# Hands-on Lab: Base Acronis Cyber Platform API operations with Postman

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## Hands-on Lab Directory

File name	File description
Acronis Cyber Platform Collection.postman_collection.json	Acronis Cyber Platform Collection to import into the Postman application.
Acronis Cyber Platform Development.postman_environment.json	Acronis Cyber Platform Development Environment to import into the Postman application.
LICENSE	The license for the code. It's MIT license.
README.md	This file.

## The Acronis Cyber Platform API general workflow

#	Operation	When/Period	Prerequisites/Inputs

#	Operation	When/Period	Prerequisites/Inputs
1	Create an API client under which an	Initially. Periodically if security policies require your company to regenerate all passwords each X	Login and password with a needed level of access in Acronis Cyber Cloud.
I	integration will be authorized	months. Through the API or the Management Portal for ACC 9.0 and greater.	Usually, it's a service Admin account under your company's Partner tenant in Acronis Cyber Cloud.
2	lssue an access token	<ol> <li>Before the first API Call which is not connected to the authorization flow</li> <li>Each time when your token is</li> </ol>	Your API Client credentials
3	Make API calls	near to be expired or expired.	An access token issued using your API Client credentials

Prerequisites and basis information

To follow the hands-on lab manual, you need to have installed Postman version 7.20 or greater and have the Acronis Cyber Platform Development Environment and Acronis Cyber Platform Collection imported to the installed Postman.

Step-by-step execution guide

1. Install Postman if needed.



1. Download an installation package for your OS from the https://www.postman.com/downloads/ page. Windows, macOS and Linux are supported. 2. Double click on downloaded file and follow the instructions to install.



!!! note If you don't want to sync your account data between devices just skip account creation and work with Postman without it.

- 2. Import Acronis Cyber Platform Development Environment into the installed Postman.
  - 1. Open Postman if needed.

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#### 2. Got to File menu and select Import.

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	Import File Import Folder Import From Link Paste Raw Text		
You don't have any collections			
Collections let you group related requests, making them easier to access and run.	Drop files here		
+ Create a collection	Choose Files		
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4. Press Choose File, the Choose File dialog opens.

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	File name:	Acronis Cyber Platform Development.postman_environmen	t	~	All Files (*.*) Open	Cancel	~

5. Select Acronis Cyber Platform Development.postman\_environment.json and press Open. You should see a successful import pop-up.

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6. Check that the environment was successfully imported and select it drop-down list at top right corner of the Postman application.

#### 3/24/2020

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7. Then do the same for the Acronis Cyber Platform

### Collection.postman\_collection.json file.

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8. Check that the collection was successfully imported in the Postman application.

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9. Open the environment to edit using an icon at the right of the drop-down list. Enter your

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67 requests	username	
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username and your password for basic authentication.

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67 requests	Params Auth  Headers (	l) Body Pre-req. To	username				
▼ ■ The training flow •••	TYPE		my_tenant_id				
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POST Issue a JWT token	The authorization header wil	l be automatically generat	client_secret				
POST Create a partner tenant	you send the request. Learn	more about authorization	access_token				
Create a partier tenant			partner_tenant_id				
Post Create a customer tenant	Heads up! These param	eters hold sensitive data.	customer tenant id				
GET Get a customer pricing model	while working in a collal variables. Learn more a	borative environment, we bout variables	application id				
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POST Activate a user by setting a pas	Password	{{password}}	login	user.test	user.test		
GET Get a tenant usage		Show Password	user_id				
POST Create a report							_
GET Get stored reports list							
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10.Open settings for the imported collection and set base\_url variable. It's used for all API calls and identified your Acronis data center.

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- III	The training flow ••	These variables are specific to t	his collection and its requests. Lear	n more about collection variables.		
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#### 10. Expand the imported collection

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#### 11. Expand The training flow folder.

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POST Activate a user by setting a pas				
GET Get a tenant usage				
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GET Get stored reports list				
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You are ready to start the hands-on lab.

## Exercise 1: Create an API Client to access the API

#### Implementation details

A JWT token with a limited time to life approach is used to securely manage access of any API clients, like your scripts and integrations, for the Acronis Cyber Cloud. Using a login and password for a specific user is not a secure and manageable way to create a token, but technically it's possible. Thus, we create an API client with a client id and a client secret to use as credentials to issue a JWT token. To create an API Client, we call the /clients end-point with POST request specifying in the JSON body of the request a tenant we want to have access to. To authorize this the request, the Basic Authorization with user login and password for Acronis Cyber Cloud is used.

In Acronis Cyber Cloud 9.0 API Client credentials can be generated in the Management Portal.

Creating an API Client is a one-time process. As the API client is used to access the API, treat it as credentials and store securely. Also, do not store the login and password in the scripts itself.

In this Postman Collection it is expected that the Acronis Developer Sandbox is used. It is available for registered developers at Acronis Developer Network Portal. So the base URL for all requests (https://devcloud.acronis.com/) is used. Please, replace it with correct URL for your production environment if needed. For more details, please, review the Authenticating to the platform via the Python shell tutorial from the Acronis Cyber Platform documentation.

For demo purposes, this script issues an API client for a tenant for a user for whom a login and a password are specified. You should add your logic as to what tenant should be used for the API Client creation.

A generated client is inherited access rights from a user used for the generation but it's disconnected from them. You don't need to issue a new client even if the user account is removed from Acronis Cloud.

Treat API Clients as a specific service account with access to your cloud. All internal security policies applied to your normal account operations should be in place for API Clients. Thus, don't create new API Clients if you don't really required and disable/delete unused API Clients through the Management Console or API Calls.

