**Address Validation API**

VA Profile provides an address validation service both to partners on demand and as addresses are submitted to VA Profile

* domestic, military and US territory addresses

Sample API

<https://sandbox-api.va.gov/services/address_validation/v2/candidate>

Header:

apikey: ”eZIx0AQVTxy0Hi9B0saKGd1q7UPNBP8o”

Body:

Syntax:

**{**

**"requestAddress": {**

**"addressLine1": "string",**

**"addressLine2": "string",**

**"addressLine3": "string",**

**"city": "string",**

**"zipCode5": "string",**

**"zipCode4": "string",**

**"internationalPostalCode": "string",**

**"stateProvince": {**

**"name": "string",**

**"code": "string"**

**},**

**"requestCountry": {**

**"countryName": "string",**

**"countryCode": "string"**

**},**

**"addressPOU": "RESIDENCE/CHOICE"**

**}**

**}**

Sample Data:

{

    "requestAddress":{

        "addressLine1":"Ms Alice Smith Apartment",

        "addressLine2":"1c 213 Derrick Street",

        "addressLine3":"",

        "city":"Boston",

        "zipCode5":"02130",

        "zipCode4":"",

        "internationalPostalCode":"02130",

        "countryCode":"USA",

        "stateProvince": {

        "name": "MA",

        "code": "25"

        },

        "addressPOU": "RESIDENCE/CHOICE"

    }

}

Output Code:

1. 200 – ok
2. 400 – error (need some data or input value are incorrect)
3. 401 – Unauthorized
4. 403 - Invalid authentication
5. 404 - Not found error
6. 429 – Too many request
7. 500 - error (need some data or input value are incorrect)

Input Field:

1. **addressLine1, addressLine2, addressLine3 – This should contains only character and numbers**
2. **addressPOU -** If this field is “RESIDENCE/CHOICE” the address will fail if the Delivery Point validation (DPV) is returned as a value other than “CONFIRMED”.

The values should be either RESIDENCE/CHOICE, or CORRESPONDENCE

1. **City –** This should contain only letters
2. **InternationalPostalCode -** The postal code for an international address only. This can contain letters and numbers.
3. **requestCountry -** An object that uses either a country code or name. There should only be one of these in the requested address

<https://www.pitneybowes.com/us/support/postage/usps-international-country-codes.html>

1. **countryCode -** This should contain only letters and be between 2 and 3 characters.

<https://www.pitneybowes.com/us/support/postage/usps-international-country-codes.html>

1. **countryName -** The name of the requested country. If the address is military or a territory of the United States, the country should be the United States

<https://www.pitneybowes.com/us/support/postage/usps-international-country-codes.html>

1. **stateProvince:** This field is the state or province for international or domestic addresses. **code:** the 2-digit code for the state or province of an address. **name:** the name for the state or province of the requested address
2. **zipCode5:** For military or domestic addresses. The 5-digit postal code. This should be only numbers.
3. **zipCode4:** For military or domestic addresses. The 4-digit add on to the postal code. This should be only numbers.

Mandatory Input Field:

The minimum required fields for the service are one of the following fields:

* Address Line 1
* Address Line 2
* Address Line 3

And one of the following fields:

* country

## Outputs

* **Confidence Score**
* **Delivery Point Validation (DPV)**
* **Additional Input**

**Confidence Score**

The returned value is from 0 to 100. This value is a calculation of how closely the given address matches the address found in the data bases.

0 – No Match

100 – Perfect Match

**Delivery Point Validation (DPV)**

For US and correspondence addresses only. Without DPV, the address validation process only verifies that an individual address is within a range of valid addresses for the given street

For example, the USPS data indicates that the range of addresses on Maple Lane is 500 to 1000. You attempt to validate an address of 610 Maple Ln. Without DPV, this address would appear to be valid because it is in the range of 500 to 1000. However, the address 610 Maple Ln does not exist: the house numbers in this section of the street are 608, 609, 613, and 616. With DPV processing, you would be alerted to the fact that 610 Maple Ln does not exist

**Additional Input:**

 Additional Input information is any information entered in the requesting address that does not match what is in the address database. This could be information such as a veteran’s name, care of information, or a building or apartment name.

