

# Final Project- Simple AirBnB API Clone

CS 493: Cloud Application Development - Spring 2021

Oregon State University

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## Change log

Version	Change	Date
1.0	Initial version.	April 11 2021

## Documentation Regarding API

GCP URL: <https://portfolio-315300.wn.r.appspot.com/>

Login URL: [https://portfolio-315300.wn.r.appspot.com/ui\\_login](https://portfolio-315300.wn.r.appspot.com/ui_login)

## Data Model

### User

Name	Type	Description	Required?
id	String	Automatically generated id by Google' datastore	No
token_id	String	The user's id which is automatically generated upon the user logging in	No
self	String	The URL to the current user	No

### Property

Name	Type	Description	Required?
Number	Int	The property's street number	Yes
street	String	The street which the property resides on	Yes
state	String	The state property country resides	Yes
country	String	The country where the property resides	Yes
available	Boolean	Tells if the property is available to rent or not	Yes
renter	List	List of the renter's for the property	Yes
start date	String	The start date of the rental	Yes
end date	String	The end date of the rental	Yes
id	String	Automatically generated id by Google' datastore	No
self	String	The URL to the current user	No

### Renter

Name	Type	Description	Required?
first name	String	The renter's first name	Yes
last name	String	The renter's last name	Yes

phone number	String	The renter's phone number	Yes
id	String	Automatically generated id by Google' datastore	No
self	String	The URL to the current user	No

## Relationships

### Property and Renter

For ease of demonstration of this API, a property can only have one renter. And a renter can only rent one property at a time. A property is created without a renter and a renter is created without a property. In order to associate the two, one must create a PUT request to put a renter to a property.

### User and Property

Users have a one to many relationship with property. Meaning a user can have no property, one or many properties associated with them.

### User

Each user has two unique identifiers. The first one is a JWT, which is created each time a user logs in. The second is a token\_id, which is generated by Auth0 any time a user is created. The token\_id is static meaning that token\_id will always be tied to that user. However, that user is creating a request, they'll need a valid JWT.

## Create a Property

Allows you to create a new Property.

POST /property

### Request

Protected

Yes

Path Parameters

None

Request Body

Required

Request Body Format

JSON

### Request JSON Attributes

Name	Type	Description	Required?
Number	Int	The property's street number	Yes
street	String	The street which the property resides on	Yes
state	String	The state property country resides	Yes
country	String	The country where the property resides	Yes
available	Boolean	Tells if the property is available to rent or not	Yes
renter	List	List of the renter's for the property	Yes
start date	String	The start date of the rental	Yes
end date	String	The end date of the rental	Yes
id	String	Automatically generated id by Google' datastore	No
self	String	The URL to the current user	No

## Request Body Example

```
{
  "street": "9119 Walker Dr",
  "city": "North Battleford",
  "state": "SK",
  "country": "Canada",
  "available": true,
  "start date": "",
  "end date": "",
  "renter": []
}
```

## Response

### Response Body Format

JSON

### Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	400 Bad Request	Missing one or more attributes
Failure	401 Unauthorized	Invalid JWT or Authorization Header is missing
Failure	405 Method not allowed	Request method isn't recognized
Failure	406 Not Acceptable	Request body is not in JSON format

### Success

```
Status: 201 Created
{
  "available": true,
  "city": "North Battleford",
  "country": "Canada",
  "end date": "",
  "id": "6059242201022464",
  "renter": [],
  "self": "http://localhost:5000/property/6059242201022464",
  "start date": "",
  "state": "SK",
  "street": "9119 Walker Dr",
  "user id": "auth0|60b2c57663019d0069dbf19f"
}
```

### Failure

```
Status: 400 Bad Request
{ "Error": "The request object is missing at least one of the required attributes" }
```

