li>- CrewNumber added to CrewRequestFilter used in GetCrews</li> <li>- CrewOnBoard added to RosterRequestData used in GetRosters</li> <li>- GetHotelBookings added</li> <li>- CREW_COMPLEMENT and REFERENCE_ACTIVITY added to GetConfigurationData</li> <li>- CrewComplementFilter and ReferenceActivityFilter added to ConfigurationDataFilter</li> <li>- CrewComplements and ReferenceActivities added to ConfigurationData</li> </ul>
2020-01-14	20.10	- No changes
2021-03-30	21.2	<ul style="list-style-type: none"> <li>- UniqueId added to SetRosterData. This can be used to update a specific roster activity if FlightNumber/Callsign/FlightDate/DepartureAirport/ArrivalAirport cannot be used, or for non-flight activities.</li> <li>- DeadHeadBookingNumber added to SetRosterData</li> <li>- DeadHeadBookingNumber added to RosterActivity</li> <li>- DetailedStatus added to FlightRequestData used in GetFlights. This can be used to retrieve all statuses related to a flight.</li> <li>- DetailedStatuses added to Flights used in GetFlights</li> </ul>
2021-06-07	21.4	<ul style="list-style-type: none"> <li>- PairingName added to RosterActivity</li> <li>- AIRCRAFT_TYPE added to GetConfigurationData</li> <li>- AircraftTypes added to ConfigurationData</li> <li>- AircraftTypeFilter added to ConfigurationDataFilter</li> <li>- ReasonCategoryFiter renamed to ReasonCategoryFilter</li> </ul>
2021-09-06	21.6	<ul style="list-style-type: none"> <li>- GetRosterTransactions added</li> <li>- RosterTransactions added to Crew</li> <li>- State added to Address</li> <li>- DocumentName added to Document</li> <li>- Seniority added to SetCrew</li> </ul>
2021-10-11	21.8	<ul style="list-style-type: none"> <li>- GetUsers added</li> <li>- LegalExceptions added to SetRosterData</li> </ul>
2022-01-21	21.10	<ul style="list-style-type: none"> <li>- PROJECT added to GetConfigurationData</li> <li>- TRANSACTION_CODE added to GetConfigurationData</li> <li>- IROPSParentId added to Flight</li> </ul>
2022-04-13	22.2	<ul style="list-style-type: none"> <li>- Desk added to Flight in GetFlights and SetFlightData</li> <li>- DateOfEmployment and DateOfBirth added to CrewRequestData in GetCrews</li> </ul>

		<ul style="list-style-type: none"> <li>- PairingStart and PairingEnd added to RosterActivity in GetRosterTransactions and GetRosters</li> <li>- Active attribute added to GetConfigurationData <ul style="list-style-type: none"> <li>- Project</li> <li>- TransactionCode</li> <li>- Reason</li> <li>- ReasonCategory</li> <li>- CrewComplement</li> </ul> </li> <li>- AircraftInstance added to AircraftType in GetConfigurationData</li> </ul>
2023-01-04	22.5	<ul style="list-style-type: none"> <li>- AircraftNotes added to SetAircraftData</li> <li>- AircraftNotes added to GetAircrafts</li> <li>- Historical Bases and Availabilities added to GetConfigurationData (AIRCRAFT_TYPE)</li> </ul>
2023-01-10	22.6	<ul style="list-style-type: none"> <li>- GetFlights returns LATT values</li> <li>- GetFlights returns ScheduleGCDKM and ScheduleGCDNM</li> <li>- GetCrews returns ExternalAWDCredit</li> <li>- GetRosters returns Array of LATT values</li> <li>- GetRosters identifies if an activity is a carryover activity</li> <li>- GetPairings identifies historical pairings</li> <li>- GetPairings can return Best Start and End Times</li> <li>- New Method: SetPayload</li> <li>- SetRoster(s) includes optional boolean &lt;Confirmed/&gt; to set activity to confirmed on insert</li> </ul>
2023-05-04	22.6.5	<ul style="list-style-type: none"> <li>- SetRosters parameter RosterType is Nillable, and by default will return both PUBLISHED and NOT_PUBLISHED activities</li> </ul>
2023-09-14	22.6.11	<ul style="list-style-type: none"> <li>- Introduction of new SOAP Endpoint</li> <li>- Development on Legacy SOAP Endpoint discontinued</li> <li>- New Warnings &amp; Errors For Set Methods</li> <li>- HttpStatusCode Responses</li> <li>- City Name added to GetAirports response</li> <li>- Roster Designators added to GetConfigurationData</li> <li>- Leg Legal Exceptions added to GetConfiguration</li> <li>- Roster Legal Exceptions added to GetConfigurationData</li> <li>- Active HR Document List added to GetConfigurationData</li> <li>- HR Types added to GetConfigurationData</li> <li>- Hotel Status added to GetRosters response</li> <li>- Set/GetSub Delay codes via SetFlightData/GetFlights</li> <li>- Leg Legal Exception to SOAP API(GetFlights and SetFlightData)</li> <li>- New Method: GetTurnAroundRules</li> <li>- New Method: SetTurnaroundRules</li> </ul>
2023-10-11	22.6.12	<ul style="list-style-type: none"> <li>- New Method: SetAirport</li> <li>- Station Distances added to GetAirports response</li> <li>- Bases added to GetConfigurationData</li> </ul>