Authentication

<https://developer.va.gov/onboarding/request-sandbox-access>

* 1. Request Sandbox Access
  2. Request production Access

# Request Sandbox Access

* Our rate limiting is 60 requests per minute.
* If you exceed this quota, your request will return a 429 status code
* You may petition for increased rate limits by [emailing us](mailto:api@va.gov). Approval will be decided on a case by case basis.
* Getting production access requires multiple steps and can take under a week for open data APIs, and over a month for APIs that require a demo.

# Request production access

* All consumers must be US-based.
* We do not allow monetizing or selling Veteran data.
* Getting production access can take less than a week to more than a month, depending on the API.
* We encourage all apps and websites to comply with [Section 508](https://section508.gov/)
* Our rate limiting is 60 requests per minute. View [our rate limiting policy](https://developer.va.gov/onboarding/working-with-lighthouse-apis#rate-limiting) for more information.

# Veteran Confirmation API

The Veteran Confirmation API allows you to confirm Veteran status for a given person.

The API will only return “Confirmed” or “Not Confirmed”

Sample API

<https://sandbox-api.va.gov/services/veteran_confirmation/v0>

Header

apikey: eZIx0AQVTxy0Hi9B0saKGd1q7UPNBP8o

Body

Syntax:

{

  "ssn": "XXXXXXXXX",

  "first\_name": "XXXX",

  "last\_name": "XXXX",

  "birth\_date": "YYY-MM-DD",

  "middle\_name": "XXXXXXX",

  "gender": "X"

}

Sample Data

{

  "ssn": "555-55-5555",

  "first\_name": "John",

  "last\_name": "Doe",

  "birth\_date": "1965-01-01",

  "middle\_name": "Theodore",

  "gender": "M"

}

Data Details

|  |  |
| --- | --- |
| ssn\* | **string example: 555-55-5555**  **Social Security Number for the person of interest with or without dashes** |
| first\_name\* | **string example: John**  **First name for the person of interest** |
| last\_name\* | **string example: Doe**  **Last name for the person of interest** |
| birth\_date\* | **string example: 1965-01-01**  **Birth date for the person of interest in any valid ISO8601 format** |
| middle\_name | **string example: Theodore**  **Optional middle name for the person of interest** |
| gender | **string example: M**  **Optional gender of M or F for the person of interest**  **Enum:** |

Output

|  |  |
| --- | --- |
| veteran\_status | **string**  **Whether the system could confirm the Veteran status of an individual based on traits**  **Enum:** |

### Required information On Data:

* First Name
* Last Name
* Date of Birth
* Social Security Number

### Optional information:

* Middle Name
* Gender

Authentication:

### 1. Get Access Credentials

### 2. Test the API

### 3. Build your app

### 4. Show us a demo and get access to the Production environment

### 1. Get Access Credentials

Your first step towards developing with VA Lighthouse APIs.

[VA API Platform | Request Sandbox Access](https://developer.va.gov/onboarding/request-sandbox-access)

### 2. Test the API

Use the sample data for testing the API

### 3. Build your app

https://sandbox-api.va.gov/services/veteran\_confirmation/v0

In this environment, use attributes from the list of [Test Users](https://github.com/department-of-veterans-affairs/vets-api-clients/blob/master/test_accounts.md). Only Test Users can return a **"confirmed"** response.

### 4. Show us a demo and get access to the Production environment

After building your app, they ask that you give us a demo before we set you up with production credentials.

<https://developer.va.gov/onboarding/request-prod-access>

**Address Verification API**

- Confirm the veteran status for a given person or retrieve the veteran service history or disability rating

* Status
* Disability Ratings
* Service History

**Status**

- This API will return the status of the given veteran

Status API

<https://sandbox-api.va.gov/services/veteran_verification/v1/status>

Header

Authorization: “Bearer eZIx0AQVTxy0Hi9B0saKGd1q7UPNBP8o”

Example

<https://sandbox-api.va.gov/services/veteran_verification/v1/status?first_name=John&last_time=doe&birth_date=1965-01-01&ssn=555555555>

