

Magensa RemoteService V3

EMVConfig / Key Programmer's Reference Manual

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Table 0-1 - Revisions

Rev Number	Date	Notes
10	June 2021	Initial Release. This version of document is compatible with RemoteServices V3 API version 1.0.0

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1 Introduction

The purpose of this document is to describe the main operations available in Magensa RemoteServices V3 Web service and their required & optional input/output parameters. It also provides sample REST requests & responses as reference for client developers. It also includes error codes, reasons, and a sample error response.

RemoteServices V3 Web service enables clients to generate a EMV Configuration Update Token, to transform a EMV Configuration, to get a list of a given device protocol and to generate a token for initial DUKPT TR31 Key Block via Basic Authentication.

To change EMV configurations, a configuration excel file should be base64 encoded and this encoded value should be sent to /api/EmvConfig/transform as fileBase64 field. /api/EmvConfig/transform will transform the config file to a list of configuration data. Config value in the response is base64encoded so it must be base64 decoded and then it should be converted to Hex string. This hex string will be sent to /api/EmvConfig/token as emvConfigData field.

To do a key load, /api/Key needs to be called first to retrieve list of available keys and then a key will be selected and ksi value under the key will be sent to /api/Key/token as targetKSI along with other values which is read from the device.

RemoteServices V3 Web service end point provides swagger documentation and swagger.json which can be imported to Postman program. Please refer to Appendix for how to import swagger.json to Postman.

The authentication for all RemoteServices V3 service calls require an “Authorization” HTTP header set as per HTTP BasicAuthentication scheme. The value should be the Base64 encoding of your Magensa credentials in the string format “CustomerCode/Username:Password”. In the sample request packet, base64 encoded value was replaced by {AUTHORIZATION HEADER VALUE}

In the header, two parameters, TransactionID and BillingLabel can be added and TransactionID will be returned to a client as customerTransactionID.

2 RemoteServices V3 Operations

2.1 /api/EmvConfig/token

2.1.1 HEADER PROPERTIES

Property	Value	Description
Authorization *	string	The value should be the Base64 encoding of your Magensa credentials in the string format "CustomerCode/Username:Password". Ex) Basic Q3VzdG9tZXJDb2RIL1VzZXJuYW11OIBhc3N3b3Jk
TransactionID	string	Up to 256 characters. This will be returned to a client as customerTransactionID.
BillingLabel	string	Up to 64 characters.

Note: * = Required

2.1.2 INPUT PROPERTIES

Property	Value	Description
protocol *	string	The protocol/class for the device. Currently support MMS only
ksi *	string	The KSI of the base key to be updated
keyDerivationData *	string	Key derivation data. 32 Hex value.
keyDerivationAlgorithm *	string	Key Derivation Algorithm Currently support AES-SP800-108 only
deviceSN	string	Device Serial Number
emvConfigData	string	Configuration in HEX.

Note: * = Required

2.1.3 OUTPUT PROPERTIES

Property	Value	Description
magTranID	string	Magensa Transaction ID
customerTransactionID	string	Customer TransactionID will be returned to a client.
token	string	Generated EMV Configuration token

Request JSON

```
{
  "protocol": "<string>",
  "ksi": "<string>",
  "keyDerivationData": "<string>",
  "keyDerivationAlgorithm": "<string>",
  "deviceSN": "<string>",
  "emvConfigData": "<string>"
}
```


2.2 /api/EmvConfig/transform

2.2.1 HEADER PROPERTIES

Property	Value	Description
Authorization *	string	The value should be the Base64 encoding of your Magensa credentials in the string format "CustomerCode/Username:Password". Ex) Basic Q3VzdG9tZXJDb2RIL1VzZXJuYW11O1Bhc3N3b3Jk
TransactionID	string	Up to 256 characters. This will be returned to a client as customerTransactionID.
BillingLabel	string	Up to 64 characters.

Note: * = Required

2.2.2 INPUT PROPERTIES

Property	Value	Description
protocol *	string	The protocol/class for the device. Currently support MMS only
fileBase64 *	string	Base64 encoded configuration from an excel file
isLegacyExcel *	boolean	Flag to indicate whether the input is from legacy excel (.XLS) or latest version (.XLSX)

Note: * = Required

2.2.3 OUTPUT PROPERTIES

Property	Value	Description	
magTranID	string	Magensa Transaction ID	
customerTransactionID	string	Customer TransactionID will be returned to a client.	
configName	string	Configuration Name.	
bins	json	configId	string
		hashId	string
		timeStamp	string
		config	string. base64 encoded value

Request JSON

```
{
  "panData": "<string>",
  "panDataType": "<string>",
  "pinDataType": "<string>",
  "pinData": "<string>",
  "refID": "<string>",
  "refPINOffset": "<string>"
}
```


Sample Request:

```
POST /RemoteServicesV3/api/EmvConfig/token HTTP/1.1
Host: devgw.magensa.dev
TransactionID: 11111111-2222-3333-4444-555555555555
BillingLabel: Billing Label
Content-Type: application/json
Authorization: Basic {AUTHORIZATION HEADER VALUE}
Content-Length: {LENGTH}

{
  "protocol": "MMS",
  "fileBase64": "{BASE64 ENCODED EXCEL FILE}"
  "IsLegacyExcel": false
}
```