You can receive a client\_secret only once, just at the issue time. If you loose your client\_secret further you must reset secret for the client through the Management Console or API Calls. Please, be aware, that all the tokens will be invalidated.

You need to securely store the received credentials. Please remember to implement secure storage for your client credentials.

Step-by-step execution and checks

1. Be sure that you've fully finished *prerequisites* step-by-step guide.

For simplicity, this flow was built for the case when 2FA not enabled. In case if 2FA enabled, you need either use the ACC 9.0 Management Console to create an API Client and skip firsts steps of the tutorial, or disable 2FA before create an API client and enable back after.

2. Open Get self info using Basic Authentication request in the Postman and click Send. 🥝 Postman × File Edit View Held Import Runner 📭 🖛 👪 My Workspace 🔻 🔒 Invite T's 😮 👂 🌲 🖤 Sign In + Nev Q Filter Acronis Cyber Platform Deve 🔻 💿 🔅 Get Self Info Using Basic Authe... × + ··· Launchpad History Collections APIs Get self info using Basic Authentic. Get Self Info Using Basic Authentication 👻 + New Collection Acronis Cyber Platform Collecti... 67 requests Get Self Info Using Basic Authentication ▼ ■ The training flow ... GET Get self info using Basic Authen... GET • {{base\_url}}/api/2/users/m Status 200 OK POST Create an API Client Params Headers (1) POST Issue a JWT token Body Body Headers (18) POST Create a partner tenant Query Params Pretty Raw Preview JSON 🔻 🚍 Q POST Create a customer tenant KEY VALUE DESCRIPTION ••• Bulk Edit 1 \* { GET Get a customer pricing model Key PUT Set a customer pricing model t.. GET Check login availiability POST Create a new user for a customer POST Activate a user by setting a pas... 9 10 11 • 12 GET Get a tenant usage iota", "reports", "backup\_daily\_report" POST Create a report GET Get stored reports list 9 🗉 🗇 Bootcamp 📱 💆 ?

You receive information regarding authenticated user.

3. We create an API Client for a specific tenant. For our hands-on lab we create a client for the your root tenant. So you need to put tenant\_id to the my\_tenant\_id variable. To do this, select tenant\_id value in the JSON response without quotas and press right mouse button for PC. Then select Set: Acronis Cyber Platform Development from the drop-down menu and my\_tenant\_id from the cascade menu.

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POST Create a partner tenant				5	"firstname": "	client_id	Cut
Create a partier tenant				6	"phone": null, "address1": nu	access token	Copy
POST Create a customer tenant				8	"email": "stas	partner tepant id	Paste
GET Get a customer pricing model				10	"lastname": "P	customer tenant id	Select All
PUT Set a customer pricing model t				11	"zipcode": nul	application id	
GET Check login availiability				13	"state": null	edition	Find: 53b4/1e1-50dd
POST Create a new user for a customer				14	}, "version": 4,	kind	DecodeURIComponer
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GET Get a tenant usage				19	"created_at": "201	report_id	
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GET Get stored reports list				22	"reports",	location_uuids	
						current_tenant_version	р 🕛 🖌 🕐

4. We successfully set up my\_tenant\_id variable, check it in the environment.

my_tenant_id	53b471e1-50dd-4557-ae6d-f687946821d4
client_id	
client_secret	
access_token	

5. Open Create an API Client request and then, select Body tab. You can see parametrized JSN body request to create an API Client. Click Send.



client\_name is used as a display name for an API Client in the Management Console.

6. You should receive a JSON response body as on the screenshot below.

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67 requests	Params Auth   Headers (9) Body   Pre-req. Tests Settings Cookies Code	Status: 201 Created Time: 109ms Size: 1.12 KB Save Respo
The training flow       Get self info using Basic Authen	raw V JSON V Beautify	Body Cookies Headers (15) Test Results
POST Create an API Client	<pre>1 * {[ 2 "type": "agent", 3 "tenant_id": "{{my_tenant_id}}",</pre>	Pretty Raw Preview Visualize JSON 🔻 🚍 🎚
POST Issue a JWT token POST Create a partner tenant	<pre>4</pre>	2 "registration_access_token": "0059a415890144c29ed6d73826ec84d0",
POST Create a customer tenant	8)	3 "cllent_ld": "2b088e90-4258-4ec5-86e8-6a9a519456e" 4 "tenant_id": "53b471e1-5064-4557-ae6d-f687946821d4 5 "token_endpoint_auth_method": "client_secret_basic
PUT Set a customer pricing model t		6 "created_by": "bta9d672-35ee-4Cad-b3d9-024d145t7te 7 "client_secret_expires_at": 0, 8 "type": "agent",
GET Check login availiability		9 "redirect_uris": [], 10 "created_at": "2020-03-16T09:05:46+00:00", 11 "data": {
POST Activate a user by setting a pas		12 "client_name": "API.Client" 13 }, 14 "totue", "apphled"
GET Get a tenant usage		<pre>14 status : enduced , 15 "Client_secret": "142007c1a62e4beaafe2e913d27bde0a 16 }</pre>
Post Create a report		

7. Add client\_id and client\_secret from the JSON response body to the same named variables as it was done for my\_tenants\_is.

8. Open the Management Console and check that you successfully create an API Client.

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Security					
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Acronis Cyber Platform					
Powered by Acronis AnyData Engine	4		*		

## Exercise 2: Issue a token to access the API

#### Implementation details

A client\_id and a client\_secret can be used to access the API using the Basic Authorization but it's not a secure way as we discussed above. It's more secure to have a JWT token with limited life-time and implement a renew/refresh logic for that token.