### Failure

```
Status: 401 Bad Request
{"Error": "Authorization header is needed"}
```

### Failure

```
Status: 405 Bad Request
{"Error": "Request type is not accepted"}
```

### Failure

```
Status: 406 Bad Request
{"Error": " request.accept_mimetimes is not accepted"}
```

## Get a Property

Allows you to get an existing property

```
GET /property/:property_id
```

### Request

Protected

Yes

### Path Parameters

Name	Type	Description
property_id	String	ID of the Property

### Request Body

None

## Response

### Response Body Format

JSON

### Response Statuses

Outcome	Status Code	Notes
Success	201 Success	
Failure	400 Bad Request	Missing one or more attributes
Failure	401 Unauthorized	Invalid JWT or Authorization Header is missing
Failure	404 Not Found	Requested property_id is not found
Failure	405 Method not allowed	Request method isn't recognized
Failure	406 Not Acceptable	Request body is not in JSON format

### Response Examples

#### Success

```
Status: 201 Success
{
  "available": true,
  "city": "North Battleford",
  "country": "Canada",
  "end date": "",
  "id": "6059242201022464",
  "renter": [],
  "self": "http://localhost:5000/property/6059242201022464",
  "start date": "",
  "state": "SK",
  "street": "9119 Walker Dr",
  "user id": "auth0|60b2c57663019d0069dbf19f"
}
```

#### Failure

```
Status: 400 Bad Request
{"Error": "The request object is missing at least one of the required attributes" }
```

#### Failure

```
Status: 401 Bad Request
{"Error": "Authorization header is needed"}
```

#### Failure

```
Status: 404 Bad Request
{"Error": "No property with that property_id exists"}
```

### Failure

```
Status: 405 Bad Request
{"Error": "Request type is not accepted"}
```

### Failure

```
Status: 406 Bad Request
{"Error": " request.accept_mimetypes is not accepted"}
```

## PATCH a Property

Allows you to edit a new property.

```
PATCH /property/:property_id
```

### Request

Protected

Yes

### Path Parameters

Name	Type	Description
property_id	String	ID of the Property

### Request Body

Required

### Request Body Format

JSON

### Request JSON Attributes

Name	Type	Description	Required?
Number	Int	The property's street number	No
street	String	The street which the property resides on	No
state	String	The state property country resides	No
country	String	The country where the property resides	No
available	Boolean	Tells if the property is available to rent or not	No
renter	List	List of the renter's for the property	No
start date	String	The start date of the rental	No
end date	String	The end date of the rental	No
id	String	Automatically generated id by Google' datastore	No
self	String	The URL to the current user	No



## Request Body Example

```
{
  "street": "9119 Walker Dr",
  "city": "North Battleford",
  "state": "SK",
  "country": "Canada",
  "available": true,
  "start date": "",
  "end date": "",
  "renter": []
}
```

## Response

### Response Body Format

JSON

### Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	400 Bad Request	Missing one or more attributes
Failure	401 Unauthorized	Invalid JWT or Authorization Header is missing
Failure	404 Not Found	Requested property_id is not found
Failure	405 Method not allowed	Request method isn't recognized
Failure	406 Not Acceptable	Request body is not in JSON format

## Response Examples

### Success

```
Status: 201 Created
{
  "available": true,
  "city": "North Battleford",
  "country": "Canada",
  "end date": "",
  "id": "6059242201022464",
  "renter": [],
  "self": "http://localhost:5000/property/6059242201022464",
  "start date": "",
  "state": "SK",
  "street": "9119 Walker Dr",
  "user id": "auth0|60b2c57663019d0069dbf19f"
}
```

### Failure

```
Status: 400 Bad Request
{ "Error": "The request object is missing at least one of the required attributes" }
```

### Failure

```
Status: 401 Bad Request
{"Error": "Authorization header is needed"}
```

### Failure

```
Status: 404 Bad Request
{"Error": "No property with that property_id exists"}
```

### Failure

```
Status: 405 Bad Request
{"Error": "Request type is not accepted"}
```

### Failure

```
Status: 406 Bad Request
{"Error": " request.accept_mimetypes is not accepted"}
```

## PUT a Property

Allows you to edit a new property.

```
PUT /property/:property_id
```

### Request

Protected

Yes

#### Path Parameters

Name	Type	Description
property_id	String	ID of the Property

#### Request Body

Required

#### Request Body Format

JSON

## Request JSON Attributes

Name	Type	Description	Required?
Number	Int	The property's street number	Yes
street	String	The street which the property resides on	Yes
state	String	The state property country resides	Yes
country	String	The country where the property resides	Yes
available	Boolean	Tells if the property is available to rent or not	Yes
renter	List	List of the renter's for the property	Yes
start date	String	The start date of the rental	Yes
end date	String	The end date of the rental	Yes
id	String	Automatically generated id by Google' datastore	Yes
self	String	The URL to the current user	Yes