Output

200 – Success

After retrieve success response the output looks like

*{*

*"data": {*

*"id": "833c6ffc-efef-4775-9355-f836b4f57501",*

*"type": "veteran\_status\_confirmations",*

*"attributes": {*

*"veteran\_status": "confirmed"*

*}*

*}*

*}*

401 – Not authorized

429 - Too many requests

**{**

**"message": "API rate limit exceeded"**

**}**

**Disability Ratings**

- This API will return the disability ratings of the given veteran

API

<https://sandbox-api.va.gov/services/veteran_verification/v1/disability_rating>

Header

Authorization: “Bearer eZIx0AQVTxy0Hi9B0saKGd1q7UPNBP8o”

Example

<https://sandbox-api.va.gov/services/veteran_verification/v1/disability_rating?first_name=John&last_time=doe&birth_date=1965-01-01&ssn=555555555>

Output

200 – Success

After retrieve success response the output looks like

**{**

**"data": {**

**"id": "12303",**

**"type": "disability-rating",**

**"attributes": {**

**"combined\_disability\_rating": 100,**

**"combined\_effective\_date": "2018-03-27",**

**"legal\_effective\_date": "2018-03-27",**

**"individual\_ratings": [**

**{**

**"decision": "Service Connected",**

**"effective\_date": "2018-03-27",**

**"rating\_percentage": 50**

**}**

**]**

**}**

**}**

**}**

401 – Not authorized

429 - Too many requests

*{*

*"message": "API rate limit exceeded"*

*}*

**Service History**

- This API will return the service history of the given veteran

API

<https://sandbox-api.va.gov/services/veteran_verification/v1/service_history>

Header

Authorization: “Bearer eZIx0AQVTxy0Hi9B0saKGd1q7UPNBP8o”

Example

<https://sandbox-api.va.gov/services/veteran_verification/v1/service_history?first_name=John&last_time=doe&birth_date=1965-01-01&ssn=555555555>

Output

200 – Success

After retrieve success response the output looks like

*{*

*"data": [*

*{*

*"id": "12312AASDf",*

*"type": "service-history-episodes",*

*"attributes": {*

*"first\_name": "Abraham",*

*"last\_name": "Lincoln",*

*"start\_date": "1948-04-08",*

*"end\_date": "1950-05-10",*

*"branch\_of\_service": "Air Force",*

*"pay\_grade": "W01",*

*"discharge\_status": "honorable",*

*"separation\_reason": "SUFFICIENT SERVICE FOR RETIREMENT",*

*"deployments": [*

*{*

*"start\_date": "1948-10-10",*

*"end\_date": "1949-10-09",*

*"location": "KOR"*

*}*

*]*

*}*

*}*

*]*

*}*

401 – Not authorized

429 - Too many requests

*{*

*"message": "API rate limit exceeded"*

*}*

404 - No service history found

**Authorization Code Flow**

* + VA lighthouse API’s platform allows veterans to authorize third party applications
  + First need to get sandbox access
    - <https://developer.va.gov/onboarding/request-sandbox-access>
  + After successful completion you will get the client ID and secret in your registered mail id
  + If you are building a **server-based application**, you’ll also receive a client secret and will use the [authorization code flow](https://developer.va.gov/explore/authorization/docs/authorization-code?api=veteran_verification#authorization-code-flow) to complete authentication.

Steps

1. Requesting Authorization
2. Requesting a token with an Authorization Code Grant
3. Manage Account
4. Revoking Tokens
5. Revoking Grants

1. Requesting Authorization

By using the below API to initiate the authorization

https://sandbox-api.va.gov/oauth2/veteran-verification/v1/authorization?

client\_id=0oa1c01m77heEXUZt2p7

&redirect\_uri=<yourRedirectURL>

&response\_type=code

&scope=profile openid offline\_access service\_history.read disability\_rating.read veteran\_status.read

