INTERFACE SPECIFICATION

ON

DATA MANAGEMENT SYSTEM

FOR

BUILDINGS ENERGY EFFICIENCY ORDINANCE

FOR

ENERGY EFFICIENCY OFFICE

OF

ELECTRICAL AND MECHANICAL SERVICES DEPARTMENT (EMSD)

機電工程署
EMSD

By

AUTOMATED
AUTOMATED SYSTEMS (HK) LTD.
自 動 系 統 （ 香 港 ） 有 限 公 司

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INTERFACE SPECIFICATION ON DATA MANAGEMENT SYSTEM FOR BUILDINGS ENERGY EFFICIENCY
ORDINANCE FOR ENERGY EFFICIENCY OFFICE OF ELECTRICAL AND MECHANICAL SERVICES DEPARTMENT
(EMSD)

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Date: _____   Date: _____

Amendment History				
Change Number	Revision Description	Section Affected	Revision Number	Date
1	Draft Version	All	0.1	09/11/2021
2	Second Draft (added Forms EE1-EE4)	All	0.2	11/11/2021
3	Third Draft (added Get All Profile(s) and updated EE1-EE4)	All	0.3	19/11/2021
4	Fourth Draft (added Get All Profile(s) sample response and signature creation and verification)	All	0.4	01/12/2021
5	Fifth Draft (added Get District, Get REA Registry, Get COCR Submission, Get Bec and Payment Completed)	All	0.5	15/12/2021
6	Sixth Draft (updated field length of district related fields)	All	0.6	19/01/2022
7	Remove parentForm	EE3, EE4	0.7	28/02/2022

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1. ENCRYPTION AND DECRYPTION

According to the "Backend API Specification", AES encryption should be used between
WBRS and backend system. Following are the encryption/decryption algorithm details:

Name	Value	Description
Algorithm Name	AES	The encryption algorithm name
Algorithm Mode	CBC	The mode of algorithm
Algorithm Paddings	PKCS5Padding	The padding of algorithm
Encryption Key	256-bit Encryption Key	Generate according to "Backend API Specification – Appendix A", and shared between WBRS and backend system
Client ID	UUID Version-4	Generate according to "Backend API Specification – Appendix A", and shared between WBRS and backend system
Client Secret	128-bit Encryption Key	Generate according to "Backend API Specification – Appendix A", and shared between WBRS and backend system. The client secret is specifically chosen 128-bit length to use as a random initialization vector (IV) for AES CBC mode.

The encrypted content should be encoded to BASE64 format before submitting through the
API. Vice versa, the encrypted text should be decoded from BASE64 format before
decryption.

2. SIGNATURE CREATION AND VERIFICATION

Name	Value	Description
Algorithm Name	HMAC SHA-256	The encryption algorithm name
Client ID	UUID Version-4	Generate according to "Backend API Specification – Appendix A", and shared between WBRS and backend system
Client Secret	128-bit Encryption Key	Generate according to "Backend API Specification – Appendix A", and shared between WBRS and backend system. The client secret is specifically chosen 128-bit length to use as a secret key for HMACSHA256 encryption to Create Signature and Verify Signature.
nonce	UUID Version-4	A nonce is a random string, uniquely generated for each response by backend system API, and shared between WBRS and backend system. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met. For verifying signature, nonce is passed from request header of API and used to create a new signature to be compared.

Sample Code for Signature Creation

```
public string CreateSignature(String nonce, String encryptedContent)
    {
        String key = WebConfigurationManager.AppSettings["aesIv"];

        using (var hmacsha256 = new HMACSHA256(Encoding.UTF8.GetBytes(key)))
        {
            var hash = hmacsha256.ComputeHash(Encoding.UTF8.GetBytes(nonce +
             encryptedContent));
            var signature = Convert.ToBase64String(hash);
            return signature;
        }
    }
```

3. GET ALL PROFILE(S)

API Description

Name	Description
Service Full Name	Get profiles from the given account
URL	<Backend_Service_Domain>/{Version}/GetAllProfiles
Request Type	POST
Service Version	1
Description of Service	This API is to retrieve the role of the given account for WBRS verity or manage role. Both valid and invalid roles shall be returned to WBRS for account management.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
hkid	String	Required	HKID Number

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".
encryptedContent	String	Optional	Return NULL if the code is not "D00000". Details please refer to below section "Response – Content".

Response - Content

Parameter	Type	Condition	Description
Profile	Profile Array	Required	Details please refer to below section "Content - Profile".

Content - Profile

Parameter	Type	Condition	Description
Type	String	Required	Pre-defined role type.
Identifier	String	Required	For create user account. (REA1, REA3)
ExpiryDate	long	Optional	It will be expressed in the number of milliseconds since January 1, 1970 00:00:00 GMT.

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	The parameter "hkid" is null.
D20002	Parameter is wrong.	The value of "hkid" is not found.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "hkid": "A123456(7)"
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514925f",
  "encryptedContent":"P8cyvYML+Ja+RJ7XUNN6sWjckHBjrQz/pM6rLerzFKbaVNoHK
mRvXIC8qwdVwRi5l92VO0cj4uUon5rekd41Q/uRh6VooY3Dun0ajuN9FAJY1+GuHGhE
1ZubRWIq6ls1urXBR7oLIVHat+aqjhtqmtnwRIdZdMQROH2mx1TrEec="
}
```

Sample Response (without encryption)

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514925f",
  "Profile":[
    {
      "Type":"REA1" ,
      "Identifier": "REA1",
      "ExpiryDate": "1638375778825"
    }
  ]
}
```

4. GET DISTRICT

API Description

Name	Description
Service Full Name	Get district from the given account
URL	<Backend_Service_Domain>/{Version}/ GetDistrict
Request Type	POST
Service Version	1
Description of Service	This API is to retrieve the role of the given account for WBRS verity or manage role. Both valid and invalid roles shall be returned to WBRS for account management.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".
encryptedContent	String	Optional	Return NULL if the code is not "D00000". Details please refer to below section "Response – Content".

Response - Content

Parameter	Type	Condition	Description
District	District Array	Required	Details please refer to below section "Content - District".

Content - District

Parameter	Type	Condition	Description
id	Int		ID
districtCd	String(3)		District Code

ename	String(255)		English Name
cname	String(255)		Chinese Name
scname	String(255)		Second Chinese Name
areaCd	Int		Area Code
remark	String(255)		Remark
modifyDt	String(8)		Modify Date

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514925f",
  "encryptedContent":"P8cyvYML+Ja+RJ7XUNN6sWjckHBjrQz/pM6rLerzFKbaVNoHK
mRvXIC8qwdVwRi5l92VO0cj4uUon5rekd41Q/uRh6VooY3Dun0ajuN9FAJY1+GuHGhE
1ZubRWIq6ls1urXBR7oLIVHat+aqjhtqmtnwRIdZdMQROH2mx1TrEec="
}
```

Sample Response (without encryption)

```
{
  " District":[
    {
      " id ":1 ,
      " districtCd ": "001",
      " ename ": " Aberdeen",
      " cname ": "香港仔"
      " scname ": "香港仔",
      " areaCd ": 1,
      " remark ": "",
      " modifyDt ": "20211213"
    }
  ]
}
```

5. GET REA REGISTRY

API Description

Name	Description
Service Full Name	GetReaRegistry from the given account
URL	<Backend_Service_Domain>/{Version}/ GetReaRegistry
Request Type	POST
Service Version	1
Description of Service	This API is to retrieve the role of the given account for WBRS verity or manage role. Both valid and invalid roles shall be returned to WBRS for account management.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
hkid	String	Required	HKID Number

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".
encryptedContent	String	Optional	Return NULL if the code is not "D00000". Details please refer to below section "Response – Content".

Response - Content

Parameter	Type	Condition	Description
rearegno	String(25)	Required	REA Registered No
engname	String(256)		English Name
chiname	String(256)		Chinese Name
regdate	String		Registered Date
expirydate	String		Expiry Date
contacttel	String(50)		Contact Telephone
emailaddr	String(256)		Email Address
engremarks	String(256)		English Remarks
chiremarks	String(256)		Chinese Remarks
status	Int		Status
displayemail	String(1)		Display Email Address
displaycontact	String(1)		Display Contact Telephone
emailaddrnotify	String(256)		Email Address for Notification
createdate	String		Create Date
createby	String(50)		Create By
updatedate	String		Update Date
updateby	String(50)		Update By
caseno	String(20)		Case No
regdatefirst	String		Registered Date First
expriydatefirst	String		Expriy Date First
titleId	Int		Title ID
dateOfBirth	String		Date Of Birth
addrSt	String(300)		Address Street
compName	String(300)		Company Name
compAddrSt	String(300)		Company Address Street
compPost	String(300)		Company Post
officeTelNo	String(50)		Office Telephone No
faxNo	String(50)		Fax No
hkid	String		Hong Kong ID

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	The parameter "hkid" is null.
D20002	Parameter is wrong.	The value of "hkid" is not found.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

{

```
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "hkid": "J1111111"
}
```

Sample Response

```
{
    "code":"D00000",
    "message":"D00000",
    "txID":"0514925f",
    "encryptedContent":"P8cyvYML+Ja+RJ7XUNN6sWjckHBjrQz/pM6rLerzFKbaVNoHK
mRvXIC8qwdVwRi5l92VO0cj4uUon5rekd41Q/uRh6VooY3Dun0ajuN9FAJY1+GuHGhE
1ZubRWIq6ls1urXBR7oLIVHat+aqjhtqmtnwRIdZdMQROH2mx1TrEec="
}
```

Sample Response (without encryption)

```
{
    " rearegno": "EA01070G",
    " engname": "EA01070G_E",
    " chiname": "EA01070G_C",
    " regdate": "20211213",
    " expirydate": "20211213",
    " contacttel": "0011 3271",
    " emailaddr": "a@a.com",
    " engremarks": "001",
    " chiremarks": "001",
    " status": 1,
    " displayemail": "",
    " displaycontact": "",
    " emailaddrnotify": "",
    " createdate": "20211213",
    " createby": "ASL99",
    " updatedate": "20211213",
    " updateby": "ASL99",
    " caseno": "01070",
    " regdatefirst": "20211213",
    " expriydatefirst": "20211213",
    " titleId": 1,
    " dateOfBirth": "20211213",
    " addrSt": "Flat B, 8/F., Block 13, Sceneway Garden, 8 Sceneway Road, Lam Tin,
Kowloon",
    " compName": "DFS Group Limited",
    " compAddrSt": "8/F., Chinachem Golden Plaza, 77 Mody Road, Tsim Sha Tsui, Kowloon",
    " compPost": "Senior Manager, Facilities Management",
    " officeTelNo": "0011 3271",
    " faxNo": "2571 9662",
    " hkid": ""
```