## Request Body Example

```
{
  "street": "9119 Walker Dr",
  "city": "North Battleford",
  "state": "SK",
  "country": "Canada",
  "available": true,
  "start date": "",
  "end date": "",
  "renter": []
}
```

## Response

### Response Body Format

JSON

### Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	400 Bad Request	Missing one or more attributes
Failure	401 Unauthorized	Invalid JWT or Authorization Header is missing
Failure	404 Not Found	Requested property_id is not found
Failure	405 Method not allowed	Request method isn't recognized
Failure	406 Not Acceptable	Request body is not in JSON format

## Response Examples

### Success

```
Status: 201 Created
{
  "available": true,
  "city": "North Battleford",
  "country": "Canada",
  "end date": "",
  "id": "6059242201022464",
  "renter": [],
  "self": "http://localhost:5000/property/6059242201022464",
  "start date": "",
  "state": "SK",
  "street": "9119 Walker Dr",
  "user id": "auth0|60b2c57663019d0069dbf19f"
}
```

### Failure

```
Status: 400 Bad Request
{ "Error": "The request object is missing at least one of the required attributes" }
```

### Failure

```
Status: 401 Bad Request
{"Error": "Authorization header is needed"}
```

### Failure

```
Status: 404 Bad Request
{"Error": "No property with that property_id exists"}
```

### Failure

```
Status: 405 Bad Request
{"Error": "Request type is not accepted"}
```

### Failure

```
Status: 406 Bad Request
{"Error": " request.accept_mimetypes is not accepted"}
```

## DELETE a Property

Allows you to edit a new property.

DELETE /property/:property\_id

### Request

Protected

Yes

#### Path Parameters

Name	Type	Description
property_id	String	ID of the Property

#### Request Body

Required

#### Request Body Format

JSON

#### Request JSON Attributes:

None

### Response

#### Response Body Format

JSON

#### Response Statuses

Outcome	Status Code	Notes
Success	204 Success	
Failure	400 Bad Request	Missing one or more attributes
Failure	401 Unauthorized	Invalid JWT or Authorization Header is missing
Failure	404 Not Found	Requested property_id is not found
Failure	405 Method not allowed	Request method isn't recognized
Failure	406 Not Acceptable	Request body is not in JSON format

## Response Examples

### Success

```
Status: 204 Success
{ }
```

### Failure

```
Status: 401 Bad Request
{"Error": "Authorization header is needed"}
```

### Failure

```
Status: 404 Bad Request
{"Error": "No property with that property_id exists"}
```

### Failure

```
Status: 405 Bad Request
{"Error": "Request type is not accepted"}
```

### Failure

```
Status: 406 Bad Request
{"Error": " request.accept_mimetypes is not accepted"}
```

## List all Properties For User

List all the Properties.

```
GET /property
```

### Request

Protected

Yes

### Path Parameters

None

### Request Body

None

### Response

#### Response Body Format

JSON

### Response Statuses

Outcome	Status Code	Notes
Success	200 Success	

Failure	405 Method not allowed	Request method isn't recognized
Failure	406 Not Acceptable	Request body is not in JSON format

## Response Examples

### Success

```
Status: 200 Success

[
  {
    "total number": 2
  },
  {
    "next": "http://localhost:5000/property?limit=5&offset=5",
    "property": [
      {
        "available": true,
        "city": "JWT2 City",
        "country": "JWT2",
        "end date": "",
        "renter": [],
        "start date": "",
        "state": "JWT2",
        "street": "JWT2 Dr",
        "user id": "auth0|60b951505d89a500699ae44f"
      },
      {
        "available": true,
        "city": "Wandaville",
        "country": "USA",
        "end date": "",
        "renter": [],
        "start date": "",
        "state": "NJ",
        "street": "Wanda and Vison Lane",
        "user id": "auth0|60b951505d89a500699ae44f"
      }
    ]
  }
]
```