To issue a token /idp/token end-point is called using POST request with param grant\_type equal client\_credentials and content type application/x-www-form-urlencoded with Basic Authorization using a client\_id as a user name and a client\_secret as a password.

You need to securely store the received token. For demo purposes we store a token as an environment variable. Please implement secure storage for your tokens.

A token has time-to-live and must be renewed/refreshed before expiration time. The best practice is to check before starting any API calls sequence and renew/refresh if needed.

Currently, the default time-to-live to a token for the API is 2 hours.

expires\_on is a time when the token will expire in Unix time format -- seconds from January 1, 1970. Here we assume that you will renew/refresh a token as soon as you receive a 401 answer in Postman.

#### Step-by-step execution and checks

1. Be sure that you've fully finished *Create an API Client to access the API* step-by-step guide.

2. Open Issue a JWT token request in the Postman and then Body tab. Check that we use x-www-



3. Click Send button. You should receive a JSON response body as on the screenshot below.

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• • • A	7 requests	Params A	uth • Headers (9)	Body  Pre-req	. Tests Settings	Cookies Code	Status: 200	OK Time:	: 194ms Siz	e: 2.64 KB		Save Respon
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POST	Create a partner tenant	Key	Value	De	scription			J	sMgn0ut59xH	LGTL4ivACeXE	pgTJ4eYeUj	lneX4nxQ",
POST	Create a customer tenant						3	"acce	ss_token": eyJ0eXAiOiJ	KV1QiLCJhbGc	iOiJSUzI1N	JiIsImtpZCI6Im:
								ji	MWNWQ1LWI3Y	2YtNGM4NC1hC	WMxLThiNTg	wZjk1Y2QzNCJ9.
GET	Get a customer pricing model							Y	5NDU2ZTciLC	JleHAiOjE10D	QZNTY4NZYS	ImlhdCI6MTU4NE
PUT	Set a customer pricing model t							0	TY3NiwiaXNz	IjoiaHR0cHM6	Ly9tYy1iZX	RhLWNsb3VkLmF
GET	Check login availiability							z	TgtNmE5YTVm	OTQ1NmU3Iiwi	dWlkIjoiMm	IWODhlowQtNDI
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GET	Get a tenant usage							3	yb2xlIjoidX	NlcnNfYWRtak	4ifSx7InRp	ZCI6IjUZYjQ3M
POST	Create a report							Ľ	TUwZGQtNDU1	Ny1hZTZkLWY2	ODc5NDY4Mj	FKNCISINJVbGUi
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	2=									D' BOOL	amp .	

4. Add access\_token value without quotas from the JSON response body to the same named variables.



5. We are ready to make other API calls.

As soon as you receive 401 Unauthorized error during any other API calls you must reissue the token and copy the new token to access\_token variable.

## Exercise 3: Create partner, customer and user tenants and set offering items

#### Implementation details

and appropriate {{tenant\_id}}.

So now we can securely access the Acronis Cyber Platform API calls. In this topic we discuss how to create a partner, a customer tenants and enable for them all available offering items, and then create a user for the customer and activate the user by setting a password.

Assuming that we create the API client for our root tenant, we start from retrieving the API Client tenant information using GET request to /clients/{{client\_id}} end-point. Then, using received tenant\_id information as a parameter and kind equal to partner, we build a JSON body for POST request to /tenants end-point to create the partner. Next, we are going to enable all applications and offering items for the tenants. Briefly, we take all available offering items for the parent tenant of the partner or the customer using GET request to /tenants/{{tenant\_id}}/offering\_items/available\_for\_child endpoint with needed query parameters specifying edition and kind of the tenant. Then, we need to enable these offering items for the partner or the customer using PUT request to /tenants/{{tenant\_id}}/offering\_items JSON in the request body

The following kind values are supported root, partner, folder, customer, unit.

This is absolutely the same process as for a customer, the only difference is kind equal to customer in the request body JSON and /offering\_items/available\_for\_child parameters.

By default, customers are created in a trial mode. To switch to production mode we need to update customer pricing. To perform this task, we start from requesting current pricing using a GET request to /tenants/{{customer\_tenant\_id}}/pricing end-point then change mode property to production in the received JSON, then, finally, update the pricing using PUT request to /tenants/{{customer\_tenant\_id}}/pricing end-point with a new pricing JSON.

#### Please, be aware, that this switch is non-revertible.

Finally, we create a user for the customer. At first, we check if a login is available using GET request to /users/check\_login end-point with username parameter set to an expected login. Then, we create a JSON body for POST request to /users end-point to create a new user.

A created user is not active. To activate them we can either send them an activation e-mail or set them a password. The sending of an activation e-mail is the preferable way, as in this case a user can set their own password by themselves. We use a set password way for demo purposes and a fake e-mail is used. To set a password we send a simple JSON and POST request to /users/{{user\_id}}/password end-point.

At this point, we've created a partner, a customer, enable offering items for them, create a user and activate them.

Step-by-step execution and checks

#### Create partner and enable all available standard edition offering items

- 1. Be sure that you've fully finished *Issue a token to access the API* step-by-step guide.
- 2. Open Create a partner tenant request in the Postman and then Body tab. Check the JSON body. It uses my\_tenant\_id as a parent tenant id and expects to create a partner with name MyFirstPartner. Click Send button. You should receive a JSON response body as on the screenshot below.