```
}
```

6. GET COCR SUBMISSION

API Description

Name	Description
Service Full Name	GetCocrSubmission from the given account
URL	<Backend_Service_Domain>/{Version}/ GetCocrSubmission
Request Type	POST
Service Version	1
Description of Service	This API is to retrieve the role of the given account for WBRS verity or manage role. Both valid and invalid roles shall be returned to WBRS for account management.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
caseNo	String	Required	Case Number

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".
encryptedContent	String	Optional	Return NULL if the code is not "D00000". Details please refer to below section "Response – Content".

Response - Content

Parameter	Type	Condition	Description
submissiontype	Int	Required	Submission Type
recevieddate	String(8)		Received Date
buildingid	Int		Building ID
becedition	String(30)		BEC Edition
developerid	Int		Developer ID
devdeclaredate	String(8)		Dev Declare Date
ownerid	Int		Owner ID
ownerdeclaredate	String(8)		Owner Declare Date
rearegno	String(25)		REA Reg. No.
readeclaredate	String(8)		REA Declare Date
categorycode	String(10)		Category Code
consentdate	String(8)		Consent Date
consentref	String(50)		Consent Ref
commencedate	String(8)		Commence Date
opdate	String(8)		Op Date
opref	String(10)		Op Ref
cocrregno	String(25)		Cocr Register No
caseno	String(20)		Case No
esubmissionref	String(50)		E Submission Ref
esubmissiondate	String(8)		E Submission Date
statuscode	String(10)		Status Code
createdate	String(8)	Required	Create Date
createby	String(50)		Create By
updatedate	String(8)		Update Date
updateby	String(50)		Update By
subjectengineer	String(50)		Subject Engineer
subjectinspector	String(50)		Subject Inspector
ackdate	String(8)		Ack Date
screenby	String(50)		Screen By
screendate	String(8)		Screen Date
reviewby	String(50)		Review By
reviewdate	String(8)		Review Date
dtClosefile	String(8)		File Closure Date
cocrregdate	String(8)		Cocr register Date
lastclarifydate	String(8)		Last Clarify Date
opyear	Int		Op Year
opmonth	Int		Op Month
opday	Int		Op Day
dateexempreceived	String(8)		Exempt Received Date
datereject	String(8)		Reject Date
dateapproval	String(8)		Approval Date
reminderletterissuedatecocr1	String(8)		Reminder letter IssueDate COCR1
reminderletterissuedatecocr2	String(8)		Reminder letter IssueDate COCR2
inIssuedate	String(8)		IN Issue Date
inExpirydate	String(8)		IN Expiry Date

inReferenceno	String		IN Reference No
inRemarks	String		IN Remarks
cocrIssuedate	String(8)		COCR Issue Date
cocrExpirydate	String(8)		COCR Expiry Date
cocrCertno	String		COCR Cert Number
areainternfloor	double		Intern Floor Area
gfaNondomestic	double		GFA Non Domestic
gfaDomestic	double		GFA Domestic
carparkno	Int		Carpark No
Party	Array of Objects		Party Refer to: **Response – Content–** Party

Response – Content– Party

Parameter	Type	Condition	Description
partyid	Int	Required	Party ID
partytype	String(1)	Required	Party Type
engname	String(256)		English Name
chiname	String(256)		Chinese Name
salutation	String(10)		Salutation
representid	Int		Represent ID
repposition	String(256)		Rep Position
corraddr	String(1024)		Corr Address
phoneno	String(50)		Phone No
faxno	String(50)		Fax No
emailaddress	String(50)		Email Address
createdate	String(8)		Create Date
createby	String(50)		Create By
updatedate	String(8)		Update Date
updateby	String(50)		Update By
corresAddrFlat	String(50)		Corres Address Flat
corresAddrFloor	String(50)		Corres Address Floor
corresAddrBlock	String(50)		Corres Address Block
corresAddrBldg	String(255)		Corres Address Bldg
corresAddrStartNo	Int		Corres Address StartNo
corresAddrStartNoAlpha	String(10)		Corres Address StartNo Alpha
corresAddrEndNo	Int		Corres Address EndNo
corresAddrEndNoAlpha	String(10)		Corres Address EndNo Alpha
corresAddrSt	String		Corres Address Street
corresAddrDistrictCd	String(3)		Corres Address District Code
corresAddrAreaCd	Int		Corres Address Area Code
roleid	Int		Rold ID

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	The parameter "caseNo" is null.
D20002	Parameter is wrong.	The value of "caseNo" is not found.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    " caseNo": "J1111111"
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514925f",
  "encryptedContent":"P8cyvYML+Ja+RJ7XUNN6sWjckHBjrQz/pM6rLerzFKbaVNoHK
mRvXIC8qwdVwRi5l92VO0cj4uUon5rekd41Q/uRh6VooY3Dun0ajuN9FAJY1+GuHGhE
1ZubRWIq6ls1urXBR7oLIVHat+aqjhtqmtnwRIdZdMQROH2mx1TrEec="
}
```

Sample Response (without encryption)

```
{
  "submissionid":1,
  "submissiontype":10,
  "recevieddate":"20211213",
  "buildingid":204,
  "becedition":"2012",
  "developerid":1
  "devdeclaredate":"20211213",
  "ownerid":1,
  "ownerdeclaredate":"20211213",
  "rearegno":"EA00578G",
  "readeclaredate":"20211213",
```

```
"categorycode":"IN",
"consentdate":"20211213",
"consentref":"BD 2/2055/07",
"commencedate":"20211213",
"opdate":"20211213",
"opref":"NT 53/2013",
"cocrregno":"",
"caseno":"EMSD/EEO/BC/34-06091",
"esubmissionref":"",
"esubmissiondate":"20211213",
"statuscode":"2500",
"createdate":"20211213",
"createby":"SYS",
"updatedate":"20211213",
"updateby":"SYS",
"subjectengineer":"E/EEB15/1",
"subjectinspector":"TO/EEB3",
"ackdate":"20211213",
"screenby":"BSI/EEB7/2",
"screendate":"20211213",
"reviewby":"E/EEB5/1",
"reviewdate":"20211213",
"dtClosefile":"20211213",
"cocrregdate":"20211213",
"lastclarifydate":"20211213",
"opyear":2021,
"opmonth":12,
"opday":13,
"dateexempreceived":"20211213",
"datereject":"20211213",
"dateapproval":"20211213",
"reminderletterissuedatecocr1":"20211213",
"reminderletterissuedatecocr2":"20211213",
"inIssuedate":"20211213",
"inExpirydate":"20211213",
"inReferenceno":"",
"inRemarks":"",
"cocrIssuedate":"20211213",
"cocrExpirydate":"20211213",
"cocrCertno":"",
"areainternfloor":1,
"gfaNondomestic":1,
"gfaDomestic":1,
"carparkno":1
"Party":[{
    "partyid":1,
    "partytype":"C",
    "engname":"MTR Corporation Limited",
    "chiname":"香港鐵路有限公司",
```

```
    "salutation":"",
     "representid":1,
    "repposition":"",
    "corraddr":"7/f, Centre Point, 181-185 Gloucester Road , Wan Chai, Hong Kong",
    "phoneno":"3462 6218",
    "faxno":"3464 0911",
    "emailaddress":"tclam3@mtr.com.hk",
    "createdate":"20211213",
    "createby":"SYS",
    "updatedate":"20211213",
    "updateby":"SYS",
    "corresAddrFlat":"",
    "corresAddrFloor":"7",
    "corresAddrBlock":"",
    "corresAddrBldg":"Centre Point",
    "corresAddrStartNo":1,
    "corresAddrStartNoAlpha":"",
    "corresAddrEndNo":1,
    "corresAddrEndNoAlpha":"",
    "corresAddrSt":"",
    "corresAddrDistrictCd":"",
    "corresAddrAreaCd":1,
    "roleid":1
}]
  }
```

7. GET BEC

API Description

Name	Description
Service Full Name	Get Bec from the given account
URL	<Backend_Service_Domain>/{Version}/ GetBec
Request Type	POST
Service Version	1
Description of Service	This API is to retrieve the role of the given account for WBRS verity or manage role. Both valid and invalid roles shall be returned to WBRS for account management.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".
encryptedContent	String	Optional	Return NULL if the code is not "D00000". Details please refer to below section "Response – Content".

Response - Content

Parameter	Type	Condition	Description
Bec	District Array	Required	Details please refer to below section "Content - Bec".

Content - Bec

Parameter	Type	Condition	Description
becedition	String(30)		BECEdition

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514925f",
  "encryptedContent":"P8cyvYML+Ja+RJ7XUNN6sWjckHBjrQz/pM6rLerzFKbaVNoHK
mRvXIC8qwdVwRi5l92VO0cj4uUon5rekd41Q/uRh6VooY3Dun0ajuN9FAJY1+GuHGhE
1ZubRWIq6ls1urXBR7oLIVHat+aqjhtqmtnwRIdZdMQROH2mx1TrEec="
}
```

Sample Response (without encryption)

```
{
  " Bec ":[
    {
      " BECEdition ": "2012"
    }, {
      " BECEdition ": "2012 (Rev.1)"
    }
  ]
}
```

8. EA1

8.1. Request Form Data

API Description

Name	Description
Service Full Name	To get the form data
URL	\<Backend_Service_Domain\>/{Version}/EA1/GetForm
Request Type	POST
Service Version	1
Description of Service	To get the form data

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.

D20001	Parameter is null.	The parameter "applicationNo" is null.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001"
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

8.2. Create Form Data

API Description

Name	Description
Service Full Name	For submitting application form data.
URL	<Backend_Service_Domain>/{Version}/EA1/SubmitApplication
Request Type	POST
Service Version	1
Description of Service	This API is to submit the application from WBRS to the backend. It should not return a custom form validation error.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String(20)	Required	WBRS Application Number
applicationType	String(20)	Required	Application Type (New / Renew / Change of particulars)
regNo	String(20)	Optional	REA Registration Number
expiryDate	String(8)	Optional	REA Expiry Date(yyyyMMdd)
engName	String(100)	Required	Applicant English Name
chiName	String(100)		Applicant Chinese Name
titleId	Int		Applicant Title (Mr. / Miss / Ms.)
dateOfBirth	String(8)		Applicant Date of Birth(yyyyMMdd)
hkid	String(30)		Applicant HKID Number
travelDocNo	String(30)		Applicant Travel Document Number

addrLang	String(1)		Applicant Correspondence Address Language
addrFlat	String(50)		Applicant Correspondence Address Flat
addrFloor	String(50)		Applicant Correspondence Address Floor
addrBlock	String(50)		Applicant Correspondence Address Block
addrBlg	String(300)		Applicant Correspondence Address Building
addrStartNo	Int		Applicant Correspondence Address Start Street No
addrStartNoAlpha	String(10)		Applicant Correspondence Address Start Street Alpha
addrEndNo	Int		Applicant Correspondence Address End Street No
addrEndNoAlpha	String(10)		Applicant Correspondence Address End Street Alpha
addrSt	String(300)		Applicant Correspondence Address Street
addrDistrict	String(3)		Applicant Correspondence Address District Code
addrAreaId	Int		Applicant Correspondence Address Area ID
compName	String(300)		Current Company Name
compAddrLang	String(1)		Current Company Address Language
compAddrFlat	String(50)		Current Company Address Flat
compAddrFloor	String(50)		Current Company Address Floor
compAddrBlock	String(50)		Current Company Address Block
compAddrBlg	String(300)		Current Company Address Building
compAddrStartNo	Int		Current Company Address Start Street No
compAddrStartNoAlpha	String(10)		Current Company Address Start Street Alpha
compAddrEndNo	Int		Current Company Address End Street No
compAddrEndNoAlpha	String(10)		Current Company Address End Street Alpha
compAddrSt	String(300)		Current Company Address Street
compAddrDistrict	String(3)		Current Company Address District Code
compAddrAreaId	Int		Current Company Address Area ID

compPost	String(300)		Current Position
emailAddr	String(100)		Email address
telNo	String(20)		Applicant Contact Phone
faxNo	String(20)		Fax Number
officeTelNo	String(20)		Office Telephone Number
qualRe	String(1)		Professional Qualifications - Registered Professional Engineer
qualReDate	String(8)		Qualified Date of Registered Engineer Qualifications(yyyyMMdd)
qualReNo	String(50)		Membership Number of Registered Engineer Qualifications
qualReBss	String(1)		Building Services Discipline of Registered Engineer Qualifications
qualReEll	String(1)		Electrical Discipline of Registered Engineer Qualifications
qualReEnv	String(1)		Environmental Discipline of Registered Engineer Qualifications
qualReMcl	String(1)		Mechanical Discipline of Registered Engineer Qualifications
qualHkie	String(1)		Professional Qualifications - Corporate member of HKIE
qualHkieDate	String(8)		Qualified Date of HKIE membership(yyyyMMdd)
qualHkieNo	String(50)		Membership Number of HKIE
qualHkieBss	String(1)		Building Services Discipline of HKIE Qualifications
qualHkieEll	String(1)		Electrical Discipline of HKIE Qualifications
qualHkieEnv	String(1)		Environmental Discipline of HKIE Qualifications
qualHkieMcl	String(1)		Mechanical Discipline of HKIE Qualifications
qualEqv	String(1)		Professional Qualifications - Equivalent qualification recognized by HKIE
qualEqvDate	String(8)		Qualified Date of Equivalent qualification(yyyyMMdd)
qualEqvNo	String(50)		Membership Number of

			Equivalent qualification
qualEqvBss	String(1)		Building Services Discipline of Equivalent qualification
qualEqvEll	String(1)		Electrical Discipline of Equivalent qualification
qualEqvEnv	String(1)		Environmental Discipline of Equivalent qualification
qualEqvMcl	String(1)		Mechanical Discipline of Equivalent qualification
qualEqvMembership	String(300)		Professional Membership of Equivalent qualification
declareKnowledge	String(1)	Required	Declaration of having the knowledge required
declareConvictedStatus	String(1)	Required	Declaration of convicted status in Hong Kong
declareHavebeenConvicted	String(1)	Required	Declaration of have been convicted or not
declareInfoCorrect	String(1)	Required	Declaration of information stated are true and correct
qualOther	String(1)		Professional Qualifications - Other
qualOtherText	String(300)		Professional Qualifications – Other Details
chgName	String(1)		Change of particulars - Name
chgAddr	String(1)		Change of particulars - Correspondence Address
chgQual	String(1)		Change of particulars - Professional Qualification
chklistExp	String(1)		Checklist of Supporting Documents - relevant practical experience
chklistQual	String(1)		Checklist of Supporting Documents - professional qualifications
chklistSubst	String(1)		Checklist of Supporting Documents - substantiate documents
receiveDate	String(8)	Required	Application Receive Date(yyyyMMdd)
wbrsStatus	String(20)	Required	WBRS Status
exp	exp Array		Relevant Practical Experience Refer to: **Resquest – Content– Exp**
substantiate	Substantiate Array		Photocopy of the documents that substantiate

			the application Refer to: **Resquest – Content– Substantiate**

Request – Content– Exp

Parameter	Type	Condition	Description
expFrom	String(8)		Exp From Date (yyyyMMdd)
expTo	String(8)		Exp To Date (yyyyMMdd)
post	String(100)		Post
compName	String(300)		Comp Name
description	String(1000)		Description of exp
seq	Int		Sequence
originalName	String(300)		Original Name of Substantiate

Request – Content– Substantiate

Parameter	Type	Condition	Description
description	String(300)		Description of Substantiate
seq	Int		Sequence
originalName	String(300)		Original Name of Substantiate

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	Parameter is null - (parameter name)
D20002	Already exists.	Parameter already exists - (parameter name)
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)

D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001",
    "applicationType": "NEW",
    "regNo": "",
    "expiryDate": "20100101",
    "engName": "Chan Tai Man",
    "chiName": "陳大文",
    "titleId": 1,
    "dateOfBirth": "20100101",
    "hkid": "J1111111",
    "travelDocNo": "",
    "addrLang": "e",
    "addrFlat": "",
    "addrFloor": "",
    "addrBlock": "",
    "addrBlg": "",
    "addrSt": "",
    "addrDistrict": "",
    "addrAreaId": 2,
    "compName": "TESTING COMPANY",
    "compAddrLang": "e",
    "compAddrFlat": "",
    "compAddrFloor": "",
    "compAddrBlock": "",
    "compAddrBlg": "",
    "compAddrSt": "",
    "compAddrDistrict": "",
    "compAddrAreaId": 3,
    "compPost": "Post",
    "emailAddr": "testing@email.com",
    "telNo": "22345678",
    "faxNo": "22345678",
    "officeTelNo": "23345678",
    "qualRe": 1,
    "qualReDate": "20100101",
    "qualReNo": "",
    "qualReBss": 1,
    "qualReEll": 0,
    "qualReEnv": 0,
    "qualReMcl": 0,
    "qualHkie": 1,
```

```
    "qualHkieDate": "20100101",
    "qualHkieNo": "",
    "qualHkieBss": 0,
    "qualHkieEll": 1,
    "qualHkieEnv": 0,
    "qualHkieMcl": 0,
    "qualEqv": 1,
    "qualEqvDate": "20100101",
    "qualEqvNo": "",
    "qualEqvBss": 0,
    "qualEqvEll": 0,
    "qualEqvEnv": 1,
    "qualEqvMcl": 0,
    "qualEqvMembership": "Testing",
    "declareKnowledge": 1,
    "declareConvictedStatus": 1,
    "declareHavebeenConvicted": 0,
    "declareInfoCorrect": 1,
    "qualOther": 0,
    "qualOtherText": "",
    "chgName": 0,
    "chgAddr": 0,
    "chgQual": 0,
    "chklistExp": 1,
    "chklistQual": 1,
    "chklistSubst": 1,
    "receiveDate": "20100101",
    "wbrsStatus": 0,
    "exp": [
            {
                "expFrom": "20100101",
                "expTo": "20100101",
                "post": "",
                "compName": "",
                "description": "",
                "seq": 1,
                "originalName": ""
            }
    ],
    "substantiate": [
            {
                "description": "",
                "seq": "",
                "originalName": ""
            }
    ]
}
```