2023-10-26	22.6.13	<ul style="list-style-type: none"><li>- SetRoster and SetRosters allows setting:<ul style="list-style-type: none"><li>- ReservationComment</li><li>- ReservationNo</li><li>- Status</li></ul></li></ul>
2023-12-07	22.6.16	<ul style="list-style-type: none"><li>- GetRosters response can filter for crew with activities only</li></ul>

## 1.2. Overview

N-OC API is a WSDL/SOAP based interface that can be used to read and insert data to the N-OC system.

The N-OC API is ideal for 3rd party integrations.

As of 22.6.11 a new SOAP endpoint has been introduced:

<https://ALC.noc.vmc.navblue.cloud/raidoapi/nocsoapapi.asmx>

For UAT this would be

<https://ALC-UAT.noc.vmc.navblue.cloud/raidoapi/nocsoapapi.asmx>

(ALC = 3 letter Airline Code)

Key Enhancements:

1. This endpoint introduces improved error handling, logging and error responses. When an SOAP request message is processed, the functionality, when compared to the previous version, is the same except the response contains error/warning messages when applicable.
2. HTTPStatusCode is returned in the response.

# 1.3. API Functions

## 1.3.A. Authenticate User

This function can be used to authenticate a N-OC user.

Username & Password is the user with API access. SystemUser & SystemPassword is the user to check.

User right (Read): SYSM/Users

## 1.3.B. DeleteMaintenance

This function can be used to remove existing VehicleReferenceActivity.

User right (Delete): VEH/Vehicle Reference Activity

## 1.3.C. DeleteRosters

This function can be used to remove a REFERENCEACTIVITY from a Roster.

User right (Delete): HRE/Roster Filter

## 1.3.D. GetAccumulatedValues

Returns accumulated values ("legality") for Human Resource (Crew) or Vehicle (Aircraft).

FilterId/FilterName can be a Human Resource or Vehicle Filter from N-OC.

RemoveEmpty (optional) defines if empty values shall be sent in response.

Labels defines list of labels to collect, can be e.g. "BLH", "Duty" or aggregate like "BLH, Duty"

AggregateDays (optional) defines aggregate days to calculate, if not defined - response is splitted into 1-day periods, if passed "-1" - entire "From" - "To" is calculated

Type defines type of data to collect; currently two values are available: HumanResource and Vehicle

User right (Read): HRE/Accumulated Values

## 1.3.E. GetAircrafts

Returns the Aircraft available in N-OC, with options to return MELs and Aircraft notes.

User right (Read): VEH/VehicleResource

## 1.3.F. GetAirports

Returns the Airports available in N-OC.

User right (Read): PLAC/Stations

### 1.3.G. GetCrewRevisions

Returns all current revisions for a crew member.