Sample Response:

```
HTTP/1.1 200 OK
Content-Type: application/json; charset=utf-8
Server: Microsoft-IIS/10.0
X-Powered-By: ASP.NET
Date: Wed, 09 Jun 2021 21:50:08 GMT
Content-Length: {LENGTH}

{
  "magTranID": "2656d8be-6b22-4d8a-824f-ee3e046c7f5f",
  "customerTransactionID": "11111111-2222-3333-4444-555555555555",
  "configName": "30129d8d",
  "version": "X01",
  "bins": [
    {
      "configId": "00000000",
      "hashId": "4",
      "timeStamp": "60C14E92",
      "config":
"TuUUS0FQMTDBBAAAAAD0gYaqJuObN6NsoSW80L72uEy1krsRwbGfGgIIQN95AQGfNQEh3
woBAZ8zA+AoAJ9ABf+A8LAB31UBAd8LAQHfJwEK3wYBAd8IAQDfegEB3w0BAN8QAwAAAN9
7AQDfBwEB3wkbAd9zBQAAAAAA33QFAAAAAADfdQUAAAAAAN9TAQDfVAEA33wBAA=="
    },
    {
      "configId": "00000100",
      "hashId": "4",
      "timeStamp": "60C14E92",
      "config":
"TuUUS0FQMTDBBAAAAQD0ggSjqhwnyzl30/MbLskG2voRgcEVuj42/zNtnwEG8gAAAAAAT
wegAAAABBAQ334BAZ8JAgaAA3xEBAN8SAQDfEwEA3xQBAN8VAQDfIAUAAAAAAN8hBQAAAA
A3yIFAAAAAACfGwQAAAAA33ABAN9uAwAAAN9vAQDfAQEA3wIBAF8qAgAAXzYBAP8zbZ8BB
vIAAAAAAE8HoAAAAAQia99+AQGfCQIAAN8RAQDfEgEA3xMBAN8UAQDfFQEA3yAFAAAAAAD
fIQUAAAAAAN8iBQAAAAAAnxsEAAAAAN9wAQDfbgMAAADfbwEA3wEBAN8CAQBfKgIAAF82A
QD/M22fAQbyAAAAABPB6AAAAAEMGdf fgEBnwkCAADfEQEA3xIBAN8TAQDfFAEA3xUBAN8
gBQAAAAAA3yEFAAAAAADfIguAAAAAJ8bBAAAAADfcaEA324DAAAA328BAN8BAQDfAgEAX
```

```
yoCAABfNgEA/zNsnwEG9AAAAAAATwagAAAAJQHffgEBnwKCAADfEQEA3xIBAN8TAQDfFAE
A3xUBAN8gBQAAAAAA3yEFAAAAAADfIgUAAAAAAJ8bBAAAAADfCAEA324DAAA328BAN8BA
QDfAgEAXyoCAABfNgEA/zNtnwEG8wAAAAAAATwegAAAAAxAQ334BAZ8JAgAA3xEBAN8SAQD
fEwEA3xQBAN8VAQDfIAUAAAAAAN8hBQAAAAAA3yIFAAAAAACfGwQAAAAAA33ABAN9uAwAAA
N9vAQDfAQEA3wIBAF8qAgAAXzYBAP8zbZ8BBvYAAAAAAE8HoAAAAVIwEN9+AQGfCQIAAN8
RAQDfEgEA3xMBAN8UAQDfFQEA3yAFAAAAAADfIQUAAAAAAN8iBQAAAAAAnxsEAAAAAN9wA
QDfbgMAAADfbwEA3wEBAN8CAQBfKgIAAF82AQD/M3mfAQYAAAAAABPB6AAAAAEEBdfGfE
BnwKCAALfEQEB3xIBAN8TAQDfFAEB3xUBAd8gBQAAAAAA3yEFAAAAAADfIgUAAAAAAJ8bB
AAAAADfCAEA324DAAA328BAN8BAQHfcQOfNwTfAgEB33IDnwgCXyoCCEBfNgEC/zN5nwE
GAAAAAAATwegAAAAAxAQ334BAZ8JAgCW3xEBAd8SAQDfEwEA3xQBAd8VAQHfIAUAAAAA
N8hBQAAAAAA3yIFAAAAAACfGwQAAAAA33ABAN9uAwAAAN9vAQDfAQEB33EDnzcE3wIBAd9
yA58IA18qAghAXzYBAv8zeJ8BBgAAAAAAE8GoAAAACUB334BAZ8JAgAB3xEBAd8SAQDfE
wEA3xQBAd8VAQHfIAUAAAAAAN8hBQAAAAAA3yIFAAAAAACfGwQAAAAA33ABAN9uAwAAAN9
vAQDfAQEB33EDnzcE3wIBAd9yA58IA18qAghAXzYBAv8zeZ8BBgAAAAAAE8HoAAAAVIwE
N9+AQGfCQIAAd8RAQHfEgEA3xMBAN8UAQHfFQEB3yAFAAAAAADfIQUAAAAAAN8iBQAAAA
AnxsEAAAAAN9wAQDfbgMAAADfbwEA3wEBAd9xA583BN8CAQDfcgOfCAJfKgIIQF82AQI="
},
{
    "configId": "00000200",
    "hashId": "4",
    "timeStamp": "60C14E92",
    "config":
    "TUdUS0FQMTDBBAAAAGDOggqsqjlpUW/DdvB6AQtkiH8xMehhv0lk/zWCAQ/fDgMCAQDfD
4IBBJ8aAghAnzUBIZ9ABQAAAAAAn34BAd8MAQLfGwEg3y0DAAANn20CAAHfGgOfagTfHgE
A3ywBAJ8JAgAC3wMBCN8XAWDFGAEo3xkBCN8cAgEs3x0BAN8gBQAAAAAA3yEFAAAAAADfI
gUAAAAAAN8jBgAAAAEAAN8kBgAAAAAAN8lBgAAAAUAAN8mBgAAAAAQAN8nAhOI3zABDd8
yAgAU3zMCADLfNAIAEt81AgAY3zYCASzfNwEyX1cAnwEAnxUCAAGfFgCfTgCfMwCfHABfK
gIIQJ8dCCxoAAAAAAN0UCAACfTAGAAAAAANAAJ9OFE1BR1RFSwAAAAAAAAAAAAAAAAA
A/zWB1980AwIBAd8Pgc2fGgIIQJ81ASGFQAUAUAAAAAAJ9+AQHfDAEC3xsBIN8tAwAADZ9tA
gAB3xoDn2oE3x4BAN8sAQCFcQIAAt8DAQj fFwFg3xgBKN8ZAQj fHAIBLN8dAQDfIAUAAA
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dAQDfIAUAAAAAAN8hBQAAAAAA3yIFAAAAAADfIwYAAAABAADfJAYAAAADAADfJQYAAAAFA