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Q     Filter       History     Collections     APIs       + New Collection     Trash	Launchpad     POST     Create a     GET     GET Get self i     POST     Issue a J       > Create a partner tenant       POST <ul> <li>((base_url))/api/2/tenants</li> </ul>	e a • + ··· Acronis Cyber Platform Deve • • • • • • • • • • • • • • • • • •
Acronis Cyber Platform Collecti         67 requests         Im The training flow         Get self info using Basic Authen         POST       Create an API Client         POST       Strate a JWT token         POST       Create a partner tenant         POST       Create a customer tenant         GET       Get a customer pricing model         PUT       Set a customer pricing model t         GET       Create a new user for a customer         POST       Create a new user for a customer	Params Auth • Headers (9) Body • Pre-req. Tests Settings Cookies Code raw • JSON • Beautify 1 • { 2 "name": "MyFirstPartner99", 3 "parent_id": "(amy_tenant_id))", 4 "kind": "partner" 5 }	Status 201 Created     Time: 296ms     Size: 1.26 KB     Save Respon       Body     Cookies     Headers (15)     Test Results       Pretty     Raw     Preview     Visualize     JSON ▼     □       1     "update_lock": { "enabled": false, "owner_id": null     JSON ▼     □     □       2     "update_lock": { "enabled": false, "owner_id": null     □     □       5     "brand_uid": 'd&ld80b7-6f63-43ea-ba83-3574e184d0c1       7     "language": "en", "brand_id": 6194, "version": 1,     □       9     "version": 1, "amert_id": 'sJ8471e1-50df-4557-ae6d-f687946821d4"       1     "parent_id": 'sJ8471e1-50df-4557-ae6d-f687946821d4"       1     "contart": { "contart": { "contart: { "contart": { "contart: { "contart": { "contart: { "
GET Get a tenant usage POST Create a report		16 address1": null, → N = N = N = N = N = N = N = N = N = N

3. If a partner with this name exists you will receive an error like on the screenshot below.



- 4. Add id value without quotas from the JSON response body to the partner\_tenant\_id variables the same way as you've done it before for other variables.
- 5. Open Get available offering items for a partner tenant request in the Postman and then Params tab. We are ready to request offering items available for the created tenant. To specify edition and kind the same named variables are used. Please, check the Acronis Cyber Platform Development environment kind variable set to partner and edition set to standard and click Send button. You should receive a JSON response body as on the screenshot below.

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POST	Create a report											-
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- 6. For simplicity purposes we enable all available offering items for a partner for standard edition. So, select the response JSON body, press right mouse button (on Windows) and from drop-down menu select Copy. We've copied the JSON to a buffer for further usage.
- 7. Open Set offering items for a partner tenant request in the Postman and then Body tab. You can see an example of offering items JSON body. Select all the JSON request body, , press right mouse button (on Windows) and from drop-down menu select Paste. Then replace the JSON root

element items with offering\_items. So, now we a ready to update the partner offering items, click Send button. You should receive a JSON response body as on the screenshot below. It represents set offering items for the tenant.



8. Open the Management Console and check that you successfully create a partner and enable all offering items for Standard Edition.

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🔅 settings					Cyber Backup - Advanced Edition Provides advanced backup and recovery, along with basic cyber protection functionality. It is mainly designed for big environments. More info						
					Cyber Backup - Disaster Recovery Edition						
				Provides advanced backup and recovery, disaster recovery, along with basic cyber protection functionality. It is mainly designed for big environments and companies that have high requirements for the Recovery Time Objective. More info							
Acronis Cyber Platform				File	Supe & Sharo						
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#### Create customer, enable all available standard edition offering items and switch to production mode

1. Open Create a customer tenant request in the Postman and then Body tab. Check the JSON body. It uses partner\_tenant\_id as a parent tenant id and expects to create a customer with name MyFirstCustomer.

#### 3/24/2020



2. Click Send button. You should receive a JSON response body as on the screenshot below.

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POST Create an API Client	<pre>2 "name": "MyFirstCustomer", 3 "parent_id": "{{partner_tenant_id}}",</pre>	Pretty Raw Preview Visualize JSON 🔻 🚍 盾
POST Issue a JWT token	4 "kind": "customer"	1 1
POST Create a partner tenant	5 1	2 "update_lock": {
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POST Create a customer tenant		5 },
GET Get a customer pricing model		6 "brand_uuid": "d81d89b7-6f63-43ea-ba83-3574e184d0c1
PUT - Set a sustemer prising model t		7 "language": "en", 8 "brand id": 6194
Set a customer pricing moder c		9 "version": 1,
GET Check login availiability		10 "name": "MyFirstCustomer",
POST Create a new user for a customer		11 "parent_1d": "3973taed-9c48-43eb-968t-9dd5c782052b" 12 "contact": {
		13 "country": null,
POST Activate a user by setting a pas		14 "firstname": "",
GET Get a tenant usage		15 phone : null, 16 "address1": null,
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3.

4. Open Get available offering items for a customer tenant request in the Postman and then Params tab. We are ready to request offering itemAdd id value without quotas from the JSON response body to the customer\_tenant\_id variables the same way as you've done it before for other variables.s available for the created tenant. To specify edition and kind the same named variables are used. Please, check the Acronis Cyber Platform Development environment kind variable set to customer and edition set to standard and click Send button. You should receive a JSON response body as on the screenshot below.

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GET PUT	Get a customer pricing model Set a customer pricing model t							6 7 8	<pre>name : compute_points , "infra_id":     "debe7865-fa8d-4c16-8e26-adcf8d7fd23d", "type": "infra",</pre>
GET POST	Check login availiability Create a new user for a customer							9 10 11	"edition": "standard", "status": 1, "application_id": "6e6d758d-8e74-3ae3-ac84-50eb0dff12eb",
POST GET	Activate a user by setting a pas Get a tenant usage							12 13 14	<pre>"measurement_unit": "seconds", "quota": {     "version": 0,     ""</pre>
POST	Create a report								영 Bootcamp 📱 🖉 ?