User right (Read): HRE/Revision

### 1.3.H. GetConfigurationData

Returns basic data available in N-OC, the following "Configuration Types" are currently supported:

REASON  
REASON\_CATEGORY  
HOTEL\_INFO  
CREW\_COMPLEMENT  
REFERENCE\_ACTIVITY  
AIRCRAFT\_TYPE  
PROJECT  
TRANSACTION\_CODE  
HR\_TYPE  
ROSTER\_DESIGNATORS  
ROSTER\_LEGAL\_EXCEPTION  
LEG\_LEGAL\_EXCEPTION  
HR\_DOCUMENT\_LIST

### 1.3.I. GetCrews

Returns Crew data from N-OC.

Addresses type=s:boolean  
Phones type=s:boolean  
Emails type=s:boolean  
Documents type=s:boolean  
Bases type=s:boolean  
Ranks type=s:boolean  
Qualifications type=s:boolean  
SpecialRoles type=s:boolean  
Contracts type=s:boolean  
CrewType type=s:boolean  
DateOfEmployment type=s:boolean  
DateOfBirth type=s:boolean

User right (Read): HRE/HumanResources

### 1.3.J. GetFlights

Returns flight leg information from N-OC.

Uniqueld type=s:int  
AirlineCode type=s:string  
ICAOAirlineCode type=s:string  
FlightNumber type=s:int  
Suffix type=s:string  
DepartureAirportCode type=s:string  
ArrivalAirportCode type=s:string  
DiversionAirportCode type=s:string  
FlightDate type=s:dateTime  
STD type=s:dateTime  
STA type=s:dateTime  
AircraftRegistration type=s:string  
ServiceTypeCode type=s:string  
OnwardAirlineCode type=s:string  
OnwardFlightNumber type=s:int  
OnwardSuffix type=s:string  
Status type=s:string  
Type type=s:string  
Canceled type=s:boolean  
DepartureLocalTimeDiff type=s:int  
ArrivalLocalTimeDiff type=s:int  
IROPSParentId nillable=true type=s:int  
ASMReasons type=s:string  
Complement type=s:string  
CO2 type=s:decimal  
ScheduleGCDKM type=s:double  
ScheduleGCDNM type=s:double  
Aircraft type=tns:Aircraft  
Airports type=tns:Airports  
CrewOnBoard type=tns:ArrayOfCrewOnBoard  
Delays type=tns:Delays  
Flightplan type=tns:Flightplan  
Fuels type=tns:ArrayOfFuel  
Loads type=tns:Loads  
Notes type=tns:ArrayOfNote  
Times type=tns:ArrayOfTime  
Latts type=tns:ArrayOfLatt  
Roundtrip type=tns:Roundtrip  
ProjectCodes type=tns:ArrayOfProjectCode  
LegalExceptions type=tns:ArrayOfLegLegalException  
Jumpseaters type=tns:ArrayOfJumpseater  
FuelData type=tns:FuelData  
DetailedStatuses type=tns:ArrayOfString  
Desk type=s:string

User right (Read): SCH/Schedules

### 1.3.K. GetHotelBookings

Returns Hotel Status

name=Start type=s:dateTime  
name=End type=s:dateTime  
name=HotelName type=s:string  
name=HotelUniqueld type=s:int  
name=EmpNo type=s:string  
name=PickupsFrom type=tns:ArrayOfPickup  
name=PickupsTo type=tns:ArrayOfPickup  
name=BookingDatas type=tns:ArrayOfBookingData

### 1.3.L. GetMaintenances

Returns Maintenance activities from N-OC.

Uniqueld type=s:int  
ExternalReferenceld type=s:int  
MaintenanceType type=tns:MaintenanceType  
Type type=s:string  
AirportCode type=s:string  
StartDateTime type=s:dateTime  
EndDateTime type=s:dateTime  
AircraftRegistration type=s:string  
Name type=s:string  
Aircraft type=tns:Aircraft  
Airport type=tns:Airport  
Notes type=tns:ArrayOfNote  
Times type=tns:ArrayOfTime

### 1.3.M. GetPairings

Returns Pairings activities from N-OC.