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ZAQj fHAIBLN8dAQDfIAUAAAAAAN8hBQAAAAAA3yIFAAAAAADfIwYAAAABAADfJAYAAAADA
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CFcQIAAt8DAQj fFwFg3xgBKN8ZAQj fHAIBLN8dAQDfIAUAAAAAAN8hBQAAAAAA3yIFAAAA
ADfIwYAAAABAADfJAYAAAADAADfJQYAAAAFAADfJgYAAAAADAADfJwITiN8wAQ3fMgIAFN8
zAgAy3zQCABLfNQiAGN82AgEs3zcBm19XAJ8BAJ8VAgEwnxYAn04AnzMAnxwA/zWB1980A
wICAt8Pgc2fGgIIQJ81ASGFQAUAUAAAAAAJ9+AQHfDAEC3xsBoN8tAwAADZ9tAgAB3xoDn2o
E3x4BAN8sAQCFcQIAAt8DAQj fFwFg3xgBKN8ZAQj fHAIBLN8dAQDfIAUAAAAAAN8hBQAAA
AAA3yIFAAAAAADfIwYAAAABAADfJAYAAAADAADfJQYAAAAFAADfJgYAAAAADAADfJwITiN8
```

```
wAQ3fMgIAFN8zAgAy3zQCABLfNQIAGN82AgEs3zcBM19XAJ8BAJ8VAgEwnxYAn04AnzMAnxwA/zWB1980AwICA98Pgc2fGgIIQJ81ASGfQAUAAAAAAJ9+AQHfDAEC3xsBoN8tAwAADZ9tAgAB3xoDn2oE3x4BAN8sAQCFcQIAAt8DAQj fFwFg3xgBKN8ZAQj fHAI8BLN8dAQDfIAUAAAAN8hBQAAAAAA3yIFAAAAAADfIwYAAAAABAADfJAYAAAAADAADfJQYAAAAFAADfJgYAAAA DAADfJwITiN8wAQ3fMgIAFN8zAgAy3zQCABLfNQIAGN82AgEs3zcBM19XAJ8BAJ8VAgEwnxYAn04AnzMAnxwA/zWCAQ/fDgMCAwDfD4IBBJ8aAghAnzUBIZ9ABQAAAAAAAn34BAd8MAQLfGwEg3y0DAAANn20CAAHfGgOfagTfHgEA3ywBAJ8JAgAC3wMBCN8XAWDFGAEo3xkBCN8cAgEs3x0BAN8gBQAAAAAA3yEFAAAAAADfIgUAAAAAAN8jBgAAAAEAAN8kBgAAAAAMAAN8lBgAAAAUAAN8mBgAAAAAQAN8nAhOI3zABDd8yAgAU3zMCADLfNAIAEt81AgAY3zYCASzfNwEyX1cAnwEAnxUCAAGfFgCfTgCfMwCfHABfKgIIQJ8dCCxoAAAAAAAN0UCAACfTAgAAAAAAAAAJ9OFE1BR1RFSwAAAAAAAAAAAAAAAAAA/zWB1980AwIDat8Pgc2fGgIIQJ81ASGfQAUAAA AAAAJ9+AQHfDAEC3xsBIN8tAwAADZ9tAgAB3xoDn2oE3x4BAN8sAQCFcQIAAt8DAQj fFwFg3xgBKN8ZAQj fHAI8BLN8dAQDfIAUAAAAAAN8hBQAAAAAA3yIFAAAAAADfIwYAAAAABAADfJAYAAAAADAADfJQYAAAAFAADfJgYAAAAACAADfJwITiN8wAQ3fMgIAFN8zAgAy3zQCABLfNQIAGN82AgEs3zcBM19XAJ8BAJ8VAgEwnxYAn04AnzMAnxwA/zWBmd80AwQEAN8PgY+fCQIAAZ8aAghAnzMDYCgAnzUBIZ9ABQAAAAAAAn20BwN8bbjEBAAAAAN8nASDfLQMAAA/fMAH03zIBAd8gBQAAAAAA3yEFAAAAAADfIgUAAAAAAN8jBgAAAAAgAN8kBgAAAAEAAN8mBgAAAAEAAJ8WDxESExQVfHcYGSaHiImKJZ8eCDYwMjMzMjEy3zEBAf81Yt80AwMFAN8PWZ81ASGfGgIIQJ8zAwAAAJ9ABQAAAAAAAn2YEIgbAAN8bAwAABt8tAwAAD58JAgAB3zAB+N8yAQkfGwQAAA3yMGAAAAACAA3yQGAAAAAFAA3yYGAAAAABAA/zWBkd80AwYGAN8PgYefCQIAAZ8aAghAnzMDAAAAanzUBIZ9mBLYAwADfGwFg3zAB+N8yAQGFgWQAAAAA3yMGAAAAVAA3yQGAAAAwAA3yYGAAAAACAAnxwIMTIzNDU2NzifTg9BQkNERUZHSE1KS0xNTk+FAQYBAgMEBQbfIAUAAAAAN8hBQAAAAAA3yIFAAAAAA="
    },
    {
        "configId": "00000300",
        "hashId": "4",
        "timeStamp": "60C14E92",
        "config":
        "TUdUS0FQMTDBBAAAawDoggKHoAAAAAQFABADuASKvDDJDZdjNlQ+P9cJHI/kgA34IO1V5+1IE+0AVvtXP+yj2Er2ExplHWbP9ChPsTtjXt005AF22L8Et/0ce6z5rHMn36qKpy0Q2zuOcLLd2BHLQZSXSqOGrMM8DZ1FdZfkacTk9T6OHJEsxhjLit3nw1aOkAIua7p3AgLkUiot1iPRgOIVvR0VB/49yQyJENJ7PvzNj4PeMFLK0eSJOMaNCVqsKbXzfii7Sex+1ZegAAAABAYB+APlJvyDC0N4WYvON8ge0zRiL5Yi9MiarmQQRrI1NDOIPzB/t8l0Fi2nL3p0x12dZXM2hluNMCPT1kVmdiXJoHprehN88MZBmK44/COABvsma/QfTzu52hNHJw8vXYxgbkIJWMX31Qpx3jAUL3DeRoiJteOghpW5OKUPyYA5Opy85ErS1k9jC7M60/X1/Uldmfn4GMHZQHE0LgfvvSIZT2A1ul3tOTZQDrgt/abor7ZVse89DX6/hrZt2fKfax0yT+iybOOKsgE90T9hHnpZTWdcRDI1DqJEzDTzhzy6Blkph6HX6FKtwi71ou4oEyAx5I90A347Nkt0f6AAAAAE8QGWA6Dc9L3hnDVGtLbwQU0XTd4pSqu7goxag01zquJ8mbCwU6kCeABYObZFfn/C7zXtLnGxQrALOkTaNob0hqurbx1Nhm32Jto9cmaCdBb4C3R+MW6IOLxP7KifEHT+FytXPZmjnWFHsZu2/mIUf1OQsRMHVnlmEcDsn1bnYg4+g2TJ5+79p4JBkKQnJ6if4mJWVQapnV/X2JBBPbh061TLyPUVFfa6tG0Oz14NQiKL6+nvnjh3kgJTBvxOacAwToLTbjBex3/8="
    }
  ]
}
```

