# API for BDA Service

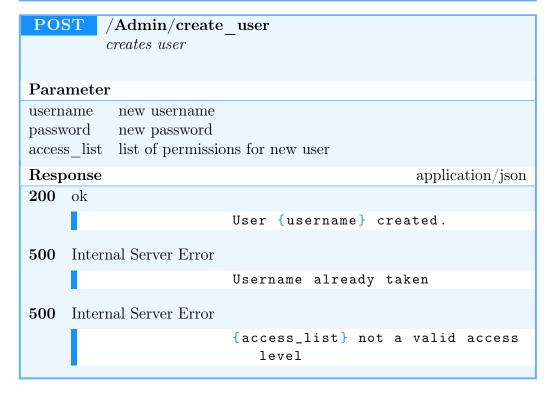
Max Bloomfield

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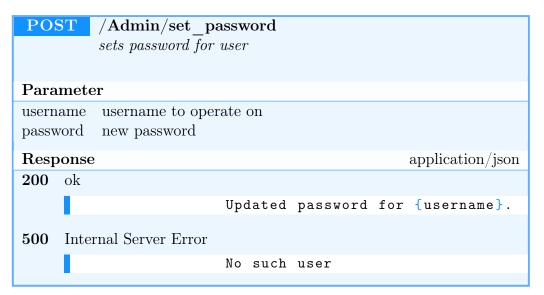
### 1 /Admin

All routes require 'admin' permission in access control list of user.

	es require admin permission in access control list of user.	
GET	ho /Admin/Init	
	initializes service	
Paran	neter	
userna	me admin username	
passwo	ord admin password	
server	_secret One time code for initialization of server, set at laun	$\operatorname{ch}$
Respo	onse application,	$/\mathrm{json}$
200		
_00	ok	
	ok Initialized	
	Initialized	
	Initialized	



POS	/Admin/delete deletes user	_user	
Para	Parameter		
usern	ame new username		
Resp	Response application/json		
200	ok		
		Deleted user {username}.	
500	Internal Server Error		
		No such user	



```
Post /Admin/set_access_list
    sets access control list for user

Parameter

username username to operate on access_list new access control list

Response application/json

200 ok

Updated access_list for {username}
} to {access_list}.

500 Internal Server Error

No such user as {username}
```

## /User

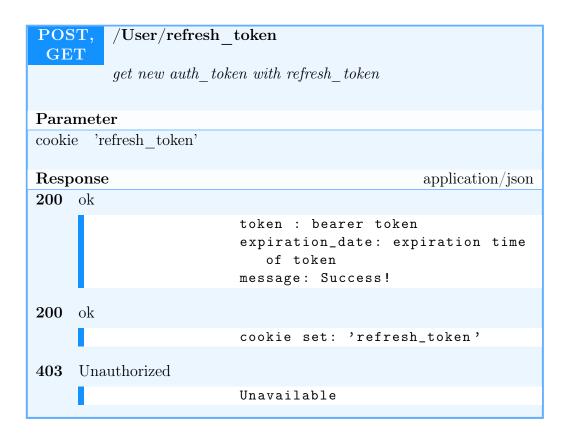
All requests except "/User/get\_token" require bearer token. All GET/POST method routes require 'user' permission in access control list of user.

$/{ m User/login}$	
redirects to login form	
Parameter	
no parameter	
Response	${\rm application/json}$
no response	

/User/logout  logs out current user, voids token	
Parameter	
no parameter	
Response application/json	
no response	

POS		/user/set_password
	S	sets password of current user
Dara	$_{ m meter}$	
		new username
oldpa	SS (	old password
newp	ass	new password
Resp	onse	${\rm application/json}$
200	ok	
		Password updated.
401	Unaut	thorized
		Authorization failed.
401	Unaut	thorized
		Old password does not match.
403	Forbio	dden
		User {user} cannot change password for user {username}.

POST	/User/get_token  Get authorization token
Parame	eter
	ne username to validate d user password
Respon	application/json
<b>200</b> ok	token : bearer token expiration_date: expiration time of token message: Success!
<b>200</b> ok	cookie set: 'refresh_token'
<b>403</b> Fo	orbidden Access denied



### 3 /Train

All requests require bearer token authenticating current user. All requests require 'train' permission in access control list of current user.

POST /Train/create\_MKO
Create initial MKO

Parameter

username username for result caching model\_name name for model

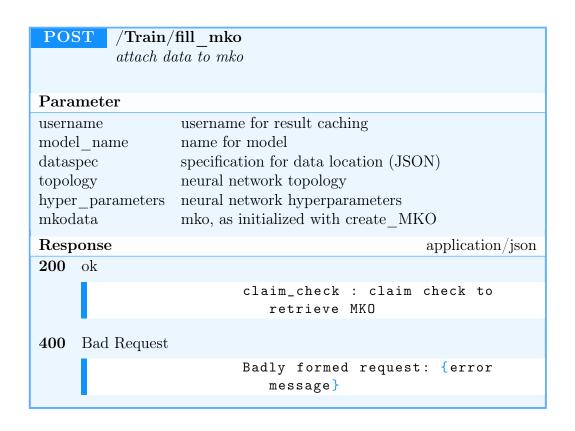
Response application/json

200 ok

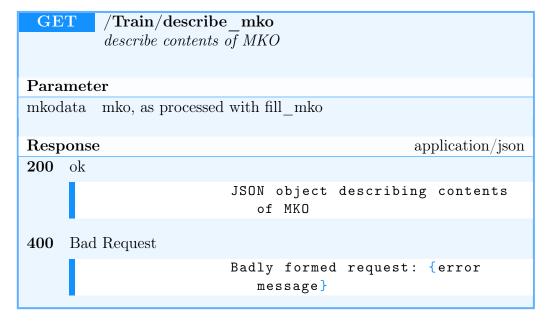
claim\_check : claim check to retrieve MKO