Uniqueld type=s:int  
Name type=s:string  
Start type=s:dateTime  
End type=s:dateTime



Base type=s:string  
StartBaseTimeDiff type=s:int  
EndBaseTimeDiff type=s:int  
Complement type=s:string  
Qualification type=s:string  
PairingClass type=s:string  
Credit type=s:int  
PairingActivities type=tns:ArrayOfPairingActivity  
AssignedCrews type=tns:ArrayOfAssignedCrew  
ComplementDescriptions type=tns:ArrayOfComplementDescription

### 1.3.N. GetRosters

Returns roster data for crew members.

Active type=s:boolean  
Uniqueld type=s:int  
Number type=s:string  
Code1 type=s:string  
Code2 type=s:string  
Firstname type=s:string  
Middlename type=s:string  
Lastname type=s:string  
Nickname type=s:string  
Gender type=s:string  
Seniority type=s:int  
Base type=s:string  
Rank type=s:string  
Qualification type=s:string  
Type type=s:string  
CreatedAt type=s:dateTime  
ModifiedAt type=s:dateTime  
RosterActivities type=tns:ArrayOfRosterActivity  
DateOfEmployment type=s:dateTime  
DateOfBirth type=s:dateTime

User right (Read): HRE/HumanResources, HRE/Roster Filter

### 1.3.O. GetRosterTransactions

Returns roster transactions for crew members.

FilterId/FilterName can be a Human Resource Filter from N-OC.

From/To is the period where you have the roster activities, this can be the roster period or any custom period.

TransactionFrom/To is the period where the roster transaction (create, modify, delete, publish) occurred, the idea is to have a short period here and query the function often to keep the client system in sync.

Uniqueld can be a single Human Resource id, if not set all Human Resources will be returned.

In the reply you will find two status fields in each transaction: IsOriginal & IsReleased  
IsOriginal is true only for the activities that were on the roster at roster publication. This is the original published roster.

IsReleased is true for the activities that have been created/changed/deleted on or after the roster has been published. Changes to a published roster.

Uniqueld type=s:int  
Timestamp type=s:dateTime  
ValidFrom type=s:dateTime  
ValidTo type=s:dateTime  
CreatedByUniqueld type=s:int  
Status type=s:string  
RevisionNumber type=s:int  
ChangeType type=s:string  
TransactionCode type=s:string  
IsOriginal type=s:boolean  
IsReleased type=s:boolean  
ConfirmedDate type=s:dateTime  
RosterActivities type=tns:ArrayOfRosterActivity

User right (Read): HRE/HumanResources, HRE/Roster Filter

### 1.3.P. GetSchedules

Returns Flight Schedule data (SSIM).

Uniqueld type=s:int  
AirlineCode type=s:string  
ICAOAirlineCode type=s:string  
FlightNumber type=s:int  
Suffix type=s:string  
DepartureAirportCode type=s:string  
ArrivalAirportCode type=s:string  
PeriodStart type=s:date  
PeriodEnd type=s:date  
Frequency type=s:string  
WeekFrequency type=s:int

STD type=s:int  
STA type=s:int  
ServiceTypeCode type=s:string  
OnwardAirlineCode type=s:string  
OnwardFlightNumber type=s:int  
OnwardSuffix type=s:string  
Type type=s:string  
AircraftType type=s:string  
AircraftVersion type=s:string  
AircraftConfig type=s:string  
DepartureLocalTimeDiff type=s:int  
ArrivalLocalTimeDiff type=s:int  
AircraftOwner type=s:string  
CockpitCrewEmployer type=s:string  
CabinCrewEmployer type=s:string  
Airports type=tns:Airports  
Notes type=tns:ArrayOfNote  
DataElementIdentifiers type=tns:ArrayOfDataElementIdentifier

User right (Read): SCH/Schedules

### **1.3.Q.      GetTurnAroundRules**

Returns TurnAround Rules data

Name type=s:string  
ArrivalActivityFilter type=s:string  
DepartureActivityFilter type=s:string  
Minutes type=s:int  
Priority type=s:int  
Active type=s:boolean  
ValidFrom type=s:dateTime  
ValidTo type=s:dateTime  
Frequency type=s:string

User right (Read): TurnAroundRules

### **1.3.R.      GetUsers**

Returns N-OC users

User right (Read): SYSM/Users

**1.3.S.      GetVersion**

Returns the version number of the API

**1.3.T.      Ping**

Tests the connection to the API

**1.3.U.      SetAircraftData**

This function can be used to update Aircraft properties.