- 5. For simplicity purposes we enable all available offering items for a partner for standard edition. So, select the response JSON body, press right mouse button (on Windows) and from drop-down menu select Copy. We've copied the JSON to a buffer for further usage.
- 6. Open Set offering items for a customer tenant request in the Postman and then Body tab. You can see an example of offering items JSON body. Select all the JSON request body, , press right mouse button (on Windows) and from drop-down menu select Paste. Then replace the JSON root element items with offering\_items. So, now we a ready to update the partner offering items, click Send button. You should receive a JSON response body as on the screenshot below. It represents set offering items for the tenant.

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		7 "locked": false, 4	"locked": false,
PUT	Set offering items for a custom	9 "usage name": "storage",	"usage_name": "storage",
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POST	Create a new user for a customer	16 "measurement_unit": "bytes", 11 17 "infra id": "0100736.114f-4418-bd54-e01ef049f200"	"application_id":
POST	Activate a user by setting a pas	18 }, 12	<pre>"measurement_unit": "bytes",</pre>
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POST	Create a report	94 "nama". "da akanana"	
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7. Open the Management Console and check that you successfully create a customer and enable all offering items for Standard Edition.

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Powered by Acronis AnyData Engine									

- 8. By default a customer is created in Trial mode. To switch it to Production we need to change pricing for the tenant.
- 9. Open Get a customer pricing model request in the Postman and click Send. You should receive a JSON response body as on the screenshot below. It represents the current pricing mode for the customer.

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Acronis Cyber Platform Collecti 67 requests The training flow ···· GET Get self info using Basic Authen	Params Auth  Headers (7) Body Pre-req. Tests Settings Cookies Code none	Status: 200 OK     Time: 187ms     Size: 820 B     Save Response       Body     Cookies     Headers (18)     Test Results
Post     Create an API Client       Post     Issue a JWT token       Post     Create a partner tenant       Post     Create a customer tenant       GET     GET a customer pricine model	This request does not have a body	Pretty Raw Preview Visualize JSON <b>v</b> 1 { 2 mode": "trial", 3 "currency": null, 4 version": 1584349948417 5 }
Put         Set a customer pricing model t           Fut         Set a customer pricing model t           GET         Check login availiability           POST         Create a new user for a customer		
Post Activate a user by setting a pas GET Get a tenant usage Post Create a report		

- 10. Select the response JSON body, press right mouse button (on Windows) and from drop-down menu select Copy. We've copied the JSON to a buffer for further usage.
- 11. Open Set a customer pricing model to production request in the Postman and then Body tab. You can see an example of offering items JSON body. Select all the JSON request body, , press right mouse button (on Windows) and from drop-down menu select Paste. Then replace the JSON mode element value trial with production. So, now we a ready to update the partner offering items.



#### Please, be aware, that this switch is non-revertible.

12. Click Send button. You should receive a JSON response body as on the screenshot below. It represents the current pricing mode and you can see that it's production.

File Edit View Help     Import Runner        Import Collections <th>×</th>	×
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+ New Collection     Trash       PUT     ([base_url])/api/2/tenants/((customer_tenant_id))/pricing       Send     Sav       Sav     Sav       Sav     Sav       Sav     Sav       Sav     Sav       Sav     Sav       Sav     Sav	!s 1 ▼
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13. Open the Management Console and check that you successfully switch a customer to production.

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Powered by Acronis AnyData Engine										

#### Create user, activate them by setting a password and enable backup services

- 1. We a ready to create a user for the created customer. Open Check login availability request in the Postman and then Params tab. It's required to have unique login for a user. So, before creating a user we need to check login availability.
- 2. Please, check the Acronis Cyber Platform Development environment login variable set to the login you want to use.
- 3. Click Send button. If the login is available you receive empty response body and 204 response code.
- 4. In unsuccessful case, please, change the Acronis Cyber Platform Development environment login variable to another value and repeat *step 3*.
- 5. Open Create a new user for a customer request in the Postman and then Body tab. You can see a parametrized JSON request body to create a user for a customer with tenant id equal to customer\_tenant\_id and login - login. As well we use fake e-mail and fist and last names. Click Send button. You should receive a JSON response body as on the screenshot below. It represents set the created user.

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History Collections APIs	Create a new user for a customer	Comments 0 Examples 1 •
+ New Collection Trash		
POST Create an API Client	POST	Send V Save V
POST Issue a JWT token	Params Auth  Headers (9) Body  Pre-req. Tests Settings Cookies Code	Status: 200 OK Time: 182ms Size: 1.32 KB Save Respon
POST Create a partner tenant	raw 🔻 JSON 🔻 Beautify	Pody Cookies Headers (17) Test Pecults
GET Get available offering items for	1 - {	body cookies headers (17) rest kesuits
PUT Set offering items for a partner	<pre>2 "tenant_id": "{{customer_tenant_id}}", 3 "login": "{{login}}",</pre>	Pretty Raw Preview Visualize JSON 🔻 🚍
POST Create a customer tenant	4 - "contact": { 5 "email": "{{login}}@example.com",	1 {
GET Get available offering items for	<pre>6 "firstname": "First{{login}}", 7 "lastname": "Last{{login}}"</pre>	2 "language": "en", 3 "contact": {
PUT Set offering items for a custom	9 }	4 "country": null, 5 "firstname": "Firstuser.test",
GET Get a customer pricing model		6 "phone": null, 7 "address1": null
PUT Set a customer pricing model t		<pre>8 "email: "user.test@example.com", 0 "entit", evaluation</pre>
GET Check login availiability		10 "lastname": "Lastuser.test",
POST Create a new user for a customer		11 "zipcode": null, 12 "address2": null,
		13 "state": null
Activate a user by setting a pas		15 "version": 1, 16 "toppet id": "12004000 0050 4205 0010 440150040201"
Ger a tenant usage		10 (enanc_au : 150a4990-0CT3-42C5-9C18-44017242C391
Create a report		영 Bootcamp 문 监 이