&state=1AOQK33KIfH2g0ADHvU1oWAb7xQY7p6qWnUFiG1ffcUdrbCY1DBAZ3NffrjaoBGQ

&nonce=o5jYpLSe29RBHBsn5iAnMKYpYw2Iw9XRBweacc001hRo5xxJEbHuniEbhuxHfVZy

Required Fields

* Clinent\_id – It is issued by the VA API platform
* Redirect\_uri - The user will be redirected to this URL after authorizing your application.
* Response\_type - Supported response types: Code
* State – It helps protect against some classes of Cross Site Request Forgery (CSRF) attacks
  + It helps assure that the client receiving the authorization response is the same as the client that initiated the authorization process.
* Scope - Scopes define the API endpoint your application is allowed to access
  + Profile - Granted by default, allows access to a user's first and last name and email.
  + Offline\_access - This scope causes the authorization server to provide a refresh token when the [access token](https://developer.va.gov/explore/authorization/docs/authorization-code?api=veteran_verification#id-token) is requested.
  + API Specific Scope
    - service\_history.read - View a Veteran's service history including deployments and discharge status
    - disability\_rating.read -View a Veteran's VA disability ratings and the effective date of the rating
    - veteran\_status.read - Confirm the Veteran status of an individual

2. Requesting a token with an Authorization Code Grant

- After a Veteran gives authorization for you to access their data, their browser will be redirected to your application with state and code parameters

- Use your client ID and client secret as the HTTP basic authentication username and password, encoded using base64.

- Make sure to replace <yourRedirectURL> with the redirect URL that you provided during registration.

POST/oauth2/veteran-verification/v1/token HTTP/1.1

Host: sandbox-api.va.gov

Content-Type: application/x-www-form-urlencoded

Authorization: Basic base64(client\_id:client\_secret)

grant\_type=authorization\_code

&code=z92dapo5

&redirect\_uri=<yourRedirectURL>

- The authorization server will respond with an [access token](https://developer.va.gov/explore/authorization/docs/authorization-code?api=veteran_verification#id-token). If you requested the offline\_access scope, you will also receive a refresh\_token.

- The output look like this

{

"access\_token": "SlAV32hkKG",

"expires\_in": 3600,

"refresh\_token": "8xLOxBtZp8",

"scope": "profile openid offline\_access service\_history.read disability\_rating.read veteran\_status.read",

"patient": "1558538470",

"state": "af0ifjsldkj",

"token\_type": "Bearer",

}

#### 3. Manage Account

- It directs end users to a URL where they can view which applications currently have access to their data and can make adjustments to these access rights

GET /oauth2/veteran-verification/v1/manage HTTP/1.1

Host: sandbox-api.va.gov

#### 4. Revoking Tokens

- Clients may revoke their own access\_tokens and refresh\_tokens using the revoke endpoint.

- Once revoked, the introspection endpoint will see the token as inactive

POST /oauth2/veteran-verification/v1/revoke HTTP/1.1

Host: sandbox-api.va.gov

Content-Type: application/x-www-form-urlencoded

Authorization: Basic base64(client\_id:client\_secret)

token={ \*refresh\_token\* }&token\_type\_hint=refresh\_token

#### 5. Revoking Grants

#### A user will be prompted only once to consent to each client's use of their data. Such a grant will remain in effect unless and until revoked.

DELETE /oauth2/veteran-verification/v1/grants HTTP/1.1

Host: sandbox-api.va.gov

Content-Type: application/x-www-form-urlencoded

client\_id={client\_id}&email={test account email}

**Programming VA Lighthouse API**

Language Used – HTML / Bootstrap / JQuery

Tools Used – Visual Studio 2015

How to get the project?

* Project is available in github, by using git command you have directly clone from your local repository
* By using the following command you have clone the project

Git clone <https://github.com/JonathanGladwin/JonathanGladwin.git>

* Before clone the project make sure you have clone the project in empty directory

How to run the code?

Project is written in HTML code, you have just run this index.html file in any one browser

How to use the project?

* After running the project you have to see 3 menu in home page
  + Confirmation API
  + Verification API
  + Validation API
* Click which API you want to check and give the required fields and click the check button then the output shown in the result textbox

How to modify the code?

In the project structure looks like this

* Index.html
  + Having the home page contains the design of the page
  + If you want to change the design focus on the index.html page to change the code as per the needs
* CSS folder
  + It contains the CSS files that has been used in the HTML page
  + If you want to add styles then focus on the index.css file present in the CSS folder
* JS folder
  + It contains the javascript files
  + If you want to modify the functionalities then focus to the index.js file present in the js folder
  + In advanced bootstrap and jquery javascript plugins also added in js folder

Notes

* In each fields in HTML files specified by id
* The values of the HTML DOM is read by using ID in javascript
* Button action is specified as event function