### Failure

```
Status: 405 Bad Request
{"Error": "Request type is not accepted"}
```

## Failure

```
Status: 406 Bad Request
{"Error": " request.accept_mimetypes is not accepted"}
```

## Create a Renter

Allow you to create a new renter

POST /renter

## Request

Protected

Yes

Path Parameters

None

Request Body

Required

Request Body Format

JSON

Request JSON Attributes

Name	Type	Description	Required?
first name	String	The renter's first name	Yes
last name	String	The renter's last name	Yes
phone number	String	The renter's phone number	Yes

Request Body Example

```
{
  "first name": "Clarette",
  "last name": "Keara",
  "phone number": "5551231234"
}
```

## Response

Response Body Format

JSON



## Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	400 Bad Request	Missing one or more attributes
Failure	401 Unauthorized	Invalid JWT or Authorization Header is missing
Failure	405 Method not allowed	Request method isn't recognized
Failure	406 Not Acceptable	Request body is not in JSON format

### Success

```
Status: 201 Created
{
  "first name": "Clarette",
  "id": "5268462385496064",
  "last name": "Keara",
  "phone number": "5551231234",
  "property": null,
  "self": "http://localhost:5000/renter/5268462385496064"
}
```

### Failure

```
Status: 400 Bad Request
{ "Error": "The request object is missing at least one of the required attributes" }
```

### Failure

```
Status: 401 Bad Request
{"Error": "Authorization header is needed"}
```

### Failure

```
Status: 404 Bad Request
{"Error": "No renter with that renter_id exists"}
```

### Failure

```
Status: 405 Bad Request
{"Error": "Request type is not accepted"}
```

### Failure

```
Status: 406 Bad Request
{"Error": " request.accept_mimetypes is not accepted"}
```

## Get a Renter

Allows you to get an existing Renter.

GET /renter/:renter\_id

### Request

Protected

Yes

### Path Parameters

Name	Type	Description
renter_id	String	ID of the Renter

### Request Body

None

### Response

#### Response Body Format

JSON

### Response Statuses

Outcome	Status Code	Notes
Success	201 Success	
Failure	400 Bad Request	Missing one or more attributes
Failure	401 Unauthorized	Invalid JWT or Authorization Header is missing
Failure	404 Not Found	Requested renter_id is not found
Failure	405 Method not allowed	Request method isn't recognized
Failure	406 Not Acceptable	Request body is not in JSON format

### Response Examples

#### Success

```
Status: 201 Success
{
  "first name": "Clarette",
  "id": "5268462385496064",
  "last name": "Keara",
  "phone number": "5551231234",
  "property": null,
  "self": "http://localhost:5000/renter/5268462385496064"
}
```

### Failure

```
Status: 401 Bad Request
{"Error": "Authorization header is needed"}
```

### Failure

```
Status: 404 Bad Request
{"Error": "No property with that renter _id exists"}
```

### Failure

```
Status: 405 Bad Request
{"Error": "Request type is not accepted"}
```

### Failure

```
Status: 406 Bad Request
{"Error": " request.accept_mimetypes is not accepted"}
```

## PATCH a Renter

Allows you to edit a new renter

```
PATCH /renter/:renter_id
```

### Request

Protected

Yes

### Path Parameters

Name	Type	Description
renter_id	String	ID of the Property

### Request Body

Required

### Request Body Format

JSON

### Request JSON Attributes

Name	Type	Description	Required?
first name	String	The renter's first name	No
last name	String	The renter's last name	No
phone number	String	The renter's phone number	No