- 6. Add id value without quotas from the JSON response body to the user\_id variables the same way as you've done it before for other variables.
- 7. Add personal\_tenant\_id value without quotas from the JSON response body to the user\_personal\_tenant\_id variables the same way as you've done it before for other variables.
- 8. Open the Management Console and check that you successfully create a user.

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A created user is not active. To activate them we can either send them an activation e-mail or set them a password.

The sending of an activation e-mail is the preferable way, as in this case a user can set their own password by themselves. We use a set password way for demo purposes and a fake e-mail is used. 9. Open Activate a user by setting a password request in the Postman and then Body tab. You can see a simple JSON request body to set a user password. Click Send.

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Q Filt	ry Collections APIs	PUT • GET PUT GET PUT GET POST ( POST     Activate a user by setting a password	Acronis Cyber Platform Deve     Image: Comments of the second secon
+ New	Create an API Client	POST • {{base_ur}}/api/2/users/{{user_id}}/password	Send <b>v</b> Save <b>v</b>
POST	Issue a JWT token	Params Auth  Headers (9) Body  Pre-req. Tests Settings Cookies Code	Status: 204 No Content Time: 116ms Size: 598 B Save Respon:
GET	Get available offering items for	Taw     John     Beduliny       1 * [     "password": "MyStrongP@ssw0rd"	Body Cookies Headers (13) Test Results
POST	Create a customer tenant	3	
GET PUT	Get available offering items for		
GET	Get a customer pricing model Set a customer pricing model t		
GET POST	Check login availiability Create a new user for a customer		
POST GET	Activate a user by setting a pas Get a tenant usage		
POST	Create a report		영 Bootcamp 🖷 🖞

- 10. If the the call is successful you receive empty response body and 204 response code.
- 11. Open the Management Console and check that you successfully activate the user.

← → C ≜ dev-cloud.acronis.com/	/mc/app;group_id=1466987/users/list;focused_user_uuid	d=9ca71120-67f	9-4376-b17b-739c	2f8950f1;app	olication_id=6e6d758d-8e74-3ae3-ac84-50eb0dff12eb	९ 🖈 💿	-
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The created user has no roles assigned. It means it can't use any service. To enable services/applications you need to assign an appropriate role to a user. In next steps you will create a bash script to assign the created user backup\_user role to enable backup services.

All operations with the user account roles are located under the /users/{{user\_id}}/access\_policies endpoint.

To build a JSON to assign a role for a user id and user personal\_tenant\_id need to be known.

You can find more information regarding JSON format in the API documentation https://developer.acronis.com/doc/platform/management/v2/#/http/models/structures/a ccess-policy.

- 12. Select Activate a user by setting a password in the Postman collection, click right mouse button and select Duplicate.
- 13. Open Activate a user by setting a password Copy and rename it to Assign a user backup\_role.
- 14. Change request URL from {{base\_url}}/api/2/users/{{user\_id}}/password to {{base\_url}}/api/2/users/{{user\_id}}/access\_policies and click Save.
- 15. Switch method type from POST to PUT.
- 16. Open Body tab and replace

```
{
    "password": "MyStrongP@ssw0rd"
}
```

with

```
{
   "items": [
        {
        "id": "0000000-0000-0000-0000-0000000000",
        "issuer_id": "0000000-0000-0000-0000-0000000000",
        "role_id": "backup_user",
        "tenant_id": "{{user_personal_tenant_id}}",
        "trustee_id": "{{user_id}}",
        "trustee_id": "user",
        "version": 0
     }
    ]
}
```

17. Click Send button. You should receive a JSON response body as on the example below. It represents roles array for the user.

```
{
    "items": [
        {
            "tenant_id": "5702c92f-c486-4a7f-937c-7c05ca827532",
            "role_id": "backup_user",
            "version": 0,
            "trustee_id": "9ca71120-67f9-4376-b17b-739c2f8950f1",
            "trustee_type": "user",
            "trustee_type": "user",
```

```
"issuer_id": "0000000-0000-0000-0000000000000",
"id": "00000000-0000-0000-000000000000"
}
]
}
```

18. Open the Management Console and check that you successfully add the backup role to the user.

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← → C	/mc/app;group_id=1466987/users/list;focus	sed_user_uuic	l=9ca71120-67i	9-4376-b17b-739	c2f8950f1;appl	cation_id=6e6d758d-8e74-3ae3-ac84-50eb0dff12eb	९ 🖈 💿   🚇
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ល្វី USERS	A Firstuser.test Lastuser.test	•••	Active	user.test	Cyber F	Email user.test@example.c	:om
						Language English	
AUDIT LOG						Services and roles	Ø
SETTINGS						Cyber Protection User	
						Settings	Ø
						MANAGEMENT PORTAL	
						Quota overuse notifications Enabled	
						Scheduled usage reports Enabled	
cronis Cyber Platform						CYBER PROTECTION	
invData Engine						Failure notifications         Disabled	
	▲				•	······	

## Exercise 4: Get a tenant usage

#### Implementation details

A very common task is to check a tenant's usage. It's a simple task. We just need to make a GET request to /tenants/{{tenant\_id}}/usages end-point, as result we receive a list with current usage information in JSON format.