Sample Response

```
{
```

```
    "code":"D00000",
    "message":"D00000",
    "txID":"0514125f"
}
```

8.3. Validation Form Data

API Description

Name	Description
Service Full Name	For validating the application data before submission.
URL	<Backend_Service_Domain>/{Version}/EA1/ValidateFormData
Request Type	POST
Service Version	1
Description of Service	This API is to validate the application data before submission and to check if the applicant already exists or not.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String(20)	Required	WBRS Application Number
applicationType	String(20)	Required	Application Type (New / Renew / Change of particulars)
regNo	String(20)	Optional	REA Registration Number
expiryDate	String(8)	Optional	REA Expiry Date(yyyyMMdd)
engName	String(100)	Required	Applicant English Name
chiName	String(100)		Applicant Chinese Name
titleId	Int		Applicant Title (Mr. / Miss / Ms.)
dateOfBirth	String(8)		Applicant Date of Birth(yyyyMMdd)
hkid	String(30)		Applicant HKID Number
travelDocNo	String(30)		Applicant Travel Document Number
addrLang	String(1)		Applicant Correspondence Address Language
addrFlat	String(50)		Applicant Correspondence

			Address Flat
addrFloor	String(50)		Applicant Correspondence Address Floor
addrBlock	String(50)		Applicant Correspondence Address Block
addrBlg	String(300)		Applicant Correspondence Address Building
addrStartNo	Int		Applicant Correspondence Address Start Street No
addrStartNoAlpha	String(10)		Applicant Correspondence Address Start Street Alpha
addrEndNo	Int		Applicant Correspondence Address End Street No
addrEndNoAlpha	String(10)		Applicant Correspondence Address End Street Alpha
addrSt	String(300)		Applicant Correspondence Address Street
addrDistrict	String(3)		Applicant Correspondence Address District Code
addrAreaId	Int		Applicant Correspondence Address Area ID
compName	String(300)		Current Company Name
compAddrLang	String(1)		Current Company Address Language
compAddrFlat	String(50)		Current Company Address Flat
compAddrFloor	String(50)		Current Company Address Floor
compAddrBlock	String(50)		Current Company Address Block
compAddrBlg	String(300)		Current Company Address Building
compAddrStartNo	Int		Current Company Address Start Street No
compAddrStartNoAlpha	String(10)		Current Company Address Start Street Alpha
compAddrEndNo	Int		Current Company Address End Street No
compAddrEndNoAlpha	String(10)		Current Company Address End Street Alpha
compAddrSt	String(300)		Current Company Address Street
compAddrDistrict	String(3)		Current Company Address District Code
compAddrAreaId	Int		Current Company Address Area ID
compPost	String(300)		Current Position
emailAddr	String(100)		Email address
telNo	String(20)		Applicant Contact Phone
faxNo	String(20)		Fax Number
officeTelNo	String(20)		Office Telephone Number

qualRe	String(1)		Professional Qualifications - Registered Professional Engineer
qualReDate	String(8)		Qualified Date of Registered Engineer Qualifications(yyyyMMdd)
qualReNo	String(50)		Membership Number of Registered Engineer Qualifications
qualReBss	String(1)		Building Services Discipline of Registered Engineer Qualifications
qualReEll	String(1)		Electrical Discipline of Registered Engineer Qualifications
qualReEnv	String(1)		Environmental Discipline of Registered Engineer Qualifications
qualReMcl	String(1)		Mechanical Discipline of Registered Engineer Qualifications
qualHkie	String(1)		Professional Qualifications - Corporate member of HKIE
qualHkieDate	String(8)		Qualified Date of HKIE membership(yyyyMMdd)
qualHkieNo	String(50)		Membership Number of HKIE
qualHkieBss	String(1)		Building Services Discipline of HKIE Qualifications
qualHkieEll	String(1)		Electrical Discipline of HKIE Qualifications
qualHkieEnv	String(1)		Environmental Discipline of HKIE Qualifications
qualHkieMcl	String(1)		Mechanical Discipline of HKIE Qualifications
qualEqv	String(1)		Professional Qualifications - Equivalent qualification recognized by HKIE
qualEqvDate	String(8)		Qualified Date of Equivalent qualification(yyyyMMdd)
qualEqvNo	String(50)		Membership Number of Equivalent qualification
qualEqvBss	String(1)		Building Services Discipline of Equivalent qualification
qualEqvEll	String(1)		Electrical Discipline of Equivalent qualification
qualEqvEnv	String(1)		Environmental Discipline of Equivalent qualification
qualEqvMcl	String(1)		Mechanical Discipline of Equivalent qualification

qualEqvMembership	String(300)		Professional Membership of Equivalent qualification
declareKnowledge	String(1)	Required	Declaration of having the knowledge required
declareConvictedStatus	String(1)	Required	Declaration of convicted status in Hong Kong
declareHavebeenConvicted	String(1)	Required	Declaration of have been convicted or not
declareInfoCorrect	String(1)	Required	Declaration of information stated are true and correct
qualOther	String(1)		Professional Qualifications - Other
qualOtherText	String(300)		Professional Qualifications – Other Details
chgName	String(1)		Change of particulars - Name
chgAddr	String(1)		Change of particulars - Correspondence Address
chgQual	String(1)		Change of particulars - Professional Qualification
chklistExp	String(1)		Checklist of Supporting Documents - relevant practical experience
chklistQual	String(1)		Checklist of Supporting Documents - professional qualifications
chklistSubst	String(1)		Checklist of Supporting Documents - substantiate documents
receiveDate	String(8)	Required	Application Receive Date(yyyyMMdd)
wbrsStatus	String(20)	Required	WBRS Status
exp	exp Array		Relevant Practical Experience • Refer to: **Resquest – Content– Exp**
substantiate	Substantiate Array		Photocopy of the documents that substantiate the application Refer to: **Resquest – Content– Substantiate**

Request – Content– Exp

Parameter	Type	Condition	Description
expFrom	String(8)		Exp From Date (yyyyMMdd)
expTo	String(8)		Exp To Date (yyyyMMdd)
post	String(100)		Post
compName	String(300)		Comp Name

description	String(1000)		Description of exp
seq	Int		Sequence
originalName	String(300)		Original Name of Substantiate

Request – Content– Substantiate

Parameter	Type	Condition	Description
description	String(300)		Description of Substantiate
seq	Int		Sequence
originalName	String(300)		Original Name of Substantiate

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	Parameter is null - (parameter name)
D20002	Already exists.	Applicant already exists
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D40001	Form Validation	Parameter not found - (parameter name)
D90000	Unknown Exception	Runtime Exception.

Sample Request

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001",
```

"applicationType": "NEW",
"registrationNo": "",
"expiryDate": "20100101",
"engName": "Chan Tai Man",
"chiName": "陳大文",
"titleId": 1,
"dateOfBirth": "20100101",
"hkid": "J1111111",
"travelDocNo": "",
"addrLang": "e",
"addrFlat": "",
"addrFloor": "",
"addrBlock": "",
"addrBlg": "",
"addrSt": "",
"addrDistrict": "",
"addrAreaId": 2,
"compName": "TESTING COMPANY",
"compAddrLang": "e",
"compAddrFlat": "",
"compAddrFloor": "",
"compAddrBlock": "",
"compAddrBlg": "",
"compAddrSt": "",
"compAddrDistrict": "",
"compAddrAreaId": 3,
"compPost": "Post",
"emailAddr": "testing@email.com",
"telNo": "22345678",
"faxNo": "22345678",
"officeTelNo": "23345678",
"qualRe": 1,
"qualReDate": "20100101",
"qualReNo": "",
"qualReBss": 1,
"qualReEll": 0,
"qualReEnv": 0,
"qualReMcl": 0,
"qualHkie": 1,
"qualHkieDate": "20100101",
"qualHkieNo": "",
"qualHkieBss": 0,
"qualHkieEll": 1,
"qualHkieEnv": 0,
"qualHkieMcl": 0,
"qualEqv": 1,
"qualEqvDate": "20100101",
"qualEqvNo": "",
"qualEqvBss": 0,
"qualEqvEll": 0,

```
    "qualEqvEnv": 1,
    "qualEqvMcl": 0,
    "qualEqvMembership": "Testing",
    "declareKnowledge": 1,
    "declareConvictedStatus": 1,
    "declareHavebeenConvicted": 0,
    "declareInfoCorrect": 1,
    "qualOther": 0,
    "qualOtherText": "",
    "chgName": 0,
    "chgAddr": 0,
    "chgQual": 0,
    "chklistExp": 1,
    "chklistQual": 1,
    "chklistSubst": 1,
    "receiveDate": "20100101",
    "wbrsStatus": 0,
    "exp": [
            {
                "expFrom": "20100101",
                "expTo": "20100101",
                "post": "",
                "compName": "",
                "description": "",
                "seq": 1,
                "originalName": ""
            }
    ],
    "substantiate": [
            {
                "description": "",
                "seq": "",
                "originalName": ""
            }
    ]
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

8.4. Create Attachment

API Description

Name	Description
Service Full Name	For submitting the attachment to backend
URL	<Backend_Service_Domain>/{Version}/EA1/CreateAttachment
Request Type	POST
Service Version	1
Description of Service	This API is to validate the application data before submission.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.
fileName	String	Required	File name with extension of the attachment
shaFileChecksum	String	Required	The SHA file checksum of the attachment
type	String	Required	The type of the attachment
fileContent	String	Required	Base64 encoded content of the attachment
description	String	Required	Description of attachment

The type table contents:

ID	TypeCode	TypeDesc
1	1 sub	Submission Form
2	2 ack	Acknowledgement Letter / Memo
3	3 sup	Request for Supplementary Information Letter / Memo
4	4 chk	Checklist for general Checking
5	5 ins	Inspection Notice
6	6 com	Detailed Compliance Checklist
7	7 inr	Inspection Report
8	8 imp	Improvement Notice
9	9 oth	Others
10	10 s29	S29 Letter
11	11 rem	Reminder letters
12	12 cocrcert	COCR certificate
13	13 eaform	EA form

Response Parameters

Parameter	Type	Condition	Description

txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	The parameter "Key" is null. The parameter "applicationNo" is null. The parameter "FileName" is null. The parameter "File" is null.
D20002	Application is invalid	The application is not found. Application status is invalid.
D20003	File is invalid	File extension is invalid. File name is too long. File Name is invalid.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001",
    "fileName": "",
    "shaFileChecksum": "",
    "type": ""
    "content": ""
    "description": ""
}
```

Sample Response