2.3 /api/Key

2.3.1 HEADER PROPERTIES

Property	Value	Description
Authorization *	string	The value should be the Base64 encoding of your Magensa credentials in the string format "CustomerCode/Username:Password". Ex) Basic Q3VzdG9tZXJDb2RIL1VzZXJuYW11OIBhc3N3b3Jk
TransactionID	string	Up to 256 characters. This will be returned to a client as customerTransactionID.
BillingLabel	string	Up to 64 characters.

Note: * = Required

2.3.2 INPUT PROPERTIES

Property	Value	Description
protocol	string	The protocol/class for the device. Currently support MMS only

Note: * = Required

2.3.3 OUTPUT PROPERTIES

Property	Value	Description	
magTranID	string	Magensa Transaction ID	
customerTransactionID	string	Customer TransactionID will be returned to a client.	
Keys	json	id	string
		keyName	string
		description	string
		keySlotNamePrefix	string, base64 encoded value
		ksi	string
		protocol	string
		hsm	string
		derivedKeyType	string
		keyTypeRestrictionBitmask	string
		dukptDataTypeRestrictionBitmask	string
		dateCreated	string
dateModified	string		

Request JSON

```
{{baseUrl}}/api/Key?protocol=MMS
```

Sample Request:

```
GET /RemoteServicesV3/api/Key?protocol=MMS HTTP/1.1
Host: devgw.magensa.dev
TransactionID: 11111111-2222-3333-4444-555555555555
BillingLabel: billing label
Authorization: Basic {AUTHORIZATION HEADER VALUE}
```

Sample Response:

```
HTTP/1.1 200 OK
Content-Type: application/json; charset=utf-8
Server: Microsoft-IIS/10.0
X-Powered-By: ASP.NET
Date: Wed, 09 Jun 2021 21:53:08 GMT
Content-Length: {LENGTH}

{
  "magTranID": "b25844cb-20c2-4011-9cfd-1df25aae9129",
  "customerTransactionID": "11111111-2222-3333-4444-555555555555",
  "keys": [
    {
      "id": 51,
      "keyName": "Apollo Key3",
      "description": "Apollo Test Key 3",
      "keySlotNamePrefix": "PROD_DYNA_SCRA_MAGTEK",
      "ksi": "9070030",
      "protocol": "MMS",
      "hsm": "HSMCoreV2",
      "derivedKeyType": "3DES-DUKPT",
      "keyTypeRestrictionBitmask": null,
      "dukptDataTypeRestrictionBitmask": "003F",
      "dateCreated": "2020-09-30T21:32:49.417",
      "dateModified": "2020-09-30T21:32:49.417"
    },
    {
      "id": 1097,
      "keyName": "Apollo Key6",
      "description": "Apollo Test key 6",
      "keySlotNamePrefix": "PROD_DYNA_SCRA_MAGTEK",
      "ksi": "20000002",
      "protocol": "MMS",
      "hsm": "HSMCoreV2",
      "derivedKeyType": "3DES-DUKPT",
      "keyTypeRestrictionBitmask": null,
      "dukptDataTypeRestrictionBitmask": "003F",
      "dateCreated": "2020-11-02T20:18:20.797",
      "dateModified": "2020-11-02T20:18:47.04"
    }
  ]
}
```