Step-by-step execution and checks

1. Open Get a tenant usage request in the Postman and then click Send. You should receive a JSON response body as on the screenshot below. It represents usages array for the my\_tenant\_id tenant.



The information about a service usage of the tenant, provided by the /tenants/{{tenant\_id}}/usages endpoint, is updated on average every 5-6 hours.

It might be very useful to store usage information for further processing.

For billing purposes it's expected that reporting capabilities are used which are described in details in the next exercise.

## Exercise 5: Create and download simple report

#### Implementation details

The reporting capability of the Acronis Cyber Cloud gives you advanced capabilities to understand usage. In the following simple example, we create a one-time report in csv format, and then download it. To check other options, please, navigate to the Acronis Cyber Platform documentation.

To create a report to save, we build a body JSON and make a POST request to /reports end-point. Then we look into stored reports with specified {{report\_id}} making a GET request to /reports/{{report\_id}}/stored endpoint.

And finally, we download the report created using a GET request to /reports/{{report\_id}}.

Step-by-step execution and checks

1. Open Create a report request in the Postman and then Body tab. You can see a parametrized JSON request body to create a usage\_current report, executesonce time with accounts level of details for the tenant my\_tenant\_id.



2. Click Send. You should receive a JSON response body as on the screenshot below. It represents a newly created report for the my\_tenant\_id tenant.

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Q Filter	◄ PUT GET PUT GET POST ( POST A GET T	Nost (X ) + ···· Acronis Cyber Platform Deve 🔻 👁 🗱
History Collections APIs	▶ Create a report	Comments 0 Examples 1 🔻
Hew Collection Trash     Get Get available offering items for	POST  v {{base_url}}/api/2/reports	Send 🔻 Save 💌
PUT Set offering items for a custom GET Get a customer pricing model	Params Auth   Headers (9) Body   Pre-req. Tests Settings Cookies Cooki	Status: 200 OK Time: 134ms Size: 1.02 KB Save Respo
PUT Set a customer pricing model t	raw 🔻 JSON 🔻 Beautify	Body Cookies Headers (16) Test Results
GET Check login availiability POST Create a new user for a customer	<pre>1 * { 2 * "parameters": { 3 "kind": "usage_current", 4 "tenant_id": "{{my_tenant_id}}",</pre>	Pretty Raw Preview Visualize JSON 🔻 📅
POST Activate a user by setting a pas	5 "level": "accounts", 6 ~ "formats": [ 7 "csu_v2_0"	1 { 2 "id": "20a82d0f-72b3-4370-a1b6-842c9de3bb00", 3 "parameters": {
POST Create a report	8 ] 9 }, 10 - "schedule": {	4 "level": "accounts", 5 "formats": [ 6 "cev v2 a"
GET Get stored reports list	<pre>11 "type": "once" 12 }, 13 "result action": "save"</pre>	7 ], 8 "tenant_id":
GET Download stored reports	14 }	"53b47te1-56dd-4557-ae6d-f687946821d4", 9 "kind": "usage_current", 10 "period": {
Tenants management		11         "end": "2020-03-15",           12         "start": "2020-03-01"
<ul> <li>Applications, offfering iteems an</li> <li>Get all available applications list</li> </ul>		14 }, 15 "version": 1,
		영 Bootcamp 📱 🖞 💮

- 3. Add id value without quotas from the JSON response body to the report\_id variables the same way as you've done it before for other variables.
- 4. Open Get stored reports list request in the Postman and click Send. You should receive a JSON response body as on the screenshot below. It represents a stored report information for the created report.

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Q Filter History Collections APIs	GET PUT GET Get stored reports list	POST ( POST A GET	POST ( Gi	Acro	onis Cyber Platform Deve 🔻	o 🌣
How Collection Trash     Get Get available offering items for	GET v {{base_url}	}/api/2/reports/ <mark>{{report_id}}</mark> /stored			Send 🔻 S	Save 🔻
GET Get a customer pricing model	Params Auth • Headers (7) Query Params	Body Pre-req. Tests Settings	Cookies Code	Status: 200 OK Time: 132ms	Size: 899 B Sa	ive Response
GET Check login availiability	KEY VALUE Key Value	DESCRIPTION Description	••• Bulk Edit	Body Cookies Headers (17) Pretty Raw Preview	V Visualize JSON V	⇒ ∎ (
Post Activate a user by setting a pas GET Get a tenant usage				1 { 2 "items":[ 3 { 4   "id":	"501d236c-f050-4515-9a93-de1	0418414a9 <mark>"</mark> ,
POST     Create a report       GET     Get stored reports list				5 "size' 6 "stati 7 "crea 8 "repo	': 1775, us": "saved", ted_at": "2020-03-16T09:35:06 rt_format": "csv_v2_0"	+00:00",
GET Download stored reports  Authorization  Consols management				9   } 10   ] 11 }		
Applications, offfering iteems an     Get all available applications list						
I 9 E	<u>n</u> c				영 Bootcamp 🔋	¥ ?

- 5. Add id value without quotas from the JSON response body to the stored\_report\_id variables the same way as you've done it before for other variables.
- 6. Open Download stored reports request in the Postman and click Send. You should receive a CSV response body as on the screenshot below. It the stored report the created report.