## Request Body Example

```
{
  "phone number": "5555551234",
}
```

## Response

### Response Body Format

JSON

### Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	400 Bad Request	Missing one or more attributes
Failure	401 Unauthorized	Invalid JWT or Authorization Header is missing
Failure	404 Not Found	Requested renter_id is not found
Failure	405 Method not allowed	Request method isn't recognized
Failure	406 Not Acceptable	Request body is not in JSON format

## Response Examples

### Success

```
Status: 201 Created

{
  "first name": "Clarette",
  "id": "5268462385496064",
  "last name": "Keara",
  "phone number": "5555551234",
  "property": null,
  "self": "http://localhost:5000/renter/5268462385496064"
}
```

### Failure

```
Status: 400 Bad Request
{ "Error": "The request object is missing at least one of the required attributes"
}
```

### Failure

```
Status: 401 Bad Request
{"Error": "Authorization header is needed"}
```

### Failure

```
Status: 404 Bad Request
{"Error": "No renter with that renter_id exists"}
```

### Failure

```
Status: 405 Bad Request
{"Error": "Request type is not accepted"}
```

### Failure

```
Status: 406 Bad Request
{"Error": " request.accept_mimetypes is not accepted"}
```

## PUT a Renter

Allows you to edit a new property.

```
PUT /renter/:renter_id
```

### Request

Protected

Yes

### Path Parameters

Name	Type	Description
renter_id	String	ID of the Property

### Request Body

Required

### Request Body Format

JSON

### Request JSON Attributes

Name	Type	Description	Required?
first name	String	The renter's first name	Yes
last name	String	The renter's last name	Yes
phone number	String	The renter's phone number	Yes

### Request Body Example

```
{
  "phone number": "5555551234",
}
```

## Response

### Response Body Format

JSON

### Response Statuses

Outcome	Status Code	Notes
Success	201 Created	
Failure	400 Bad Request	Missing one or more attributes
Failure	401 Unauthorized	Invalid JWT or Authorization Header is missing
Failure	404 Not Found	Requested renter_id is not found
Failure	405 Method not allowed	Request method isn't recognized
Failure	406 Not Acceptable	Request body is not in JSON format

### Response Examples

#### Success

```
Status: 201 Created

{
  "first name": "Clarette",
  "id": "5268462385496064",
  "last name": "Keara",
  "phone number": "5555551234",
  "property": null,
  "self": "http://localhost:5000/renter/5268462385496064"
}
```

#### Failure

```
Status: 400 Bad Request
{ "Error": "The request object is missing at least one of the required attributes"
}
```

#### Failure

```
Status: 401 Bad Request
{"Error": "Authorization header is needed"}
```

#### Failure

```
Status: 404 Bad Request
{"Error": "No renter with that renter_id exists"}
```

## DELETE a Renter

Allows you to delete a renter

```
DELETE /property/:property_id
```

### Request

Protected

Yes

### Path Parameters

Name	Type	Description
property_id	String	ID of the Property

### Request Body

Required

### Request Body Format

JSON

### Request JSON Attributes:

None

### Response

#### Response Body Format

JSON

### Response Statuses

Outcome	Status Code	Notes
Success	204 Success	
Failure	400 Bad Request	Missing one or more attributes
Failure	401 Unauthorized	Invalid JWT or Authorization Header is missing
Failure	404 Not Found	Requested property_id is not found
Failure	405 Method not allowed	Request method isn't recognized
Failure	406 Not Acceptable	Request body is not in JSON format

## Response Examples

### Success

```
Status: 204 Success
{ }
```

### Failure

```
Status: 401 Bad Request
{"Error": "Authorization header is needed"}
```

### Failure

```
Status: 404 Bad Request
{"Error": "No renter with that renter_id exists"}
```

### Failure

```
Status: 405 Bad Request
{"Error": "Request type is not accepted"}
```

### Failure

```
Status: 406 Bad Request
{"Error": " request.accept_mimetimes is not accepted"}
```

## Renter Reserves a Property

Renter has arrived at a property.

```
PUT /property/:property_id/:renter_id
```

### Request

Protected

Yes

#### Path Parameters

Name	Type	Description
renter_id	String	ID of the renter
rproperty_id	String	ID of the Property

