



# Nausf\_UEAuthentication

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The Authentication Server Function (AUSF) acts as NF Service Producer. It provides UE authentication service to the requester NF. The NF Service Consumer is the AMF.

For this service, the following service operations are defined

- Authenticate

This service permits to authenticate the UE and to provide one or more master keys which are used by the AMF to derived subsequent keys.

**Reference:** 3GPP TS 33.501 v15.5.0

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## OpenAPI

OpenAPI Version: 3.0.0

## info

**Version:** 1.0.0

**Title:** AUSF API

**Description:** OpenAPI specification for AUSF

## externalDocs

**Description:** 3GPP TS 29.509 V15.2.0; 5G System; 3GPP TS Authentication Server services.

**URL:** [http://www.3gpp.org/ftp/Specs/archive/29\\_series/29.509](http://www.3gpp.org/ftp/Specs/archive/29_series/29.509)

## security

- {}
- oAuth2ClientCredentials:
- nausf-auth

## servers

**URL:** '{apiRoot}/nausf-auth/v1'

**Variables:**

**API Root:**

**Default:** <https://example.com>

**Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501.

## paths

### /ue-authentications

**Method:** Post

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/AuthenticationInfo'

**Required/Optional:** true

**Responses:**

'201' UEAAuthenticationCtx

**Content:**

application/3gppHal+json:

**Schema:**

**Reference:** '#/components/schemas/UEAuthenticationCtx'

**Headers:**

**Location:**

**Description:** 'Contains the URI of the newly created resource according to the structure: {apiRoot}/nausf-auth/v1/ue-authentications/{authCtxId}'

**Required/Optional:** true

**Schema:**

**Type:** string

**'400'** Bad Request from the AMF

**Content:**

application/problem+json:

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**'403'** Forbidden due to serving network not authorized

**Content:**

application/problem+json:

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

**'500'** Internal Server Error

**Content:**

application/problem+json:

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /ue-authentications/{authCtxId}/5g-aka-confirmation

**put:**

**Parameters:**

- name: authCtxId

**In:** path

**Required/Optional:** true

**Schema:**

**Type:** string

**Request Body:**

**Content:**

Application/JSON:

**Schema:**

**Reference:** '#/components/schemas/ConfirmationData'

**Responses:**

'200' Request processed (EAP success or Failure)

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/ConfirmationDataResponse'

'400' Bad Request

**Content:**

application/problem+json:

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'500' Internal Server Error

**Content:**

application/problem+json:

**Schema:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## /ue-authentications/{authCtxId}/eap-session

**Method:** Post

**Operation ID:** EapAuthMethod

**Parameters:**

- name: authCtxId

**In:** path

**Required/Optional:** true

**Schema:**

**Type:** string

**Request Body:**

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/EapSession'

**Responses:**

'200' Use to handle or close the EAP session

**Content:**

**Application/JSON:**

**Schema:****Reference:** '#/components/schemas/EapSession'

application/3gppHal+json:

**Schema:****Type:** object**Properties:****eapPayload:****Reference:** '#/components/schemas/EapPayload'**\_links:****Type:** object**Description:** 'URI : /{eapSessionUri}'**additionalProperties:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/LinksValueSchema'**minProperties:** 1**Required/Optional:**

- eapPayload

- \_links

'400' Bad Request

**Content:**

application/problem+json:

**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

'500' Internal Server Error

**Content:**

application/problem+json:

**Schema:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/ProblemDetails'

## components

### securitySchemes

#### oAuth2ClientCredentials

**Type:** oauth2

**Flows:****clientCredentials:****tokenUrl:** '{nrfApiRoot}/oauth2/token'**scopes:****nausf-auth:** Access to Nausf\_UEAuthentication API

## schemas

### AuthenticationInfo

**Type:** object**Properties:****supiOrSuci:****Reference:** 'TS29503\_Nudm\_UEAU.yaml#/components/schemas/SupiOrSuci'**servingNetworkName:****Reference:** 'TS29503\_Nudm\_UEAU.yaml#/components/schemas/ServingNetworkName'**resynchronizationInfo:****Reference:** 'TS29503\_Nudm\_UEAU.yaml#/components/schemas/ResynchronizationInfo'**traceData:****Reference:** 'TS29571\_CommonData.yaml#/components/schemas/TraceData'**Required:**

- supiOrSuci
- servingNetworkName

### UEAuthenticationCtx

**Type:** object**Properties:****authType:****Reference:** '#/components/schemas/AuthType'**5gAuthData:****oneOf:**

- \$ref: '#/components/schemas/Av5gAka'
- \$ref: '#/components/schemas/EapPayload'

**\_links:****Type:** object**additionalProperties:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/LinksValueSchema'

**servingNetworkName:**

**Reference:** 'TS29503\_Nudm\_UEAU.yaml#/components/schemas/ServingNetworkName'

**Required:**

- authType
- 5gAuthData
- \_links

## Av5gAka

**Type:** object

**Required:**

- rand
- hxresStar
- autn

**Properties:**

**rand:**

**Reference:** 'TS29503\_Nudm\_UEAU.yaml#/components/schemas/Rand'

**hxresStar:**

**Reference:** '#/components/schemas/HxresStar'

**autn:**

**Reference:** 'TS29503\_Nudm\_UEAU.yaml#/components/schemas/Autn'

## ConfirmationData

**Type:** object

**Required:**

- resStar

**Properties:**

**resStar:**

**Reference:** '#/components/schemas/ResStar'

## ConfirmationDataResponse

**Type:** object

**Properties:**

**authResult:**

**Reference:** '#/components/schemas/AuthResult'

**supi:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

**kseaf:**

**Reference:** '#/components/schemas/Kseaf'

**Required:**

- authResult

## EapSession

**Type:** object

**Properties:**

**eapPayload:**

**Reference:** '#/components/schemas/EapPayload'

**kSeaf:**

**Reference:** '#/components/schemas/Kseaf'

**\_links:**

**Type:** object

**additionalProperties:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/LinksValueSchema'

**authResult:**

**Reference:** '#/components/schemas/AuthResult'

**supi:**

**Reference:** 'TS29571\_CommonData.yaml#/components/schemas/Supi'

**Required:**

- eapPayload

## AuthResult

**Type:** string

**enum:**

- AUTHENTICATION\_SUCCESS

- AUTHENTICATION\_FAILURE

- AUTHENTICATION\_ONGOING

## EapPayload

**Type:** string

**format:** base64

**Description:** contains an EAP packet



## Kseaf

**Type:** string

**Pattern:** '[A-Fa-f0-9]{64}'

## ResStar

**Type:** string

**Pattern:** '[A-Fa-f0-9]{32}'

## HxresStar

**Type:** string

**Pattern:** "[A-Fa-f0-9]{32}"

## AuthType

**anyOf:**

- type: string

**enum:**

- 5G\_AKA

- EAP\_AKA\_PRIME

- EAP\_TLS

- type: string