```
{
    "code":"D00000",
    "message":"D00000",
    "txID":"0514125f"
```

```
}
```

8.5. Acknowledge Submission Completed

API Description

Name	Description
Service Full Name	To acknowledge the backend submission has been completed.
URL	<Backend_Service_Domain>/{Version}/EA1/Status/SubmissionCompleted
Request Type	POST
Service Version	1
Description of Service	To acknowledge the backend after all attachments are submitted successfully.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is	The parameter "applicationNo" is null.

		null.
D30001	Header is null	The header "clientID" is null.
		The header "signature" is null.
		The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list.
		The header "signature" is incorrect. (MITM Attack)
		The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001"
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

9. EA3

9.1. Request Form Data

API Description

Name	Description
Service Full Name	To get the form data
URL	\<Backend_Service_Domain\>/{Version}/EA3/GetForm
Request Type	POST
Service Version	1
Description of Service	To get the form data

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.

D20001	Parameter is null.	The parameter "applicationNo" is null.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001"
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

9.2. Create Form Data

<u>API Description</u>

Name	Description
Service Full Name	For submitting application form data.
URL	<Backend_Service_Domain>/{Version}/EA3/SubmitApplication
Request Type	POST
Service Version	1
Description of Service	This API is to submit the application from WBRS to the backend. It should not return a custom form validation error.

<u>Request Headers</u>

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

<u>Request Parameters</u>

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

<u>Request - Content</u>

Parameter	Type	Condition	Description
applicationNo	String(20)	Required	WBRS Application Number
applicationType	String(20)	Required	Application Type (New / Change of particulars)
regNo	String(20)	Optional	REA Registration Number
chgName	String(1)		Change of particulars - Name
chgAddr	String(1)		Change of particulars - Correspondence Address
engName	String(100)	Required	Applicant English Name
chiName	String(100)		Applicant Chinese Name
titleId	Int		Applicant Title (Mr. / Miss / Ms.)
hkid	String(30)		Applicant HKID Number
addrLang	String(1)		Applicant Correspondence Address Language
addrFlat	String(50)		Applicant Correspondence Address Flat
addrFloor	String(50)		Applicant Correspondence

			Address Floor
addrBlock	String(50)		Applicant Correspondence Address Block
addrBlg	String(300)		Applicant Correspondence Address Building
addrStartNo	Int		Applicant Correspondence Address Start Street No
addrStartNoAlpha	String(10)		Applicant Correspondence Address Start Street Alpha
addrEndNo	Int		Applicant Correspondence Address End Street No
addrEndNoAlpha	String(10)		Applicant Correspondence Address End Street Alpha
addrSt	String(300)		Applicant Correspondence Address Street
addrDistrict	String(3)		Applicant Correspondence Address District Code
addrAreaId	Int		Applicant Correspondence Address Area ID
deptName	String(300)		Department Name
compAddrSame	String(1)	Required	Office Address is same as the Correspondence Address or not
compAddrLang	String(1)	Optional	Office Address Language
compAddrFlat	String(50)	Optional	Office Address Flat
compAddrFloor	String(50)	Optional	Office Address Floor
compAddrBlock	String(50)	Optional	Office Address Block
compAddrBlg	String(300)	Optional	Office Address Building
compAddrStartNo	Int		Current Company Address Start Street No
compAddrStartNoAlpha	String(10)		Current Company Address Start Street Alpha
compAddrEndNo	Int		Current Company Address End Street No
compAddrEndNoAlpha	String(10)		Current Company Address End Street Alpha
compAddrSt	String(300)	Optional	Office Address Street
compAddrDistrict	String(3)	Optional	Office Address District Code
compAddrAreaId	Int	Optional	Office Address Area ID
compPost	String(300)		Current Position
emailAddr	String(100)		Email address
telNo	String(20)		Applicant Contact Phone Number
faxNo	String(20)		Fax Number
officeTelNo	String(20)		Office Telephone Number
declareConvictedStatus	String(1)	Required	Declaration of convicted status in Hong Kong
declareHavebeenConvicted	String(1)	Required	Declaration of have been convicted or not
declareInfoCorrect	String(1)	Required	Declaration of information

			stated are true and correct
nomiName	String(100)		Full Name of Nominator
nomiRank	String(100)		Rank (D1 or above) of Nominator
nomiPost	String(300)		Post of Nominator
nomiDept	String(300)		Name of Department of Nominator
nomiTel	String(20)		Contact Number of Nominator
receiveDate	String(8)	Required	Application Receive Date(yyyyMMdd)
wbrsStatus	String(20)	Required	WBRS Status

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	Parameter is null - (parameter name)
D20002	Already exists.	Parameter already exists - (parameter name)
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L16000000",
   "applicationType": "NEW",
   "regNo": "",
```

```
  "chgName": 0,
  "chgAddr": 0,
  "engName": "Chan Tai Man",
  "chiName": "陳大文",
  "titleId": 1,
  "hkid": "J1111111",
  "addrLang": "e",
  "addrFlat": "",
  "addrFloor": "",
  "addrBlock": "",
  "addrBlg": "",
  "addrSt": "",
  "addrDistrict": "",
  "addrAreaId": 1,
  "deptName": "TESTING DEPT",
  "compAddrSame": 0,
  "compAddrLang": "e",
  "compAddrFlat": "",
  "compAddrFloor": "",
  "compAddrBlock": "",
  "compAddrBlg": "",
  "compAddrSt": "",
  "compAddrDistrict": "",
  "compAddrAreaId": 2,
  "compPost": "Post",
  "emailAddr": "testing@email.com",
  "telNo": "22345678",
  "faxNo": "22345678",
  "officeTelNo": "23345678",
  "declareConvictedStatus": 1,
  "declareHavebeenConvicted": 0,
  "declareInfoCorrect": 1,
  "nomiName": "",
  "nomiRank": "",
  "nomiPost": "",
  "nomiDept": "",
  "nomiTel": "",
  "receiveDate": "20100101",
  "wbrsStatus": 0
  }
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

9.3. Validation Form Data

API Description

Name	Description
Service Full Name	For validating the application data before submission.
URL	<Backend_Service_Domain>/{Version}/EA3/ValidateFormData
Request Type	POST
Service Version	1
Description of Service	This API is to validate the application data before submission and to check if the applicant already exists or not.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String(20)	Required	WBRS Application Number
applicationType	String(20)	Required	Application Type (New / Change of particulars)
regNo	String(20)	Optional	REA Registration Number
chgName	String(1)		Change of particulars - Name
chgAddr	String(1)		Change of particulars - Correspondence Address
engName	String(100)	Required	Applicant English Name
chiName	String(100)		Applicant Chinese Name
titleId	Int		Applicant Title (Mr. / Miss / Ms.)
hkid	String(30)		Applicant HKID Number
addrLang	String(1)		Applicant Correspondence Address Language
addrFlat	String(50)		Applicant Correspondence Address Flat
addrFloor	String(50)		Applicant Correspondence

			Address Floor
addrBlock	String(50)		Applicant Correspondence Address Block
addrBlg	String(300)		Applicant Correspondence Address Building
addrStartNo	Int		Applicant Correspondence Address Start Street No
addrStartNoAlpha	String(10)		Applicant Correspondence Address Start Street Alpha
addrEndNo	Int		Applicant Correspondence Address End Street No
addrEndNoAlpha	String(10)		Applicant Correspondence Address End Street Alpha
addrSt	String(300)		Applicant Correspondence Address Street
addrDistrict	String(3)		Applicant Correspondence Address District Code
addrAreaId	Int		Applicant Correspondence Address Area ID
deptName	String(300)		Department Name
compAddrSame	String(1)	Required	Office Address is same as the Correspondence Address or not
compAddrLang	String(1)	Optional	Office Address Language
compAddrFlat	String(50)	Optional	Office Address Flat
compAddrFloor	String(50)	Optional	Office Address Floor
compAddrBlock	String(50)	Optional	Office Address Block
compAddrBlg	String(300)	Optional	Office Address Building
compAddrStartNo	Int		Current Company Address Start Street No
compAddrStartNoAlpha	String(10)		Current Company Address Start Street Alpha
compAddrEndNo	Int		Current Company Address End Street No
compAddrEndNoAlpha	String(10)		Current Company Address End Street Alpha
compAddrSt	String(300)	Optional	Office Address Street
compAddrDistrict	String(3)	Optional	Office Address District Code
compAddrAreaId	Int	Optional	Office Address Area ID
compPost	String(300)		Current Position
emailAddr	String(100)		Email address
telNo	String(20)		Applicant Contact Phone Number
faxNo	String(20)		Fax Number
officeTelNo	String(20)		Office Telephone Number
declareConvictedStatus	String(1)	Required	Declaration of convicted status in Hong Kong
declareHavebeenConvicted	String(1)	Required	Declaration of have been convicted or not
declareInfoCorrect	String(1)	Required	Declaration of information

			stated are true and correct
nomiName	String(100)		Full Name of Nominator
nomiRank	String(100)		Rank (D1 or above) of Nominator
nomiPost	String(300)		Post of Nominator
nomiDept	String(300)		Name of Department of Nominator
nomiTel	String(20)		Contact Number of Nominator
receiveDate	String(8)	Required	Application Receive Date(yyyyMMdd)
wbrsStatus	String(20)	Required	WBRS Status

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	Parameter is null - (parameter name)
D20002	Already exists.	Applicant already exists
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D40001	Form Validation	Parameter not found - (parameter name)
D90000	Unknown Exception	Runtime Exception.

Sample Request

```
{
   "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
   "applicationNo": "L16000000",
```

```
  "applicationType": "NEW",
  "regNo": "",
  "chgName": 0,
  "chgAddr": 0,
  "engName": "Chan Tai Man",
  "chiName": "陳大文",
  "titleId": 1,
  "hkid": "J1111111",
  "addrLang": "e",
  "addrFlat": "",
  "addrFloor": "",
  "addrBlock": "",
  "addrBlg": "",
  "addrSt": "",
  "addrDistrict": "",
  "addrAreaId": 1,
  "deptName": "TESTING DEPT",
  "compAddrSame": 0,
  "compAddrLang": "e",
  "compAddrFlat": "",
  "compAddrFloor": "",
  "compAddrBlock": "",
  "compAddrBlg": "",
  "compAddrSt": "",
  "compAddrDistrict": "",
  "compAddrAreaId": 2,
  "compPost": "Post",
  "emailAddr": "testing@email.com",
  "telNo": "22345678",
  "faxNo": "22345678",
  "officeTelNo": "23345678",
  "declareConvictedStatus": 1,
  "declareHavebeenConvicted": 0,
  "declareInfoCorrect": 1,
  "nomiName": "",
  "nomiRank": "",
  "nomiPost": "",
  "nomiDept": "",
  "nomiTel": "",
  "receiveDate": "20100101",
  "wbrsStatus": 0
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

9.4. Create Attachment

API Description

Name	Description
Service Full Name	For submitting the attachment to backend
URL	<Backend_Service_Domain>/{Version}/EA3/CreateAttachment
Request Type	POST
Service Version	1
Description of Service	This API is to validate the application data before submission.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.
fileName	String	Required	File name with extension of the attachment
shaFileChecksum	String	Required	The SHA file checksum of the attachment
type	String	Required	The type of the attachment
fileContent	String	Required	Base64 encoded content of the attachment
description	String	Required	Description of attachment

Response Parameters

Parameter	Type	Condition	Description

txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	The parameter "Key" is null. The parameter "applicationNo" is null. The parameter "FileName" is null. The parameter "File" is null.
D20002	Application is invalid	The application is not found. Application status is invalid.
D20003	File is invalid	File extension is invalid. File name is too long. File Name is invalid.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001",
    "fileName": "",
    "shaFileChecksum": "",
    "type": ""
    "content": ""
    "description": ""
}
```

Sample Response

```
{
    "code":"D00000",
    "message":"D00000",
```

```
  "txID":"0514125f"
}
```

9.5. Acknowledge Submission Completed

API Description

Name	Description
Service Full Name	To acknowledge the backend submission has been completed.
URL	<Backend_Service_Domain>/{Version}/EA3/Status/SubmissionCompleted
Request Type	POST
Service Version	1
Description of Service	To acknowledge the backend after all attachments are submitted successfully.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is	The parameter "applicationNo" is null.

		null.
D30001	Header is null	The header "clientID" is null.
		The header "signature" is null.
		The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list.
		The header "signature" is incorrect. (MITM Attack)
		The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001"
}
```

Sample Response

```
{
    "code":"D00000",
    "message":"D00000",
    "txID":"0514125f"
}
```

10. EE1

10.1. Request Form Data

API Description

Name	Description
Service Full Name	For submitting application form data.
URL	<Backend_Service_Domain>/{Version}/EE1/ GetForm
Request Type	POST
Service Version	1
Description of Service	This API is to submit the application from WBRS to the backend. It should not return a custom form validation error.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is	The parameter "applicationNo" is null.

	null.	
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001"
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