User right (Edit): VEH/Vehicles

Used to set MinimumEquipmentList and AircraftNotes update is supported

**1.3.V.      SetAirport**

This function can be used to update some Station properties.

User right (Edit): Stations

Used to set station to Active/Inactive, update Station Name, Distances and Facilities.

**1.3.W.      SetCrew**

Creates or Modifies a crew member.

Username type=s:string

Password type=s:string

EmployeeNumber type=s:string

FirstName type=s:string

MiddleName type=s:string

LastName type=s:string

NickName type=s:string

SocialSecurityNumber type=s:string

ShortCode1 type=s:string

ShortCode2 type=s:string

BirthDate type=s:dateTime

Gender type=s:string

Type type=s:string

Active type=s:boolean

Groups type=s:string

Seniority type=s:int

Bases type=tns:ArrayOfBase

QualRankData type=tns:ArrayOfQualRank

Phones type=tns:ArrayOfPhone

Addresses type=tns:ArrayOfAddress

Emails type=tns:ArrayOfEmail

Documents type=tns:ArrayOfDocument  
ContractsData type=tns:ContractsData  
SpecialRoles type=tns:ArrayOfSpecialRole  
SystemUser type=s:string

### 1.3.X. SetCrewDocument

Updates one or several documents for a crew member.

Below is a sample call that updates the SEC Expiry date and PASS Number and Expiry date for crew member ABC.

CrewNumber and Document/Code are mandatory. If the document does not exist a new document will be created.

CrewNumber type=s:string  
Documents type=tns:ArrayOfDocument

User right (Edit): HRE/HumanResources

### 1.3.Y. SetCrewRevision

Confirms revisions for a crew member.

User right (Edit): HRE/Revision

SetExternalCrew

If N-OC is configured without crew rosters it is possible to set Crew on board data using this method.

User right (Create or Edit): HRE/Crew On Board

### 1.3.Z. SetMaintenance

This function can be used to insert and update VehicleReferenceActivity.

User right (Edit): VEH/Vehicle Reference Activity

Attention: for the time being only MaintenanceType.VEHICLEREFERENCEACTIVITY is supported.

### 1.3.AA. SetPayload

This function can be used to insert and update load data for a flight leg.

User right (Edit): SCH/Schedules

#### Load Types

BookedPassengerPerWeight

ActualPassengerPerWeight  
BookedPassengerPerClass  
ActualPassengerPerClass  
BookedDeadload  
ActualDeadload

### 1.3.BB. SetFlightData

This function can be used to insert and update flight leg data.  
User right (Edit): SCH/Schedules

#### Time Types

ActualBlockOff  
ActualBlockOffCOR  
ActualBlockOn  
ActualEngineOff  
ActualEngineOn  
ActualStartTaxiFromGate  
ActualTakeOff  
ActualTouchDown  
ApproachStarted  
CruisingStarted  
EstimatedBlockOff  
EstimatedBlockOn  
EstimatedStartTaxiFromGate  
EstimatedTakeOff  
EstimatedTouchDown  
ETOPSEntry  
ETOPSExit  
EurocontrolCTOT  
EurocontrolEOBT  
Movementafterpushback  
NextInfo  
PassengerEndTime  
PassengerStartTime  
PushBackStarted  
ReclearanceInfo  
Return\_From\_Airborne  
Return\_To\_Ramp  
SELCALConfirmed  
TaxiToGateEnd  
TSAT  
VoyageBlockOff

VoyageBlockOn  
VoyageEngineOff  
VoyageEngineOn  
VoyageTakeOff  
VoyageTouchDown