2.4 /api/Key/token

2.4.1 HEADER PROPERTIES

Property	Value	Description
Authorization *	string	The value should be the Base64 encoding of your Magensa credentials in the string format "CustomerCode/Username:Password". Ex) Basic Q3VzdG9tZXJDb2RIL1VzZXJuYW11O1Bhc3N3b3Jk
TransactionID	string	Up to 256 characters. This will be returned to a client as customerTransactionID.
BillingLabel	string	Up to 64 characters.

Note: * = Required

2.4.2 INPUT PROPERTIES

Property	Value	Description
protocol *	string	The protocol/class for the device. Currently support MMS only
productName *	string	Product Name
keyDerivationData *	string	Key derivation data. 32 hex value.
keyRestriction *	string	Key restriction 4 hex value.
transportKeyID *	string	ID of the transport key. 4 digits
deviceChallenge *	string	The challenge from device. 16 hex value
deviceSN *	string	Device serial number. 7 hex value
keySlotID *	string	ID of the key slot for the injected key. 4 digits
currentKSN *	string	Key Serial Number. 20 hex for 3DES-DUKPT, 24 hex for AES128-DUKPT
targetKSI *	string	The target KSI of the base key.

Note: * = Required

2.4.3 OUTPUT PROPERTIES

Property	Value	Description
magTranID	string	Magensa Transaction ID
customerTransactionID	string	Customer TransactionID will be returned to a client.
updateToken	string	Generated key update token
isRawCommand	boolean	Flag to indicate whether the Key updateToken is raw command or not

Request JSON

```
{
  "protocol": "<string>",
  "productName": "<string>",
  "keyDerivationData": "<string>",
  "keyRestriction": "<string>",
  "transportKeyID": "<string>",
  "deviceChallenge": "<string>",
  "deviceSN": "<string>",
  "keySlotID": "<string>",
  "currentKSN": "<string>",
  "targetKSI": "<string>"
}
```

Sample Request:

```
POST /RemoteServicesV3/api/Key/token HTTP/1.1
Host: devgw.magensa.dev
TransactionID: 11111111-2222-3333-4444-555555555555
BillingLabel: magensa billing
Content-Type: application/json
Authorization: Basic {AUTHORIZATION HEADER VALUE}
Content-Length: 343
```

```
{
  "protocol": "MMS",
  "productName": "DYNAFLEX",
  "keyDerivationData": "01010404108102002000000155667788",
  "keyRestriction": "0000",
  "transportKeyID": "1081",
  "deviceChallenge": "B8254994B8EF0CC3",
  "deviceSN": "B008C21",
  "keySlotID": "2007",
  "currentKSN": "9010010B008C21E00001",
  "targetKSI": "9010010"
}
```

Sample Response:

```
HTTP/1.1 200 OK
Content-Type: application/json; charset=utf-8
Server: Microsoft-IIS/10.0
X-Powered-By: ASP.NET
Date: Wed, 09 Jun 2021 19:14:25 GMT
Content-Length: 473
```

```
{
  "magTranID": "01c722c6-bb3c-427e-87dc-5ea7a1655dcd",
  "customerTransactionID": "11111111-2222-3333-4444-555555555555",
}
```

```
    "updateToken":  
    "D0320B1TX00N0600IK189010010B008C210000002158MGTK1001T1104200712041081  
2104003F3107B008C213210B8254994B8EF0CC3331020210609T191426ZKP0E0153CE3  
16FKC0C00431B28TS1420210609T191426ZPB12RWESFQSQYZKZPYEEDCEF59EDCA964D6  
3B17B0663CEF65577247AD2A83F41E98261E86A05F1AECDD0C0CDAA3F09335181F85F31  
24440D6E1C332FCB6647C6B6B6C2B6FAC23C897A2",  
    "isRawCommand": false  
}
```


3 Error Codes and Reasons

3.1 Sample Error Response

```
HTTP/1.1 400 Bad Request
Content-Type: application/json; charset=utf-8
Server: Microsoft-IIS/10.0
X-Powered-By: ASP.NET
Date: Mon, 14 Jun 2021 22:22:21 GMT
Content-Length: 132

{
  "magTranID": "78bf8299-a19c-405d-9ecb-a635e838480d",
  "customerTransactionID": null,
  "code": "631",
  "message": "Protocol is not supported"
}
```

Error code is returned as specific number with the error message. Please refer to 3.2 for all error codes and 3.3 for Http Status Code

3.2 Error Codes and Reasons

Error Code	Reason
601	DeviceSN is required
602	KSN is required
603	401 Unauthorized. Customer Code is required
604	401 Unauthorized. Username is required
605	401 Unauthorized. Password is required
606	KSI is required
607	Invalid KSN
608	DeviceCert is required
609	KeyName is required
610	Challenge is required
611	Invalid KeyType
612	Command Data Error
613	Invalid Config
614	Invalid KeyType
615	Invalid CustomerTransactionID
616	Invalid BillingLabel
617	Invalid KeyID
618	Invalid UpdateToken
619	UpdateToken is required
620	Invalid CommandID
621	XMLString is required
622	SerialNumber is required
623	Invalid SerialNumber
624	Invalid ConfigCommand
625	Invalid KSI
626	Invalid DeviceCert
627	Invalid Challenge
628	Invalid DeviceSN
629	Invalid ExecutionType
630	Invalid PAN
631	Invalid Protocol