Response - Content

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgEname	String(255)		Name of Proposed Building: English
bldgCname	String(255)		Name of Proposed Building: Chinese
startNo	Int		Street No
startNoAlpha	String(10)		Street No Alpha
endNo	Int		End No
endNoAlpha	String(10)		End No Alpha
stEname	String(255)		Street English
stCname	String(255)		Street Chinese r
districtCd	String(3)		Options of District English Chinese
areaCd	Int		Options of Area English Chinese [1=Hong Kong 2 = Kowloon 3 = New Territories]
lotNo	String(200)		Lot No.

compBecEdition	String(30)		Company BEC Edition
compEname	String(256)		-Company Name of Developer Name English
compCname	String(256)		Company Name of Developer Name Chinese
represenTitleId	Int		Options of Representative Person Salutation, [1=Mr.,2=Miss,3=Ms.]
represenEname	String(256)		Representative Person English Name
represenCname	String(256)		Representative Person Chinese Name
represenPost	String(256)		Representative Position
corresAddrLang	Char(1)		Options of Correspondence Address Language, [E,C]
corresAddrFlat	String(50)		Correspondence Address Room/Flat
corresAddrFloor	String(50)		Correspondence Address Floor
corresAddrBlock	String(50)		Correspondence Address Block
corresAddrBldg	String(255)		Correspondence Address Building
corresAddrStartNo	Int		Correspondence Address Street No.
corresAddrStartNoAlpha	String(10)		Correspondence Address Street No.
corresAddrEndNo	Int		Correspondence Address Street No.
corresAddrEndNoAlpha	String(10)		Correspondence Address Street
corresAddrSt	String(255)		Correspondence Address Street
corresAddrDistrictCd	String(3)		Options of Correspondence Address District
corresAddrAreaCd	Int		Options of Correspondence Address Area English Chinese
corresTelNo	String(20)		Correspondence

			Telephone No.
corresFaxNo	String(20)		Correspondence Fax No.
corresEmailAddr	String(100)		Correspondence E-mail Address
becEdition	String(10)		REA BEC Edition
reaTitleId	Int		Options of REA Salutation, [1=Mr.,2=Miss,3=Ms.]
reaEname	String(256)		Electrical Discipline of Registered Engineer Qualifications
reaCname	String(256)		REA Chinese Name
reaAddrLang	Char(1)		Options of REA Correspondence Address Language, [E,C]
reaAddrFlat	String(50)		REA Correspondence Address Room/Flat
reaAddrFloor	String(50)		REA Correspondence Address Floor
reaAddrBlock	String(50)		REA Correspondence Address Block
reaAddrBldg	String(255)		REA Correspondence Address Building
reaAddrStartNo	Int		REA Correspondence Address Street No.
reaAddrStartNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrEndNo	Int		REA Correspondence Address Street No.
reaAddrEndNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrSt	String(255)		REA Correspondence Address Street
reaAddrDistrictCd	String(3)		REA Correspondence District
reaAddrAreaCd	Int		REA Correspondence Area English Chinese
reaTelNo	String(20)		REA Correspondence Telephone No.
reaFaxNo	String(20)		REA Correspondence Fax
reaEmailAddr	String(100)		REA Correspondence E-mail Address
reaRegNo	String(20)		REA Registration No.
reaExpiryDate	String(8)		REA Expiry Date

receiveDate	String(8)		Receipt Date
eesu	Object		eesu Refer to: **Response – Content– eesu**

Response – Content– eesu

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgType	Int		Type of Building
bldgTypeOther	String(255)		Type of Building Other
dateOfDeclarationByRea	String(8)		Date of Declaration by Registered Energy Assessor in Form EE1 / EE2 / EE3 / EE4 *
prevSubNo	String(100)		If EMSD's reference no. for the form submitted before is known, please provide
supersedePreviousForm	String(1)		this submission to supersede a form submitted before? (Please give a "✓" in the appropriate box)
dateOfDeclarationByReaInPreviousForm	String(8)		Otherwise, please provide the date of declaration by Registered Energy Assessor in the previous form:
consentBldgWorkMaptype	String(1)		1 = plan 2 = map
consentIssueDate	String(8)		Section B(a) Issue date of "consent to the commencement of building works" (see note 5):
consentDocumentNoType	String(1)		Consent Document No. Type 的值分别是什么<- 1 = Permit No. 2 = =Reference No. 3 = Contract No.
consentDocNo	String(20)		Section B(a) Permit No. / Reference No. / Contract No.* of

			"consent to the commencement of building works":
commenceDateType	String(1)		1=Anticipated 2=Actual
commenceDate	String(10)		Section B(a) Anticipated/Actual* construction commencement date (m/yyyy):
occupationDate	String(10)		Section B(a) Anticipated occupation approval date (m/yyyy):
consetBldgArea	decimal		Total internal floor area of building EE1
exemptGrant	String(1)		section b(e) Exemption previously granted by the Director of Electrical and Mechanic
exemptRefNo	String(20)		section b(e) Reference No.
exemptDate	String(8)		section b(e) Date(yyyyMMdd)
exemptInstallations	String(300)		section b(e) Installation(s) exempted
chklistConsent	String(1)		ee1, section c checkbox 1
chklistLocMap	String(1)		ee1, section c checkbox 2
organizationEname	String(255)		section c Organization Name of Responsible Person# ENG
organizationCname	String(255)		section c Organization Name of Responsible Person# CHI
organizationResEname	String(255)		section c Name of Responsible Person' Representative# ENG
organizationResCname	String(255)		section c Name of Responsible Person' Representative# CHI

Sample Response

```
{
```

"applicationNo": "EE10000001",
"bldgEname": "",
"bldgCname": "",
"startNo": 1
"startNoAlpha": "",
"endNo": 1,
"endNoAlpha":"",
"stEname": "",
"stCname": "",
"districtCd": "",
"areaCd": 1,
"lotNo": "",
"compBecEdition": "",
"compEname": "",
"compCname": "",
"represenTitleId": 1,
"represenEname": "",
"represenCname": "",
"represenPost": "",
"corresAddrLang": "",
"corresAddrFlat": "",
"corresAddrFloor": "",
"corresAddrBlock": "",
"corresAddrBldg": "",
"corresAddrStartNo": 1,
"corresAddrStartNoAlpha": "",
"corresAddrEndNo": 1,
"corresAddrEndNoAlpha": "",
"corresAddrSt": "",
"corresAddrDistrictCd": "",
"corresAddrAreaCd":1,
"corresTelNo": "",
"corresFaxNo": "",
"corresEmailAddr": "",
"becEdition": "",
"reaTitleId": 1,
"reaEname": "",
"reaCname": "",
"reaAddrLang": "",
"reaAddrFlat": "",
"reaAddrFloor": "",
"reaAddrBlock": "",
"reaAddrBldg": "",
"reaAddrStartNo": 1,
"reaAddrStartNoAlpha": "",
"reaAddrEndNo": 0,
"reaAddrEndNoAlpha": "",
"reaAddrSt": "",
"reaAddrDistrictCd": "",
"reaAddrAreaCd": 1,

```
    “reaTelNo”: “”,
    “reaFaxNo”: “”,
    “reaEmailAddr”: “”,
    “reaRegNo”: “”,
    “reaExpiryDate”: “20100101”,
    “receiveDate” : “20100101”,
     “eesu”:
                {
                    “applicationNo”: “111”,
                     “bldgType”: 1,
                    “bldgTypeOther”: “”,
                    “dateOfDeclarationByRea”:  “20100101”,
                    “prevSubNo”: “”,
                    “supersedePreviousForm”:  “1”,
                    “dateOfDeclarationByReaInPreviousForm” :  “20100101”,
                    “consentBldgWorkMaptype”: “”,
                    “consentIssueDate”:”20100101”,
                    “consentDocumentNoType”:”1”,
                    “consentDocNo”: “”,
                    “commenceDateType”: “”,
                    “commenceDate”: “”,
                    “occupationDate”:””,
                    “consetBldgArea”:100.00,
                     “exemptGrant”: “”,
                    “exemptRefNo”: “”,
                    “exemptDate”: “20100101”,
                    “exemptInstallations”: “”,
                    “chklistConsent”: “”,
                    “chklistLocMap”: “”,
                     “organizationEname”:””,
                    “organizationCname”:””,
                    “organizationResEname”:””,
                    “organizationResCname”:””
                }
    }
```

10.2.   Create Form Data

<u>API Description</u>

Name	Description
Service Full Name	For submitting application form data.
URL	<Backend_Service_Domain>/{Version}/EE1/SubmitApplication
Request Type	POST
Service Version	1
Description of Service	This API is to submit the application from WBRS to the backend. It should not return a custom form validation error.

<u>Request Headers</u>

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

<u>Request Parameters</u>

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

<u>Request - Content</u>

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgEname	String(255)		Name of Proposed Building: English
bldgCname	String(255)		Name of Proposed Building: Chinese
startNo	Int		Street No
startNoAlpha	String(10)		Street No Alpha
endNo	Int		End No
endNoAlpha	String(10)		End No Alpha
stEname	String(255)		Street English
stCname	String(255)		Street Chinese r
districtCd	String(3)		Options of District English Chinese
areaCd	Int		Options of Area English Chinese [1=Hong Kong 2 =

			Kowloon 3 = New Territories]
lotNo	String(200)		Lot No.
compBecEdition	String(30)		Company BEC Edition
compEname	String(256)		-Company Name of Developer Name English
compCname	String(256)		Company Name of Developer Name Chinese
represenTitleId	Int		Options of Representative Person Salutation, [1=Mr.,2=Miss,3=Ms.]
represenEname	String(256)		Representative Person English Name
represenCname	String(256)		Representative Person Chinese Name
represenPost	String(256)		Representative Position
corresAddrLang	String(1)		Options of Correspondence Address Language, [E,C]
corresAddrFlat	String(50)		Correspondence Address Room/Flat
corresAddrFloor	String(50)		Correspondence Address Floor
corresAddrBlock	String(50)		Correspondence Address Block
corresAddrBldg	String(255)		Correspondence Address Building
corresAddrStartNo	Int		Correspondence Address Street No.
corresAddrStartNoAlpha	String(10)		Correspondence Address Street No.
corresAddrEndNo	Int		Correspondence Address Street No.
corresAddrEndNoAlpha	String(10)		Correspondence Address Street
corresAddrSt	String(255)		Correspondence Address Street
corresAddrDistrictCd	String(20)		Options of Correspondence Address District
corresAddrAreaCd	Int		Options of Correspondence

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			Address Area English Chinese
corresTelNo	String(20)		Correspondence Telephone No.
corresFaxNo	String(20)		Correspondence Fax No.
corresEmailAddr	String(100)		Correspondence E-mail Address
becEdition	String(10)		REA BEC Edition
reaTitleId	Int		Options of REA Salutation, [1=Mr.,2=Miss,3=Ms.]
reaEname	String(256)		Electrical Discipline of Registered Engineer Qualifications
reaCname	String(256)		REA Chinese Name
reaAddrLang	String(1)		Options of REA Correspondence Address Language, [E,C]
reaAddrFlat	String(50)		REA Correspondence Address Room/Flat
reaAddrFloor	String(50)		REA Correspondence Address Floor
reaAddrBlock	String(50)		REA Correspondence Address Block
reaAddrBldg	String(255)		REA Correspondence Address Building
reaAddrStartNo	Int		REA Correspondence Address Street No.
reaAddrStartNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrEndNo	Int		REA Correspondence Address Street No.
reaAddrEndNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrSt	String(255)		REA Correspondence Address Street
reaAddrDistrictCd	String(20)		REA Correspondence District
reaAddrAreaCd	Int		REA Correspondence Area English Chinese
reaTelNo	String(20)		REA Correspondence Telephone No.
reaFaxNo	String(20)		REA Correspondence Fax
reaEmailAddr	String(100)		REA Correspondence

			E-mail Address
reaRegNo	String(20)		REA Registration No.
reaExpiryDate	String(8)		REA Expiry Date(yyyyMMdd)
receiveDate	String(8)		Receipt Date(yyyyMMdd)
eesu	eesu Array	Required	eesu Refer to: **Request – Content– eesu**

Request – Content– eesu

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgType	Int		Type of Building
bldgTypeOther	String(255)		Type of Building Other
dateOfDeclarationByRea	String(8)		Date of Declaration by Registered Energy Assessor in Form EE1 / EE2 / EE3 / EE4 *
prevSubNo	String(100)		If EMSD's reference no. for the form submitted before is known, please provide
supersedePreviousForm	String(1)		this submission to supersede a form submitted before? (Please give a "✓" in the appropriate box)
dateOfDeclarationByReaInPreviousForm	String(8)		Otherwise, please provide the date of declaration by Registered Energy Assessor in the previous form:
consentBldgWorkMaptype	String(1)		1 = plan 2 = map
consentIssueDate	String(8)		Section B(a) Issue date of "consent to the commencement of building works" (see note 5):
consentDocumentNoType	String(1)		Consent Document No. Type 1 = Permit No. 2 = =Reference No. 3 = Contract No.