### **Fuel Types**

Defuel  
FuelArrival  
Fuelburn  
FuelOnboard  
MaintenanceConsumption  
MaxWeightForZeroFuelWeight  
RampWeight  
Remaining  
TakeOffFuel  
TripFuel  
Uplift  
ZeroFuelWeight

### **Fuel Sources**

BatchImport  
FlightPlan  
FMM  
LoadSheet  
ManualEdit  
MVT  
VoyageReport

### **Fuel Units**

Gallons  
Kgs  
Lbs  
Litres  
Tons

### **Fuel Density units**

Kg/m<sup>3</sup>  
Kg/l  
Kg/usg

### 1.3.CC. SetRoster(s)

Inserts one or several activities to a crew member's roster. Currently only Ground activities and Pairings are supported.

User right (Edit): HRE/HumanResources

#### **PBS import:**

When calling SetRosters we have two options to control what we should with existing activities N-OC.

- Override
  - o All activities are removed for the period specified in the XML data to the API. Possible to set CarryIn/CarryOut options in the XML data, typically keep carry-in and remove carry-out.
  - o By defining a filter (Roster or Roster block) it's possible to keep activities and/or pairings and ignore them in the XML data.
  - o With override we can import multiple solutions for the same period, as long as we get the same crew members in the first and second XML data.
  
- Merge
  - o Activities are not removed for the period specified in the XML data to the API. Carry-in and carry-out options are ignored.
  - o All XML data will be imported "on top of" the existing rosters in N-OC except if start, end and activity code are the same. In this case we keep the original activity in N-OC and ignore the one in the XML data.
  - o Merge can't be used to re-import data for the same period.

We recommend to we use the first option with a roster filter covering all training activities (and other activities that should be kept in N-OC and ignored in the XML data). It is important to keep this filter up to date.

You can try this by doing the following:

Add some test activities to an unpublished crew roster in February.

Create a roster filter that matches those activities.

Update the "RosterImportMode" to Override and "Exclude Roster Filter" to the newly created filter.

Call the SetRosters API with the same crew members and period as in step 1.

Check N-OC to see that the original activities are still there.

### 1.3.DD. SetRosterData

This function can be used to insert and update the following Roster data:



RosterDesignators and Check In/Out times.  
User right (Edit): HRE/HumanResources

**Time types:**

ActualCheckIn  
ActualCheckOut  
CalculatedCheckIn  
CalculatedCheckOut  
CalculatedUnionCheckIn  
CalculatedUnionCheckOut  
DutyStart  
DutyEnd  
ManualCheckIn  
ManualCheckOut  
RestBeforeStart  
RestBeforeEnd  
RestAfterStart  
RestAfterEnd  
TripStart  
TripEnd  
UnionCheckIn  
UnionCheckOut  
ManualDutyStart  
ManualDutyEnd  
LastOnChoxUTC

### 1.3.EE. SetTurnAroundRule

This function can be used to insert and update TurnAround Rules

name=Name type=s:string  
name=ArrivalActivityFilter type=s:string  
name=DepatureActivityFilter type=s:string  
name=Minutes type=s:int  
name=Priority type=s:int  
name=Active type=s:boolean  
name=ValidFrom type=s:dateTime  
name=ValidTo type=s:dateTime

### 1.3.FF. SetUser

This function can be used to insert and update a new N-OC user.

Username type=s:string  
Password type=s:string  
SystemUser type=s:string  
SystemUserPassword type=s:string  
FirstName type=s:string  
LastName type=s:string  
Email type=s:string  
TypeB type=s:string  
Phone type=s:string  
Mobile type=s:string  
VOIP type=s:string  
ADUser type=s:string  
Active type=s:boolean  
Groups type=s:string

User right (Edit): SYSM/Users

## 1.4. Samples

Please contact NAVBLUE Support if you need any sample code. The latest WSDL can be found at <https://ALC.noc.navblue.cloud/raidoapi/nocsoapapi.asmx?WSDL> or by contacting NAVBLUE Support.