400 Bad Request

Badly formed request: {error message}

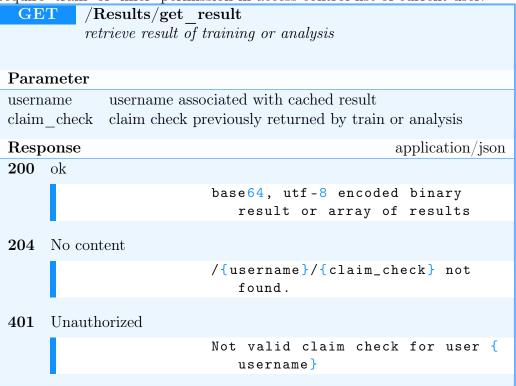


POST /1	Train/train hedule training of MKO
Parameter	
username model_name mkodata smip_auth	username for result caching name for model mko, as processed with fill_mko JSON object with 'token' and 'url' providing access to SMIP
Response	${\rm application/json}$
<b>200</b> ok	
	$ exttt{claim\_check}$ : $ exttt{claim}$ $ exttt{check}$ to $ exttt{rieve}$ MKO
<b>400</b> Bad Re	equest  Badly formed request: {error
	message}



#### 4 /Results

All requests require bearer token authenticating current user. All requests require 'train' or 'infer' permission in access control list of current user.



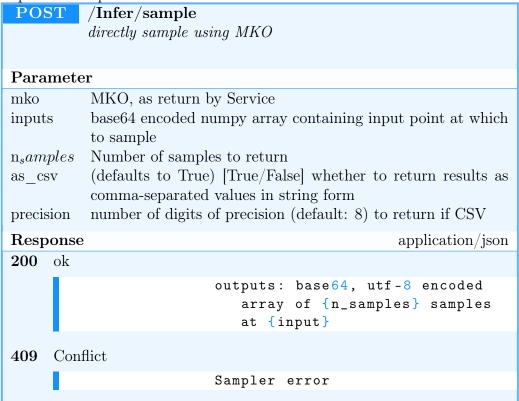
/Results/get_status  check status of result
meter
name username associated with cached result
_check claim check previously returned by train or analysis
ponse application/json
ok
String representation of floating point number in [0,1] indicating fraction complete
No content
<pre>/{username}/{claim_check} not found.</pre>
Unauthorized
Not valid claim check for user { username}

GET /Results/get_eta  check projected time to completion
Parameter
username username associated with cached result
claim_check claim check previously returned by train or analysis
Response application/json
<b>200</b> ok
String representation of floating point number indicating number of seconds to completion
204 No content
<pre>/{username}/{claim_check} not found.</pre>
401 Unauthorized
Not valid claim check for user { username}

#### 5 /Infer

All requests require bearer token authenticating current user. All requests

require 'infer' permission in access control list of current user.

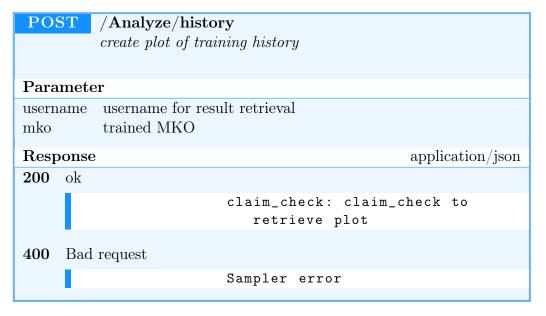


#### 6 /Analyze

All requests require bearer token authenticating current user. All requests require 'analyze' permission in access control list of current user.

POST /Analyze/cloudplot create cloudplot using provided MKO Parameter username for result retrieval username mko trained MKO base64 encoded numpy array containing data which to plot  $data_t able$ against predictions  $n_s amples$ Number of samples to return (defaults to False) [True/False] whether to plot all samples error bars or means and error bars Response application/json **200** ok claim\_check: claim\_check to retrieve plots Bad request 400 Sampler error

POST	/Analyze/histogram create histograms using provided MKO
Paramet	${ m er}$
	trained MKO base64 encoded numpy array containing inputs at which to construct histograms
Response	e application/json
<b>200</b> ok	<pre>claim_check: claim_check to     retrieve plots</pre>
<b>400</b> Bac	l request Sampler error



int	Analyze/integrate tegrate table of quantity of interest against PDF to obtain pectation value of QoI
Parameter	
username mko data $_table$ function $_table$ n $_samples$	username for result retrieval trained MKO base64 encoded numpy array containing inputs at which to construct PDF base64 encoded numpy array representing function to integrate Number of samples to use
Response	${\rm application/json}$
<ul><li>200 ok</li><li>400 Bad rec</li></ul>	claim_check: claim_check to retrieve plots
	Sampler error

## 7 /Logging

All requests require bearer token authenticating current user. All requests

require 'logs' permission in access control list of current user.