consentDocNo	String(20)		Section B(a) Permit No. / Reference No. / Contract No.* of "consent to the commencement of building works":
commenceDateType	String(1)		1=Anticipated 2=Actual
commenceDate	String(10)		Section B(a) Anticipated/Actual* construction commencement date (m/yyyy):
occupationDate	String(10)		Section B(a) Anticipated occupation approval date (m/yyyy):
consetBldgArea	decimal		Total internal floor area of building EE1
exemptGrant	String(1)		section b(e) Exemption previously granted by the Director of Electrical and Mechanic
exemptRefNo	String(20)		section b(e) Reference No.
exemptDate	String(8)		section b(e) Date(yyyyMMdd)
exemptInstallations	String(300)		section b(e) Installation(s) exempted
chklistConsent	String(1)		ee1, section c checkbox 1
chklistLocMap	String(1)		ee1, section c checkbox 2
organizationEname	String(255)		section c Organization Name of Responsible Person# ENG
organizationCname	String(255)		section c Organization Name of Responsible Person# CHI
organizationResEname	String(255)		section c Name of Responsible Person' Representative# ENG
organizationResCname	String(255)		section c Name of Responsible Person'

			Representative# CHI

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	Parameter is null - (parameter name)
D20002	Already exists.	Parameter already exists - (parameter name)
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
"applicationNo": "ee107021458",
"bldgEname": "string",
"bldgCname": "string",
"startNo": 0,
"startNoAlpha": "string",
"endNo": 0,
"endNoAlpha": "string",
"stEname": "string",
"stCname": "string",
"districtCd": "string",
"areaCd": 0,
"lotNo": "string",
"compBecEdition": "2012",
"compEname": "string",
"compCname": "string",
```

```
"represenTitleId": 0,
"represenEname": "string",
"represenCname": "string",
"represenPost": "string",
"corresAddrLang": "1",
"corresAddrFlat": "string",
"corresAddrFloor": "string",
"corresAddrBlock": "string",
"corresAddrBldg": "string",
"corresAddrStartNo": 0,
"corresAddrStartNoAlpha": "string",
"corresAddrEndNo": 0,
"corresAddrEndNoAlpha": "string",
"corresAddrSt": "string",
"corresAddrDistrictCd": "string",
"corresAddrAreaCd": 0,
"corresTelNo": "string",
"corresFaxNo": "string",
"corresEmailAddr": "string",
"becEdition": "2012",
"reaTitleId": 0,
"reaEname": "string",
"reaCname": "string",
"reaAddrLang": "1",
"reaAddrFlat": "string",
"reaAddrFloor": "string",
"reaAddrBlock": "string",
"reaAddrBldg": "string",
"reaAddrStartNo": 0,
"reaAddrStartNoAlpha": "string",
"reaAddrEndNo": 0,
"reaAddrEndNoAlpha": "string",
"reaAddrSt": "string",
"reaAddrDistrictCd": "string",
"reaAddrAreaCd": 0,
"reaTelNo": "string",
"reaFaxNo": "string",
"reaEmailAddr": "string",
"reaRegNo": "string",
"reaExpiryDate": "20211124",
"receiveDate": "20211124",
"eesu": {
  "applicationNo": "ee107021458",
  "bldgType": 0,
  "bldgTypeOther": "string",
  "dateOfDeclarationByRea": "20211124",
  "prevSubNo": "string",
  "supersedePreviousForm": "1",
  "dateOfDeclarationByReaInPreviousForm": "20211124",
  "consentBldgWorkMaptype": "1",
```

```json
    "consentIssueDate": "20211124",
    "consentDocumentNoType": "1",
    "consentDocNo": "string",
    "commenceDateType": "1",
    "commenceDate": "string",
    "occupationDate": "string",
    "consetBldgArea": 0,
    "exemptGrant": "1",
    "exemptRefNo": "string",
    "exemptDate": "20211124",
    "exemptInstallations": "string",
    "chklistConsent": "1",
    "chklistLocMap": "1",
    "organizationEname": "string",
    "organizationCname": "string",
    "organizationResEname": "string",
    "organizationResCname": "string"
  }
}
```

Sample Response

```json
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

10.3. Validation Form Data

API Description

Name	Description
Service Full Name	For validating the application data before submission.
URL	<Backend_Service_Domain>/{Version}/EE1/ValidateFormData
Request Type	POST
Service Version	1
Description of Service	This API is to validate the application data before submission.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgEname	String(255)		Name of Proposed Building: English
bldgCname	String(255)		Name of Proposed Building: Chinese
startNo	Int		Street No
startNoAlpha	String(10)		Street No Alpha
endNo	Int		End No
endNoAlpha	String(10)		End No Alpha
stEname	String(255)		Street English
stCname	String(255)		Street Chinese
districtCd	String(20)		Options of District English Chinese
areaCd	Int		Options of Area English Chinese [1=Hong Kong 2 = Kowloon 3 = New

			Territories]
lotNo	String(200)		Lot No.
compBecEdition	String(30)		Company BEC Edition
compEname	String(256)		-Company Name of Developer Name English
compCname	String(256)		Company Name of Developer Name Chinese
represenTitleId	Int		Options of Representative Person Salutation, [1=Mr.,2=Miss,3=Ms.]
represenEname	String(256)		Representative Person English Name
represenCname	String(256)		Representative Person Chinese Name
represenPost	String(256)		Representative Position
corresAddrLang	String(1)		Options of Correspondence Address Language, [E,C]
corresAddrFlat	String(50)		Correspondence Address Room/Flat
corresAddrFloor	String(50)		Correspondence Address Floor
corresAddrBlock	String(50)		Correspondence Address Block
corresAddrBldg	String(255)		Correspondence Address Building
corresAddrStartNo	Int		Correspondence Address Street No.
corresAddrStartNoAlpha	String(10)		Correspondence Address Street No.
corresAddrEndNo	Int		Correspondence Address Street No.
corresAddrEndNoAlpha	String(10)		Correspondence Address Street
corresAddrSt	String(255)		Correspondence Address Street
corresAddrDistrictCd	String(20)		Options of Correspondence Address District
corresAddrAreaCd	Int		Options of Correspondence Address Area English

			Chinese
corresTelNo	String(20)		Correspondence Telephone No.
corresFaxNo	String(20)		Correspondence Fax No.
corresEmailAddr	String(100)		Correspondence E-mail Address
becEdition	String(10)		REA BEC Edition
reaTitleId	Int		Options of REA Salutation, [1=Mr.,2=Miss,3=Ms.]
reaEname	String(256)		Electrical Discipline of Registered Engineer Qualifications
reaCname	String(256)		REA Chinese Name
reaAddrLang	String(1)		Options of REA Correspondence Address Language, [E,C]
reaAddrFlat	String(50)		REA Correspondence Address Room/Flat
reaAddrFloor	String(50)		REA Correspondence Address Floor
reaAddrBlock	String(50)		REA Correspondence Address Block
reaAddrBldg	String(255)		REA Correspondence Address Building
reaAddrStartNo	Int		REA Correspondence Address Street No.
reaAddrStartNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrEndNo	Int		REA Correspondence Address Street No.
reaAddrEndNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrSt	String(255)		REA Correspondence Address Street
reaAddrDistrictCd	String(20)		REA Correspondence District
reaAddrAreaCd	Int		REA Correspondence Area English Chinese
reaTelNo	String(20)		REA Correspondence Telephone No.
reaFaxNo	String(20)		REA Correspondence Fax
reaEmailAddr	String(100)		REA Correspondence E-mail Address

reaRegNo	String(20)		REA Registration No.
reaExpiryDate	String(8)		REA Expiry Date(yyyyMMdd)
receiveDate	String(8)		Receipt Date(yyyyMMdd)
eesu	Object	Required	eesu Refer to: **Request – Content– eesu**

Request – Content– eesu

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgType	Int		Type of Building
bldgTypeOther	String(255)		Type of Building Other
dateOfDeclarationByRea	String(8)		Date of Declaration by Registered Energy Assessor in Form EE1 / EE2 / EE3 / EE4 * (yyyyMMdd)
prevSubNo	String(100)		If EMSD's reference no. for the form submitted before is known, please provide
supersedePreviousForm	String(1)		this submission to supersede a form submitted before? (Please give a "✓" in the appropriate box)
dateOfDeclarationByReaInPreviousForm	String(8)		Otherwise, please provide the date of declaration by Registered Energy Assessor in the previous form: (yyyyMMdd)
consentBldgWorkMaptype	String(1)		1 = plan 2 = map
consentIssueDate	String(8)		Section B(a) Issue date of "consent to the commencement of building works" (see note 5):
consentDocumentNoType	String(1)		Consent Document No. Type 1 = Permit No. 2 = =Reference No.

			3 = Contract No.
consentDocNo	String(20)		Section B(a) Permit No. / Reference No. / Contract No.* of "consent to the commencement of building works":
commenceDateType	String(1)		1=Anticipated 2=Actual
commenceDate	String(10)		Section B(a) Anticipated/Actual* construction commencement date (m/yyyy):
occupationDate	String(10)		Section B(a) Anticipated occupation approval date (m/yyyy):
consetBldgArea	decimal		Total internal floor area of building EE1
exemptGrant	String(1)		section b(e) Exemption previously granted by the Director of Electrical and Mechanic
exemptRefNo	String(20)		section b(e) Reference No.
exemptDate	String(8)		section b(e) Date(yyyyMMdd)
exemptInstallations	String(300)		section b(e) Installation(s) exempted
chklistConsent	String(1)		ee1, section c checkbox 1
chklistLocMap	String(1)		ee1, section c checkbox 2
organizationEname	String(255)		section c Organization Name of Responsible Person# ENG
organizationCname	String(255)		section c Organization Name of Responsible Person# CHI
organizationResEname	String(255)		section c Name of Responsible Person' Representative# ENG
organizationResCname	String(255)		section c Name of

			Responsible Person' Representative# CHI

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	Parameter is null - (parameter name)
D20002	Already exists.	Parameter already exists - (parameter name)
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D40001	Form Validation	Parameter not found - (parameter name)
D90000	Unknown Exception	Runtime Exception.

Sample Request

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "EE10000001",
    "bldgEname": "",
    "bldgCname": "",
    "startNo": 1
    "startNoAlpha": "",
    "endNo": 1,
    "endNoAlpha":"",
    "stEname": "",
    "stCname": "",
    "districtCd": "",
    "areaCd": 1,
    "lotNo": "",
    "compBecEdition": "",
    "compEname": "",
    "compCname": "",
    "representTitleId": 1,
    "representEname": "",
    "representCname": "",
    "representPost": "",
    "corresAddrLang": "",
    "corresAddrFlat": "",
    "corresAddrFloor": "",
    "corresAddrBlock": "",
    "corresAddrBldg": "",
    "corresAddrStartNo": 1,
     "corresAddrStartNoAlpha": "",
    "corresAddrEndNo": 1,
    "corresAddrEndNoAlpha": "",
    "corresAddrSt": "",
    "corresAddrDistrictCd": "",
    "corresAddrAreaCd":1,
    "corresTelNo": "",
    "corresFaxNo": "",
    "corresEmailAddr": "",
    "becEdition": "",
    "reaTitleId": 1,
    "reaEname": "",
    "reaCname": "",
    "reaAddrLang": "",
    "reaAddrFlat": "",
    "reaAddrFloor": "",
    "reaAddrBlock": "",
    "reaAddrBldg": "",
    "reaAddrStartNo": 1,
    "reaAddrStartNoAlpha": "",
    "reaAddrEndNo": 0,
    "reaAddrEndNoAlpha": "",
    "reaAddrSt": "",
    "reaAddrDistrictCd": "",
```

```
    "reaAddrAreaCd": 1,
    "reaTelNo": "",
    "reaFaxNo": "",
    "reaEmailAddr": "",
    "reaRegNo": "",
    "reaExpiryDate": "20100101",
    "receiveDate" : "20100101",
     "eesu":
                {
                    "applicationNo": "111",
                     "bldgType": 1,
                    "bldgTypeOther": "",
                    "dateOfDeclarationByRea": "20100101",
                    "prevSubNo": "",
                    "supersedePreviousForm": "1",
                    "dateOfDeclarationByReaInPreviousForm": "20100101",
                    "consentBldgWorkMaptype": "",
                    "consentIssueDate":"20100101",
                    "consentDocumentNoType":"1",
                    "consentDocNo": "",
                    "commenceDateType": "",
                    "commenceDate": "",
                    "occupationDate":"",
                    "consetBldgArea":100.00,
                     "exemptGrant": "",
                    "exemptRefNo": "",
                    "exemptDate": "20100101",
                    "exemptInstallations": "",
                    "chklistConsent": "",
                    "chklistLocMap": "",
                     "organizationEname":"",
                    "organizationCname":"",
                    "organizationResEname":"",
                    "organizationResCname":""
                }
    }
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

10.4. Create Attachment

API Description

Name	Description
Service Full Name	For submitting the attachment to backend
URL	<Backend_Service_Domain>/{Version}/EE1/CreateAttachment
Request Type	POST
Service Version	1
Description of Service	This API is to validate the application data before submission.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.
fileName	String	Required	File name with extension of the attachment
shaFileChecksum	String	Required	The SHA file checksum of the attachment
type	String	Required	The type of the attachment
fileContent	String	Required	Base64 encoded content of the attachment
description	String	Required	Description of attachment