3 - Error Codes and Reasons

Error Code	Reason
632	Invalid FileBase64
633	Invalid KeyDerivationData
634	Invalid KeyDerivationAlgorithm
635	Invalid EMVConfigData
636	Invalid ProductName
637	Invalid KeyRestriction
638	Invalid KeySlotID
639	Invalid TransportKeyID
699	Invalid Input
701	401 Unauthorized. Access Denied
702	500 Internal Server Error. Device Not Allowed
703	500 Internal Server Error. HP Error
704	Invalid Command Type
705	500 Internal Server Error. No Records Found
706	500 Internal Server Error. KSID Access Denied
707	500 Internal Server Error. KCV Mismatch
708	500 Internal Server Error. iCFG Error
709	Invalid DeviceType
710	500 Internal Server Error. KSN Error
711	500 Internal Server Error. Keyload Not Allowed
1010	401 Unauthorized. UserLockedOut
1011	401 Unauthorized. UserNotActive
1012	401 Unauthorized. User is blocked
1013	401 Unauthorized. User Credential Failure
1201	500 Internal Server Error. Internal Error
1301	500 Internal Server Error. System Error
1302	500 Internal Server Error. Database Error
5000	500 Internal Server Error. Unknown Error

3.3 HTTP Status Codes

3.3.1 200 OK

The request has been succeeded.

3.3.2 400 Bad Request

The service cannot or will not process the request due to an input error. In this case, the service returns error code and error message.

3.3.3 401 Unauthorized

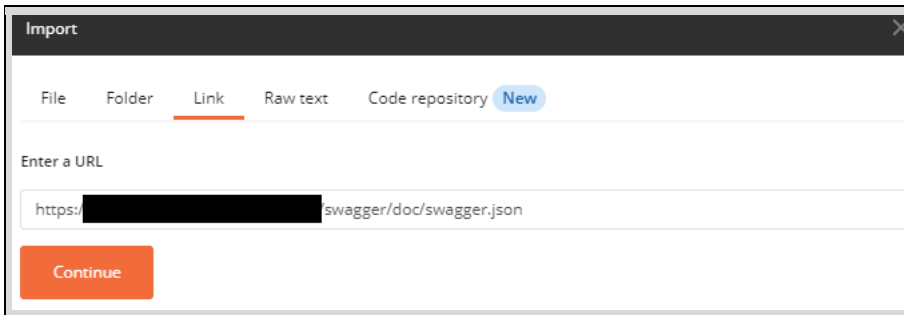
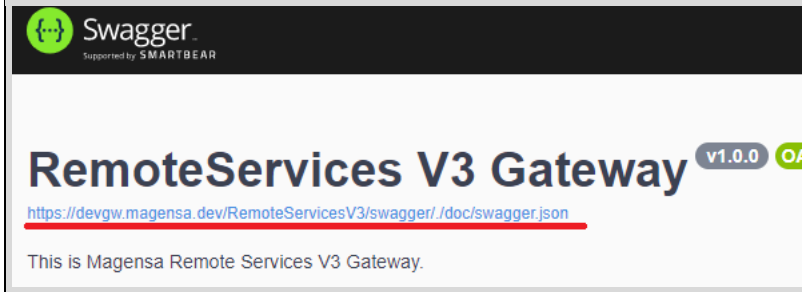
If the credential for Basic Auth is not correct, 401 Unauthorized will be sent with error code and error message. Please look for 401 Unauthorized in the error code list. For example, 1013.

3.3.4 500 Internal Server Error

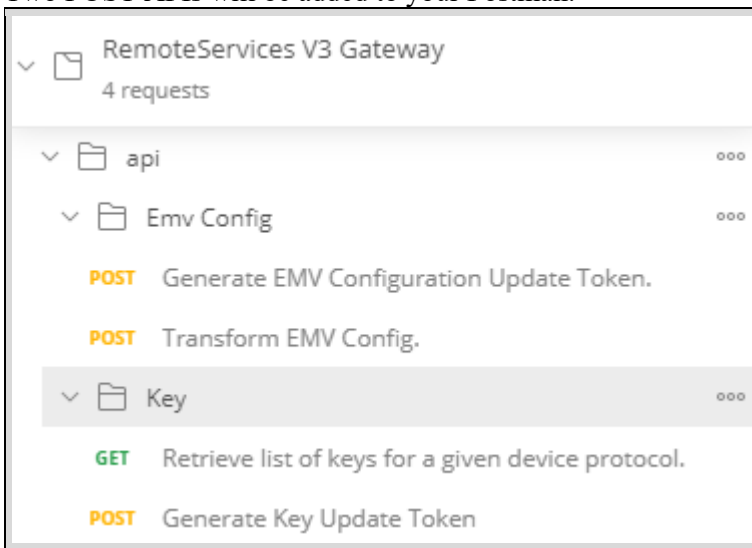
when an unexpected condition was encountered, 500 Internal Server will be sent with error code and error message. Please look for 500 Internal Server Error in the error code list. For example, 1302.

