



# Support for OAUTH2 on PCF

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## Feature Summary and Revision History

### Summary Data

*Table 1: Summary Data*

Applicable Products or Functional Area	PCF
Applicable Platform(s)	SMI
Feature Default Setting	Disabled – Configuration required to enable
Related Documentation	Not Applicable

### Revision History

*Table 2: Revision History*

Revision Details	Release
First introduced.	2023.02.0

## Feature Description

The PCF supports the OAuth2, which is an authorization protocol and NOT an authentication protocol. The Network Function Repository (NRF) is the designated OAuth2 Authorization Server. The OAuth2 provides the client to the NRF and includes the OAuth2 Access Token validation for the SBI requests from consumer NFs.

The OAuth2 feature needs to enable or disable globally for all SBA interfaces and allows the subscribers to access to a set of resources. For example:

- Remote APIs
- User data

Following the "Client Credentials" authorization, the NRF provides the Nnrf\_AccessToken service for OAuth2 authorization. The OAuth2 uses Access Tokens, and the Access Token provides the authorization to access resources on behalf of the end user. However, the JSON Web Token (JWT) format needs to be used in some contexts. The OAuth2 enables token issuers to include data in the token itself. For security reasons, the Access Tokens may have an expiration date.



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**Note** There's no specific format for Access Tokens.

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## How It Works

This section describes how OAuth2 Support feature works.

## Feature Configuration

This section describes how to configure the OAuth2 Support.

To configure the OAuth2 support, use the following configuration:

```
config
  oauth2 oauth2Group
  service type nrf nnrf-oauth2
  endpoint-profile oauth2Profile
  capacity 10
  priority 10
  uri-scheme http
  endpoint-name ep1
  priority 10
  capacity 10
  primary ip-address ipv4 10.X.X.X
  primary ip-address port 81XX
  secondary ip-address ipv4 10.X.X.X
  secondary ip-address port 81XX
  tertiary ip-address ipv4 10.X.X.X
```

```

    tertiary ip-address port 81XX
end

```

#### Rest-Endpoint Configurations:

- rest-endpoint oauth-service server false
- rest-endpoint oauth-service client true



#### Note

- The PCF OAuth2 server not supported in this release, so it should be false.

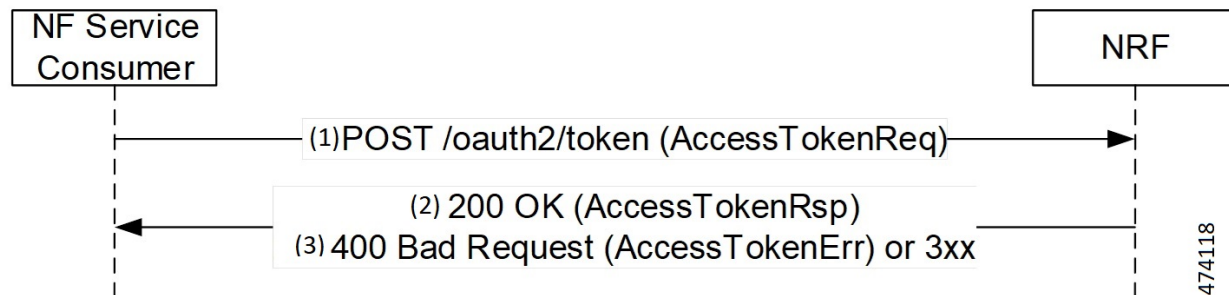
## Call Flows

This section describes the call flows for this feature.

### OAuth2 Support Call Flow

This section describes the OAuth2 Support call flow.

**Figure 1: OAuth2 Support Call Flow**



**Table 3: OAuth2 Support Call Flow Description**

Step	Description
1	The NF Service Consumer sends a Post /OAuth2 /Token Access Token Request to the NRF.
2	The NRF sends 200 OK (Access Token Response) to the NF Service Consumer.
3	The NRF sends 400 Bad Request (Access Token Error) or 3xx to the NF Service Consumer.

## Standards Compliance

This feature complies with the following standards specifications:

- 3GPP 29.510 v15.4.0 "Network function repository services"
- 3GPP 33.310 "Network Domain Security (NDS); Authentication Framework (AF)"
- 3GPP 33.501 v16.8.0 "Security architecture and procedures for 5G system"
- IETF RFC 6749 and 6750 "OAUTH 2.0 Authorization Framework"
- 3GPP 29.510 v16.9.0 "Network Function Repository Services"
- 3GPP 29.500 v16.8.0 "Technical Realizations of Service Based Architecture (HTTP Standards reference)"