Response Parameters

Parameter	Type	Condition	Description

txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	The parameter "Key" is null. The parameter "applicationNo" is null. The parameter "FileName" is null. The parameter "File" is null.
D20002	Application is invalid	The application is not found. Application status is invalid.
D20003	File is invalid	File extension is invalid. File name is too long. File Name is invalid.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
  "applicationNo": "L160000001",
  "fileName": "",
  "shaFileChecksum": "",
  "type": ""
  "content": ""
  "description": ""
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
```

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ORDINANCE FOR ENERGY EFFICIENCY OFFICE OF ELECTRICAL AND MECHANICAL SERVICES
DEPARTMENT (EMSD)

```
}
```

10.5. Acknowledge Submission Completed

API Description

Name	Description
Service Full Name	To acknowledge the backend submission has been completed.
URL	<Backend_Service_Domain>/{Version}/EE1/Status/SubmissionCompleted
Request Type	POST
Service Version	1
Description of Service	To acknowledge the backend after all attachments are submitted successfully.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is	The parameter "applicationNo" is null.

		null.
D30001	Header is null	The header "clientID" is null.
		The header "signature" is null.
		The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list.
		The header "signature" is incorrect. (MITM Attack)
		The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001"
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

11. EE2

11.1. Request Form Data

API Description

Name	Description
Service Full Name	To get the form data
URL	<Backend_Service_Domain>/{Version}/EE2/GetForm
Request Type	POST
Service Version	1
Description of Service	To get the form data

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.

D20001	Parameter is null.	The parameter "applicationNo" is null.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001"
}
```

Sample Response

```
{
   "code":"D00000",
   "message":"D00000",
   "txID":"0514125f"
}
```

Response - Content

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgEname	String(255)		Name of Proposed Building: English
bldgCname	String(255)		Name of Proposed Building: Chinese
startNo	Int		Street No
startNoAlpha	String(10)		Street No Alpha
endNo	Int		End No
endNoAlpha	String(10)		End No Alpha
stEname	String(255)		Street English
stCname	String(255)		Street Chinese r
districtCd	String(20)		Options of District English Chinese
areaCd	Int		Options of Area English Chinese [1=Hong Kong 2 = Kowloon 3 = New Territories]

lotNo	String(200)		Lot No.
compBecEdition	String(10)		Company BEC Edition
compEname	String(256)		-Company Name of Developer Name English
compCname	String(256)		Company Name of Developer Name Chinese
represenTitleId	String		Options of Representative Person Salutation, [1=Mr.,2=Miss,3=Ms.]
represenEname	String(256)		Representative Person English Name
represenCname	String(256)		Representative Person Chinese Name
represenPost	String(256)		Representative Position
corresAddrLang	String(1)		Options of Correspondence Address Language, [E,C]
corresAddrFlat	String(50)		Correspondence Address Room/Flat
corresAddrFloor	String(50)		Correspondence Address Floor
corresAddrBlock	String(50)		Correspondence Address Block
corresAddrBldg	String(255)		Correspondence Address Building
corresAddrStartNo	Int		Correspondence Address Street No.
corresAddrStartNoAlpha	String(10)		Correspondence Address Street No.
corresAddrEndNo	Int		Correspondence Address Street No.
corresAddrEndNoAlpha	String(10)		Correspondence Address Street
corresAddrSt	String(255)		Correspondence Address Street
corresAddrDistrictCd	String(20)		Options of Correspondence Address District
corresAddrAreaCd	Int		Options of Correspondence Address Area English Chinese
corresTelNo	String(20)		Correspondence Telephone No.
corresFaxNo	String(20)		Correspondence Fax No.
corresEmailAddr	String(100)		Correspondence E-mail Address
inspectDate	String(8)		Inspection Date(yyyyMMdd)
reaTitleId	Int		Options of REA Salutation, [1=Mr.,2=Miss,3=Ms.]
reaEname	String(256)		Electrical Discipline of

			Registered Engineer Qualifications
reaCname	String(256)		REA Chinese Name
reaAddrLang	String(1)		Options of REA Correspondence Address Language, [E,C]
reaAddrFlat	String(50)		REA Correspondence Address Room/Flat
reaAddrFloor	String(50)		REA Correspondence Address Floor
reaAddrBlock	String(50)		REA Correspondence Address Block
reaAddrBldg	String(255)		REA Correspondence Address Building
reaAddrStartNo	Int		REA Correspondence Address Street No.
reaAddrStartNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrEndNo	Int		REA Correspondence Address Street No.
reaAddrEndNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrSt	String(255)		REA Correspondence Address Street
reaAddrDistrictCd	String(20)		REA Correspondence District
reaAddrAreaCd	Int		REA Correspondence Area English Chinese
reaTelNo	String(20)		REA Correspondence Telephone No.
reaFaxNo	String(20)		REA Correspondence Fax
reaEmailAddr	String(100)		REA Correspondence E-mail Address
reaRegNo	String(20)		REA Registration No.
reaExpiryDate	String(8)		REA Expiry Date(yyyyMMdd)
receiveDate	String(8)		Receipt Date(yyyyMMdd)
eesu	Object		eesu Refer to: **Response – Content– eesu**

Response – Content - eesu

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgType	Int		Type of Building
bldgTypeOther	String(255)		Type of Building Others

dateOfDeclarationByRea	String(8)		Date of Declaration by Registered Energy Assessor in Form EE1 / EE2 / EE3 / EE4 *(yyyyMMdd)
prevSubNo	String(100)		If EMSD's reference no. for the form submitted before is known, please provide
supersedePreviousForm	String(1)		this submission to supersede a form submitted before? (Please give a "✓" in the appropriate box)
dateOfDeclarationByReaInPreviousForm	String(8)		Otherwise, please provide the date of declaration by Registered Energy Assessor in the previous form: (yyyyMMdd)
encloseEeel	String(1)		Form EE-EL
encloseEelg	String(1)		Form EE-LG
encloseEeac	String(1)		Form EE-AC
encloseEele	String(1)		Form EE-LE
encloseEepb	String(1)		Form EE-PB
stageOneNo	String(20)		Section B (b) Reference No. of Stage One Declaration
occuApprovalDate	String(10)		Section B (b) Issue date (m/yyyy) of "occupation approval" (see note 6):
occuApprovalNo	String(20)		Section B(b) Permit No. / Reference No. / Contract No.* of "occupation approval"
consetBldgArea	decimal		Total internal

			floor area of building EE2
exemptGrant	String(1)		section b(e) Exemption previously granted by the Director of Electrical and Mechanic
exemptRefNo	String(20)		section b(e) Reference No.
exemptDate	String(8)		section b(e) Date(yyyyMMdd)
exemptInstallations	String(1)		section b(e) Installation(s) exempted
chklistOccpApproval	String(1)		ee2,section c checkbox 3
organizationEname	String(255)		section c Organization Name of Responsible Person# ENG
organizationCname	String(255)		section c Organization Name of Responsible Person# CHI
organizationResEname	String(255)		section c Name of Responsible Person' Representative# ENG
organizationResCname	String(255)		section c Name of Responsible Person' Representative# CHI

Sample Response

```
{
   "applicationNo": "EE10000001",
   "bldgEname": "",
   "bldgCname": "",
   "startNo": 1
   "startNoAlpha": "",
   "endNo": 1,
   "endNoAlpha":"",
   "stEname": "",
```

```
        "stCname": "",
        "districtCd": "",
        "areaCd": 1,
        "lotNo": "",
        "compBecEdition": "",
        "compEname": "",
        "compCname": "",
        "represenTitleId": 1,
        "represenEname": "",
        "represenCname": "",
        "represenPost": "",
        "corresAddrLang": "",
        "corresAddrFlat": "",
        "corresAddrFloor": "",
        "corresAddrBlock": "",
        "corresAddrBldg": "",
        "corresAddrStartNo": 1,
         "corresAddrStartNoAlpha": "",
        "corresAddrEndNo": 1,
        "corresAddrEndNoAlpha": "",
        "corresAddrSt": "",
        "corresAddrDistrictCd": "",
        "corresAddrAreaCd":1,
        "corresTelNo": "",
        "corresFaxNo": "",
        "corresEmailAddr": "",
        "inspectDate": "20100101",
        "reaTitleId": 1,
        "reaEname": "",
        "reaCname": "",
        "reaAddrLang": "",
        "reaAddrFlat": "",
        "reaAddrFloor": "",
        "reaAddrBlock": "",
        "reaAddrBldg": "",
        "reaAddrStartNo": 1,
        "reaAddrStartNoAlpha": "",
        "reaAddrEndNo": 0,
        "reaAddrEndNoAlpha": "",
        "reaAddrSt": "",
        "reaAddrDistrictCd": "",
        "reaAddrAreaCd": 1,
        "reaTelNo": "",
        "reaFaxNo": "",
        "reaEmailAddr": "",
        "reaRegNo": "",
        "reaExpiryDate": "20100101",
        "receiveDate" : "20100101",
         "eesu":
                {
```

```
            "applicationNo": "111",
             "bldgType": 1,
            "bldgTypeOther": "",
            "dateOfDeclarationByRea":  "20100101",
            "prevSubNo": "",
            "supersedePreviousForm":  "1",
            "dateOfDeclarationByReaInPreviousForm" :  "20100101",
             "encloseEeel": "",
            "encloseEelg": "",
            "encloseEeac": "",
            "encloseEele": "",
            "encloseEepb": "",
             "stageOneNo":"",
            "occuApprovalDate": "",
            "occuApprovalNo": "",
            "consetBldgArea":100.00,
            "exemptGrant": "",
            "exemptRefNo": "",
            "exemptDate": "20100101",
            "exemptInstallations": "",
             "chklistOccpApproval": "",
             "organizationEname":"",
            "organizationCname":"",
            "organizationResEname":"",
            "organizationResCname":""
        }
    }
```

11.2. Create Form Data

API Description

Name	Description
Service Full Name	For submitting application form data.
URL	<Backend_Service_Domain>/{Version}/EE2/SubmitApplication
Request Type	POST
Service Version	1
Description of Service	This API is to submit the application from WBRS to the backend. It should not return a custom form validation error.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgEname	String(255)		Name of Proposed Building: English
bldgCname	String(255)		Name of Proposed Building: Chinese
startNo	Int		Street No
startNoAlpha	String(10)		Street No Alpha
endNo	Int		End No
endNoAlpha	String(10)		End No Alpha
stEname	String(255)		Street English
stCname	String(255)		Street Chinese
districtCd	String(3)		Options of District English Chinese
areaCd	Int		Options of Area English Chinese [1=Hong Kong 2 = Kowloon 3 = New

			Territories]
lotNo	String(200)		Lot No.
compBecEdition	String(10)		Company BEC Edition
compEname	String(256)		-Company Name of Developer Name English
compCname	String(256)		Company Name of Developer Name Chinese
represenTitleId	String		Options of Representative Person Salutation, [1=Mr.,2=Miss,3=Ms.]
represenEname	String(256)		Representative Person English Name
represenCname	String(256)		Representative Person Chinese Name
represenPost	String(256)		Representative Position
corresAddrLang	String(1)		Options of Correspondence Address Language, [E,C]
corresAddrFlat	String(50)		Correspondence Address Room/Flat
corresAddrFloor	String(50)		Correspondence Address Floor
corresAddrBlock	String(50)		Correspondence Address Block
corresAddrBldg	String(255)		Correspondence Address Building
corresAddrStartNo	Int		Correspondence Address Street No.
corresAddrStartNoAlpha	String(10)		Correspondence Address Street No.
corresAddrEndNo	Int		Correspondence Address Street No.
corresAddrEndNoAlpha	String(10)		Correspondence Address Street
corresAddrSt	String(255)		Correspondence Address Street
corresAddrDistrictCd	String(3)		Options of Correspondence Address District
corresAddrAreaCd	Int		Options of Correspondence Address Area English Chinese
corresTelNo	String(20)		Correspondence Telephone No.
corresFaxNo	String(20)		Correspondence Fax No.
corresEmailAddr	String(100)		Correspondence E-mail Address
inspectDate	String(8)		Inspection Date(yyyyMMdd)
reaTitleId	Int		Options of REA Salutation, [1=Mr.,2=Miss,3=Ms.]

reaEname	String(256)		Electrical Discipline of Registered Engineer Qualifications
reaCname	String(256)		REA Chinese Name
reaAddrLang	String(1)		Options of REA Correspondence Address Language, [E,C]
reaAddrFlat	String(50)		REA Correspondence Address Room/Flat
reaAddrFloor	String(50)		REA Correspondence Address Floor
reaAddrBlock	String(50)		REA Correspondence Address Block
reaAddrBldg	String(255)		REA Correspondence Address Building
reaAddrStartNo	Int		REA Correspondence Address Street No.
reaAddrStartNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrEndNo	Int		REA Correspondence Address Street No.
reaAddrEndNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrSt	String(255)		REA Correspondence Address Street
reaAddrDistrictCd	String(3)		REA Correspondence District
reaAddrAreaCd	Int		REA Correspondence Area English Chinese
reaTelNo	String(20)		REA Correspondence Telephone No.
reaFaxNo	String(20)		REA Correspondence Fax
reaEmailAddr	String(100)		REA Correspondence E-mail Address
reaRegNo	String(20)		REA Registration No.
reaExpiryDate	String(8)		REA Expiry Date(yyyyMMdd)
receiveDate	String(8)		Receipt Date(yyyyMMdd)
eesu	Object	Required	eesu Refer to: **Request – Content– eesu**