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History Collections APIs	Download stored reports				Comme	nts 0 Examples 1 🔻
New Collection Trash     GET Get available offering items for	GET 🔻 {{base_u	rl}}/api/2/reports/{ <mark>{report_id}</mark> }/stored	d/{{stored_report_id	}}	s	end 🔻 Save 👻
PUT         Set offering items for a custom           GET         Get a customer pricing model	Params Auth Headers (7)	Body Pre-req. Tests Settings	Cookies Code	Status: 200 OK Time: 140	ms Size: 2.49 KB	Save Response
<b>PUT</b> Set a customer pricing model t	Query ratatis	DESCRIPTION	Dull Dalls	Body Cookies Header	s (17) Test Results	
GET Check login availiability	Key Value	Description	Buik Edit	Pretty Raw Pr	eview Visualize	Text Text
POST Create a new user for a customer	Key Value	Description		a miliation i	d sealisation area d	
POST Activate a user by setting a pas				infra.id,	infra.name,infra.own	er_id,is_range,
GET Get a tenant usage				measureme pricing.p	nt_unit,name,pricing. rice,pricing.total_c	.currency,pricing.mode, ost,quota.value,
POST Create a report				tenant.cu usage.abs	stomer_id,tenant.id, olute.production,usa	tenant.kind,tenant.name, ge.absolute.total,
GET Get stored reports list				usage.abs usage.del	olute.trial,usage.de ta.total,usage.delta	lta.production, .trial,
GET Download stored reports				usage.eff usage.eff	ective.production,usa	age.effective.total,
Authorization				2 7459244f-68f3	-3bf4-9f53-5f63ecc1d	91f,platform,2020-03-15,,
Tenants management				53b471e1-	50dd-4557-ae6d-f6879	46821d4,partner,Acronis
<ul> <li>Applications, offfering iteems an</li> </ul>				user,1,1, 3 7459244f-68f3	-3bf4-9f53-5f63ecc1d	91f,platform,2020-03-15,,
GET Get all available applications list				,,,False,	,reseller_count,,,,,	
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## Exercise 6: Add marks to your API calls for better support

#### Implementation details

It's technically possibly to identify your API calls as they are connected to your API Client. But still it's required a lot of efforts and hard to find in your Audit log at the Management Portal for your. Thus to better support your development effort it would be a great idea to identify your integrations and API calls somehow. Traditional way to do it in a RESTFul word is using the User-Agent header.

There are common recommendations how to build your User-Agent header:

3/24/2020

User-Agent: <product>/<product-version> <comment>

For example, for our hands-on lab, you can use:

```
User-Agent: Training/1.0 Acronis #CyberFit Developers Business Automation Training
```

To implement it using Postman, we need just add the header to each Postman call using API. It can be implemented adding the following code to the *Pre-request Scripts* of the imported postman collection:

```
pm.request.headers.add({key: 'User-Agent', value: 'Training/1.0 Acronis #CyberFit Dev
```



#### Step-by-step execution and checks

1. Open settings for the imported collection and open *Pre-request Scripts* tab.

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History Collections	Name	
+ New Collection	Acronis Cyber Platform Collection	
Acronis Cyber Platform Collecti 67 requests	Description Authorization • Pre-request Scripts Tests Variables •	alp you master Postman.
	This script will execute before every request in this collection. Learn more about Postman's execution order.	
	1	u might find useful.
		APIs
		that you can use to automate yntax, examples of API tests
		bints such as using a JSON g queries.
		ta visualization feature.
	Cancel	Update
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2. Enter into the tab the following code

pm.request.headers.add({key: 'User-Agent', value: 'Training/1.0 Acronis #CyberFit Dev

#### 3/24/2020

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Q Filter	EDIT COLLECTION X	yber Platform Deve 🔹 💿 🗱
History Collections	Name	
+ New Collection	Acronis Cyber Platform Collection	
Acronis Cyber Platform Collecti 67 requests	Description Authorization • Pre-request Scripts • Tests Variables •	lp you master Postman.
	This script will execute before every request in this collection. Learn more about Postman's execution order.	
	<pre>i 1 pm.request.headers.add(({key: 'User-Agent', value: 'Acronis Cyber Platform Postman Collection' }))</pre>	u might find useful.
		APIs
		that you can use to automate yntax, examples of API tests
		pints such as using a JSON g queries.
		:es
-		ta visualization feature.
	Cancel Update	
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And click Update button.

- 3. So now let's check that it works.
- 4. Open Create an API Client and click Send.
- 5. Open the Management Console and check Audit log.

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History Collections	Name				
+ New Collection	Acronis Cyber Platform Collection				
Acronis Cyber Platform Collecti 67 requests	Description Authorization •	Pre-request Scripts Tests	/ariables ●		lp you master Postman.
	This script will execute before every re	equest in this collection. Learn more at	out Postman's execution order.		
	1				u might find useful.
					APIs
					that you can use to automate yntax, examples of API tests
					pints such as using a JSON g queries.
					tes ta visualization feature.
			Cancel	Update	
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## Summary

Now you know how to use base operations with the Acronis Cyber Platform API:

- 1. Create an API Client for the Acronis Cyber Platform API access
- 2. Issue a token for secure access for the API
- 3. Establish a simple procedure to renew/refresh the token
- 4. Create a partner and a customer tenants and enable offering items for them.
- 5. Create a user for a customer tenant and activate them.

- 6. Enable services for a user by assigning a role.
- 7. Receive simple usage information for a tenant.
- 8. Create and download reports for usage.

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Get started today, register on the Acronis Developer Portal and see the code samples available, you can also review solutions available in the Acronis Cyber Cloud Solutions Portal.

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