Appendix A Postman

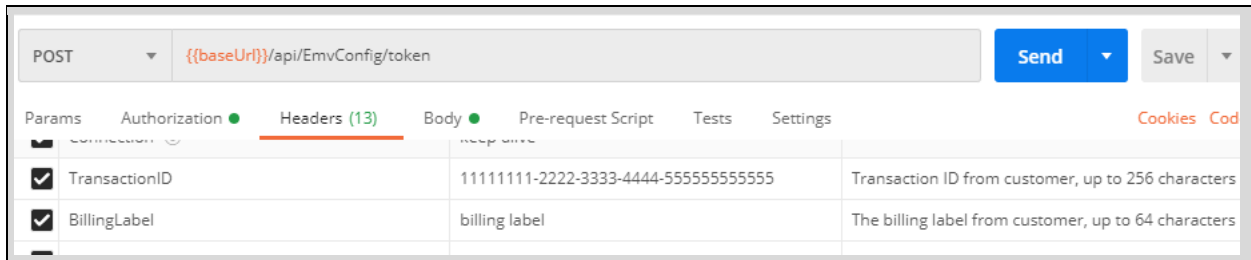
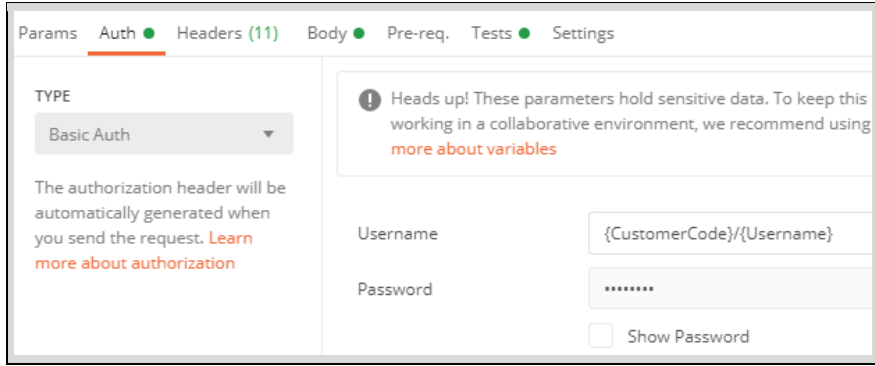
If Postman is used to import swagger.json to APIs,
Copy and paste the full path of swagger.json from the swagger page.



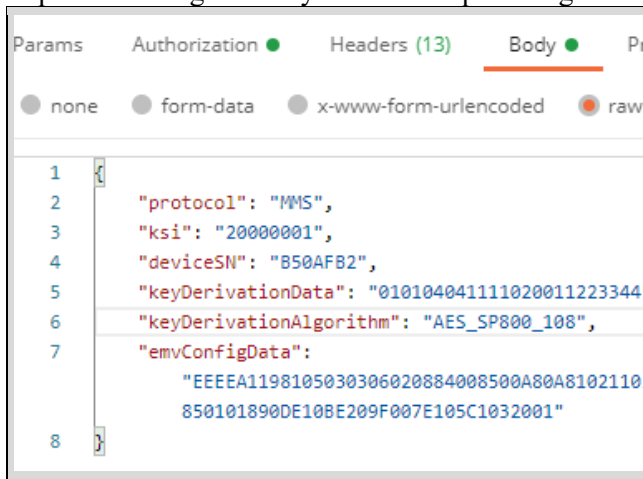
Two POST APIs will be added to your Postman.



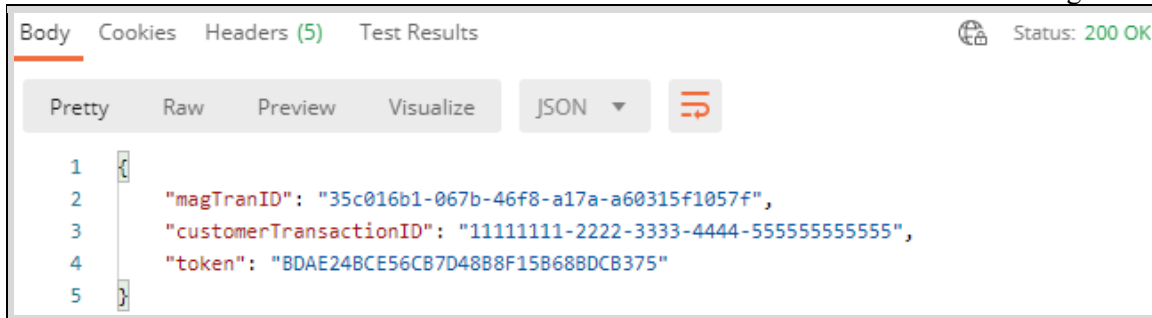
Setup your Basic Auth with CustomerCode/Username and Password provided by MagTek.
If necessary, TransactionID and BillingLabel need to be filled in the Header.



Replace “<string>” with your JSON input strings. Refer to the samples Chapter #2.



And the token value is sent from RemoteServices V3 with customerTransactionID and magTranID



Appendix B Example Flow of changing EMV Configurations

A EMV configuration excel file needs to be converted to Base64String and sent to /api/EmvConfig/transform as fileBase64 field.