### Request Body

None

### Response

No body

### Response Body Format

Success: No body

Failure: JSON



## Response Statuses

Outcome	Status Code	Notes
Success	204 Success	
Failure	400 Bad Request	Missing one or more attributes
Failure	401 Unauthorized	Invalid JWT or Authorization Header is missing
Failure	404 Not Found	Requested property_id is not found
Failure	404 Not Found	Requested renter_id is not found
Failure	405 Method not allowed	Request method isn't recognized
Failure	406 Not Acceptable	Request body is not in JSON format

## Response Examples

### Success

```
Status: 204 Success
{ }
```

### Failure

```
Status: 401 Bad Request
{"Error": "Authorization header is needed"}
```

### Failure

```
Status: 404 Bad Request
{"Error": "No renter with that renter_id exists"}
```

### Failure

```
Status: 404 Bad Request
{"Error": "No property with that property_id exists"}
```

### Failure

```
Status: 405 Bad Request
{"Error": "Request type is not accepted"}
```

### Failure

```
Status: 406 Bad Request
{"Error": " request.accept_mimetypes is not accepted"}
```

## Renter Departs a Property

Renter has leaves a property.

```
PUT /property/:property_id/:renter_id
```

## Request

Protected

Yes

Path Parameters

Name	Type	Description
renter_id	String	ID of the renter
rproperty_id	String	ID of the Property

Request Body

None

## Response

No body

Response Body Format

Success: No body

Failure: JSON

Response Statuses

Outcome	Status Code	Notes
Success	204 Success	
Failure	400 Bad Request	Missing one or more attributes
Failure	401 Unauthorized	Invalid JWT or Authorization Header is missing
Failure	404 Not Found	Requested property_id is not found
Failure	404 Not Found	Requested renter_id is not found
Failure	405 Method not allowed	Request method isn't recognized
Failure	406 Not Acceptable	Request body is not in JSON format

## Response Examples

Success

```
Status: 204 Success
{ }
```

Failure

```
Status: 401 Bad Request
{"Error": "Authorization header is needed"}
```

Failure

```
Status: 404 Bad Request
{"Error": "No renter with that renter_id exists"}
```

### Failure

```
Status: 404 Bad Request
{"Error": "No property with that property_id exists"}
```

### Failure

```
Status: 405 Bad Request
{"Error": "Request type is not accepted"}
```

### Failure

```
Status: 406 Bad Request
{"Error": " request.accept_mimetypes is not accepted"}
```

## List all Renter For User

List all the Renter.

```
GET /renter
```

### Request

Yes

#### Path Parameters

None

#### Request Body

None

### Response

#### Response Body Format

JSON

### Response Statuses

Outcome	Status Code	Notes
Success	200 Success	
Failure	405 Method not allowed	Request method isn't recognized
Failure	406 Not Acceptable	Request body is not in JSON format

### Response Examples

#### Success

```
Status: 200 Success
```

```
[
  {
    "total number": 1
  },
  {
    "next": "https://portfolio-315300.wn.r.appspot.com/renter?limit=5&offset=5",
    "renters": [
      {
        "first name": "Clarette - JWT2",
        "last name": "Keara - JWT2",
        "phone number": "5551231234 - JWT2",
        "property": null,
        "user id": "auth0|60b951505d89a500699ae44f"
      }
    ]
  }
]
```

#### Failure

```
Status: 405 Bad Request
{"Error": "Request type is not accepted"}
```

#### Failure

```
Status: 406 Bad Request
{"Error": " request.accept_mimetypes is not accepted"}
```

## Get List Of All Users

List all the Renter.

GET /get users

#### Request

Protected

No

#### Path Parameters

None

#### Request Body

None

#### Response

##### Response Body Format

JSON

#### Response Statuses

Outcome	Status Code	Notes
Success	200 Success	

## Response Examples

### Success

Status: 200 Success

```
[
  {
    "id": 6348526401355776,
    "name": "test_admin@gmail.com",
    "self": "https://portfolio-315300.wn.r.appspot.com/users/6348526401355776",
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