Request:

```
{
  "protocol": "MMS",
  "fileBase64": "{BASE64 ENCODED EXCEL FILE}"
  "IsLegacyExcel": false
}
```

Response from /api/EmvConfig/transform:

```
{
  "magTranID": "faed4221-4842-48b3-be63-3d196e2c547b",
  "customerTransactionID": "11111111-2222-3333-4444-555555555555",
  "configName": "a3906b40",
  "version": "X01",
  "bins": [
    {
      "configId": "00000000",
      "hashId": "4",
      "timeStamp": "60C7BBC2",
      "config":
      "TUdUS0FQMTDBBAAAAADogYaqJuObN6NsoSW80L72uEy1krsRwbGfGgIIQN95AQGfNQEh3
woBAZ8zA+AoAJ9ABf+A8LAB31UBAd8LAQHfJwEK3wYBAd8IAQDfegEB3w0BAN8QAwAAAN9
7AQDfBwEB3wkBAd9zBQAAAAAA33QFAAAAAADfdQUAAAAAN9TAQDfVAEA33wBAA=="
    },
    {
      "configId": "00000100",
      "hashId": "4",
      "timeStamp": "60C7BBC2",
      "config":
      "TUdUS0FQMTDBBAAAAQDoggSjqhwnyzl30/MbLskG2voRgcEVuj42/zNtnwEG8gAAAAAAT
wegAAAABBAQ334BAZ8JAgAA3xEBAN8SAQDfEwEA3xQBAN8VAQDfIAUAAAAAN8hBQAAAA
A3yIFAAAAACfGwQAAAAA33ABAN9uAwAAAN9vAQDfAQEA3wIBAF8qAgAAXzYBAP8zbZ8BB
vIAAAAAAE8HoAAAAAQia99...
:
:
:
{
  "configId": "00000300",
  "hashId": "4",
  "timeStamp": "60C7BBC2",
  "config":
  "TUdUS0FQMTDBBAAAAwDoggKHoAAAAQFABADuASKvDDJDZdjNlQ+P9cJHI/kgA34IO1V5
+lIE+0AVVtXP+yj2Er2ExplHWbP9ChPsTtjXt0O5AF22L8Et/0ce6z5rHMn36qKpy0Q2zu
```

Appendix B - Example Flow of changing EMV Configurations

```
OcLLd2BHLQZZSXqOGrMM8DZ1FdZfkacTk9T6OHJEsxhjLIIt3nw1aOkAIua7p3AgLkUiot1
iPRgOIVvR0VB/...
    }
}
```

Convert

```
TUdUS0FQMTDBBAAAAADogYaqJuObN6NsoSW80L72uEy1krsRwbGfGgIIQN95AQGfNQEH3wo
BAZ8zA+AoAJ9ABf+.....
```

To Hex String.

And send it to /api/EmvConfig/Token as emvConfigData field.

```
{
  "protocol": "MMS",
  "ksi": "20000001",
  "deviceSN": "B50AFB2",
  "keyDerivationData": "01010404111102001122334455667788",
  "keyDerivationAlgorithm": "AES_SP800_108",
  "emvConfigData":
  "4D47544B41503130C10400000000CE8186AA26E39B37A36CA125BCD0BEF6B84CB592B
  B11C1B19F1A020840DF7901019F350121DF0A01019F3303E028009F4005FF80F0B001D
  F550101DF0B0101DF27010ADF060101DF080100DF7A0101DF0D0100DF1003000000DF7
  B0100DF070101DF090101DF73050000000000DF74050000000000DF7505000000000D
  F530100DF540100DF7C0100"
}
```


Appendix C Example Flow of Key Load

Call /api/Key?Protocol=MMS to get a list of available keys

Response from /api/Key:

```
{
  "magTranID": "03fd0857-a34c-49a1-9ab3-b21427329088",
  "customerTransactionID": "11111111-2222-3333-4444-555555555555",
  "keys": [
    {
      "id": 1046,
      "keyName": "Apollo Key1",
      "description": "Apollo Test Key 1",
      "keySlotNamePrefix": "PROD_DYNA_SCRA_MAGTEK",
      "ksi": "9010010",
      "protocol": "MMS",
      "hsm": "HSMCoreV2",
      "derivedKeyType": "3DES-DUKPT",
      "keyTypeRestrictionBitmask": null,
      "dukptDataTypeRestrictionBitmask": "003F",
      "dateCreated": "2020-10-02T17:42:58.077",
      "dateModified": "2020-10-02T17:42:58.077"
    },
    {
      "id": 1047,
      "keyName": "Apollo Key2",
      "description": "Apollo Test Key 2",
      "keySlotNamePrefix": "PROD_DYNA_SCRA_MAGTEK",
      "ksi": "9011400",
      "protocol": "MMS",
      "hsm": "HSMCoreV2",
      "derivedKeyType": "3DES-DUKPT",
      "keyTypeRestrictionBitmask": null,
      "dukptDataTypeRestrictionBitmask": "003F",
      "dateCreated": "2020-10-02T17:42:58.077",
      "dateModified": "2020-10-02T17:42:58.077"
    },
    {
      "id": 1097,
      "keyName": "Apollo Key6",
      "description": "Apollo Test key 6",
      "keySlotNamePrefix": "PROD_DYNA_SCRA_MAGTEK",
      "ksi": "20000002",
      "protocol": "MMS",
      "hsm": "HSMCoreV2",
      "derivedKeyType": "3DES-DUKPT",
      "keyTypeRestrictionBitmask": null,
      "dukptDataTypeRestrictionBitmask": "003F",
      "dateCreated": "2020-11-02T20:18:20.797",
      "dateModified": "2020-11-02T20:18:47.04"
    }
  ]
}
```

```
  ] }
```

If Apollo Key1 is selected from the list above, ksi 9010010 will be sent to /api/Key/token as targetKSI.

Request:

```
{
  "protocol": "MMS",
  "productName": "DYNAFLEX",
  "keyDerivationData": "01010404108102002000000155667788",
  "keyRestriction": "0000",
  "transportKeyID": "1081",
  "deviceChallenge": "B8254994B8EF0CC3",
  "deviceSN": "B008C21",
  "keySlotID": "2007",
  "currentKSN": "9010010B008C21E00001",
  "targetKSI": "9010010"
}
```