Request – Content - eesu

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgType	Int		Type of Building
bldgTypeOther	String(255		Type of Building

	)		Others
dateOfDeclarationByRea	String(8)		Date of Declaration by Registered Energy Assessor in Form EE1 / EE2 / EE3 / EE4 *
prevSubNo	String(100)		If EMSD's reference no. for the form submitted before is known, please provide
supersedePreviousForm	String(1)		this submission to supersede a form submitted before? (Please give a "✓" in the appropriate box)
dateOfDeclarationByReaInPreviousForm	String(8)		Otherwise, please provide the date of declaration by Registered Energy Assessor in the previous form:
encloseEeel	String(1)		Form EE-EL
encloseEelg	String(1)		Form EE-LG
encloseEeac	String(1)		Form EE-AC
encloseEele	String(1)		Form EE-LE
encloseEepb	String(1)		Form EE-PB
stageOneNo	String(20)		Section B (b) Reference No. of Stage One Declaration
occuApprovalDate	String(10)		Section B (b) Issue date (m/yyyy) of "occupation approval" (see note 6):
occuApprovalNo	String(20)		Section B(b) Permit No. / Reference No. / Contract No.* of "occupation approval"
consetBldgArea	decimal		Total internal

			floor area of building EE2
exemptGrant	String(1)		section b(e) Exemption previously granted by the Director of Electrical and Mechanic
exemptRefNo	String(20)		section b(e) Reference No.
exemptDate	String(8)		section b(e) Date(yyyyMMdd)
exemptInstallations	String(1)		section b(e) Installation(s) exempted
chklistOccpApproval	String(1)		ee2,section c checkbox 3
organizationEname	String(255)		section c Organization Name of Responsible Person# ENG
organizationCname	String(255)		section c Organization Name of Responsible Person# CHI
organizationResEname	String(255)		section c Name of Responsible Person' Representative# ENG
organizationResCname	String(255)		section c Name of Responsible Person' Representative# CHI

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	Parameter is null - (parameter name)
D20002	Already exists.	Parameter already exists - (parameter name)
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
   "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
"applicationNo": "ee207021447",
"bldgEname": "bldgEname",
"bldgCname": "中文名",
"startNo": 0,
"startNoAlpha": "string",
"endNo": 0,
"endNoAlpha": "string",
"stEname": "string",
"stCname": "string",
"districtCd": "string",
"areaCd": 0,
"lotNo": "string",
"compBecEdition": "2012",
"compEname": "compEname",
"compCname": "compCname 中文名",
"represenTitleId": 0,
"represenEname": "string",
"represenCname": "string",
"represenPost": "string",
"corresAddrLang": "1",
"corresAddrFlat": "string",
"corresAddrFloor": "string",
"corresAddrBlock": "string",
"corresAddrBldg": "string",
"corresAddrStartNo": 0,
"corresAddrStartNoAlpha": "string",
```

```
"corresAddrEndNo": 0,
"corresAddrEndNoAlpha": "string",
"corresAddrSt": "string",
"corresAddrDistrictCd": "string",
"corresAddrAreaCd": 0,
"corresTelNo": "string",
"corresFaxNo": "string",
"corresEmailAddr": "string",
"inspectDate": "20211124",
"reaTitleId": 0,
"reaEname": "reaEname",
"reaCname": "rea 中文名",
"reaAddrLang": "1",
"reaAddrFlat": "string",
"reaAddrFloor": "string",
"reaAddrBlock": "string",
"reaAddrBldg": "string",
"reaAddrStartNo": 0,
"reaAddrStartNoAlpha": "string",
"reaAddrEndNo": 0,
"reaAddrEndNoAlpha": "string",
"reaAddrSt": "string",
"reaAddrDistrictCd": "string",
"reaAddrAreaCd": 0,
"reaTelNo": "string",
"reaFaxNo": "string",
"reaEmailAddr": "string",
"reaRegNo": "string",
"reaExpiryDate": "20211124",
"receiveDate": "20211124",
"eesu": {
  "applicationNo": "ee203012221413",
  "bldgType": 0,
  "bldgTypeOther": "string",
  "dateOfDeclarationByRea": "20211124",
  "prevSubNo": "string",
  "supersedePreviousForm": "1",
  "dateOfDeclarationByReaInPreviousForm": "20211124",
  "encloseEeel": "1",
  "encloseEelg": "1",
  "encloseEeac": "1",
  "encloseEele": "1",
  "encloseEepb": "1",
  "stageOneNo": "EMSD/EEO/BC/34-00002",
  "occuApprovalDate": "string",
  "occuApprovalNo": "string",
  "consetBldgArea": 0,
  "exemptGrant": "1",
  "exemptRefNo": "string",
  "exemptDate": "20211124",
```

```
    "exemptInstallations": "1",
    "chklistOccpApproval": "1",
    "organizationEname": "string",
    "organizationCname": "string",
    "organizationResEname": "string",
    "organizationResCname": "string"
  }
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

11.3. Validation Form Data

API Description

Name	Description
Service Full Name	For validating the application data before submission.
URL	\<Backend_Service_Domain>/{Version}/EE2/ValidateFormData
Request Type	POST
Service Version	1
Description of Service	This API is to validate the application data before submission.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgEname	String(255)		Name of Proposed Building: English
bldgCname	String(255)		Name of Proposed Building: Chinese
startNo	Int		Street No
startNoAlpha	String(10)		Street No Alpha
endNo	Int		End No
endNoAlpha	String(10)		End No Alpha
stEname	String(255)		Street English
stCname	String(255)		Street Chinese r
districtCd	String(3)		Options of District English Chinese
areaCd	Int		Options of Area English Chinese [1=Hong Kong 2 =

			Kowloon 3 = New Territories]
lotNo	String(200)		Lot No.
compBecEdition	String(10)		Company BEC Edition
compEname	String(256)		-Company Name of Developer Name English
compCname	String(256)		Company Name of Developer Name Chinese
represenTitleId	String		Options of Representative Person Salutation, [1=Mr.,2=Miss,3=Ms.]
represenEname	String(256)		Representative Person English Name
represenCname	String(256)		Representative Person Chinese Name
represenPost	String(256)		Representative Position
corresAddrLang	String(1)		Options of Correspondence Address Language, [E,C]
corresAddrFlat	String(50)		Correspondence Address Room/Flat
corresAddrFloor	String(50)		Correspondence Address Floor
corresAddrBlock	String(50)		Correspondence Address Block
corresAddrBldg	String(255)		Correspondence Address Building
corresAddrStartNo	Int		Correspondence Address Street No.
corresAddrStartNoAlpha	String(10)		Correspondence Address Street No.
corresAddrEndNo	Int		Correspondence Address Street No.
corresAddrEndNoAlpha	String(10)		Correspondence Address Street
corresAddrSt	String(255)		Correspondence Address Street
corresAddrDistrictCd	String(3)		Options of Correspondence Address District
corresAddrAreaCd	Int		Options of Correspondence Address Area English Chinese
corresTelNo	String(20)		Correspondence Telephone No.
corresFaxNo	String(20)		Correspondence Fax No.
corresEmailAddr	String(100)		Correspondence E-mail Address
inspectDate	String(8)		Inspection Date (yyyyMMdd)
reaTitleId	Int		Options of REA Salutation,

			[1=Mr.,2=Miss,3=Ms.]
reaEname	String(256)		Electrical Discipline of Registered Engineer Qualifications
reaCname	String(256)		REA Chinese Name
reaAddrLang	String(1)		Options of REA Correspondence Address Language, [E,C]
reaAddrFlat	String(50)		REA Correspondence Address Room/Flat
reaAddrFloor	String(50)		REA Correspondence Address Floor
reaAddrBlock	String(50)		REA Correspondence Address Block
reaAddrBldg	String(255)		REA Correspondence Address Building
reaAddrStartNo	Int		REA Correspondence Address Street No.
reaAddrStartNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrEndNo	Int		REA Correspondence Address Street No.
reaAddrEndNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrSt	String(255)		REA Correspondence Address Street
reaAddrDistrictCd	String(3)		REA Correspondence District
reaAddrAreaCd	Int		REA Correspondence Area English Chinese
reaTelNo	String(20)		REA Correspondence Telephone No.
reaFaxNo	String(20)		REA Correspondence Fax
reaEmailAddr	String(100)		REA Correspondence E-mail Address
reaRegNo	String(20)		REA Registration No.
reaExpiryDate	String(8)		REA Expiry Date(yyyyMMdd)
receiveDate	String(8)		Receipt Date(yyyyMMdd)
eesu	Object	Required	eesu Refer to: **Request – Content– eesu**

Request – Content - eesu

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgType	Int		Type of Building

bldgTypeOther	String(255)		Type of Building Others
dateOfDeclarationByRea	String(8)		Date of Declaration by Registered Energy Assessor in Form EE1 / EE2 / EE3 / EE4 *(yyyyMMdd)
prevSubNo	String(100)		If EMSD's reference no. for the form submitted before is known, please provide
supersedePreviousForm	String(1)		this submission to supersede a form submitted before? (Please give a "✓" in the appropriate box)
dateOfDeclarationByReaInPreviousForm	String(8)		Otherwise, please provide the date of declaration by Registered Energy Assessor in the previous form:
encloseEeel	String(1)		Form EE-EL
encloseEelg	String(1)		Form EE-LG
encloseEeac	String(1)		Form EE-AC
encloseEele	String(1)		Form EE-LE
encloseEepb	String(1)		Form EE-PB
stageOneNo	String(20)		Section B (b) Reference No. of Stage One Declaration
occuApprovalDate	String(10)		Section B (b) Issue date (m/yyyy) of "occupation approval" (see note 6):
occuApprovalNo	String(20)		Section B(b) Permit No. / Reference No. / Contract No.* of "occupation approval"

consetBldgArea	decimal		Total internal floor area of building EE2
exemptGrant	String(1)		section b(e) Exemption previously granted by the Director of Electrical and Mechanic
exemptRefNo	String(20)		section b(e) Reference No.
exemptDate	String(8)		section b(e) Date(yyyyMMdd)
exemptInstallations	String(1)		section b(e) Installation(s) exempted
chklistOccpApproval	String(1)		ee2,section c checkbox 3
organizationEname	String(255)		section c Organization Name of Responsible Person# ENG
organizationCname	String(255)		section c Organization Name of Responsible Person# CHI
organizationResEname	String(255)		section c Name of Responsible Person' Representative# ENG
organizationResCname	String(255)		section c Name of Responsible Person' Representative# CHI

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code &

			Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	Parameter is null - (parameter name)
D20002	Already exists.	Parameter already exists - (parameter name)
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D40001	Form Validation	Parameter not found - (parameter name)
D90000	Unknown Exception	Runtime Exception.

Sample Request

```
{
   "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
   "applicationNo": "EE10000001",
   "bldgEname": "",
   "bldgCname": "",
   "startNo": 1
   "startNoAlpha": "",
   "endNo": 1,
   "endNoAlpha":"",
   "stEname": "",
   "stCname": "",
   "districtCd": "",
   "areaCd": 1,
   "lotNo": "",
   "compBecEdition": "",
   "compEname": "",
   "compCname": "",
   "represenTitleId": 1,
   "represenEname": "",
   "represenCname": "",
   "represenPost": "",
   "corresAddrLang": "",
   "corresAddrFlat": "",
   "corresAddrFloor": "",
```

```
    "corresAddrBlock": "",
    "corresAddrBldg": "",
    "corresAddrStartNo": 1,
     "corresAddrStartNoAlpha": "",
    "corresAddrEndNo": 1,
    "corresAddrEndNoAlpha": "",
    "corresAddrSt": "",
    "corresAddrDistrictCd": "",
    "corresAddrAreaCd":1,
    "corresTelNo": "",
    "corresFaxNo": "",
    "corresEmailAddr": "",
    "inspectDate": "20100101",
    "reaTitleId": 1,
    "reaEname": "",
    "reaCname": "",
    "reaAddrLang": "",
    "reaAddrFlat": "",
    "reaAddrFloor": "",
    "reaAddrBlock": "",
    "reaAddrBldg": "",
    "reaAddrStartNo": 1,
    "reaAddrStartNoAlpha": "",
    "reaAddrEndNo": 0,
    "reaAddrEndNoAlpha": "",
    "reaAddrSt": "",
    "reaAddrDistrictCd": "",
    "reaAddrAreaCd": 1,
    "reaTelNo": "",
    "reaFaxNo": "",
    "reaEmailAddr": "",
    "reaRegNo": "",
    "reaExpiryDate": "20100101",
    "receiveDate" : "20100101",
     "eesu":
            {
                "applicationNo": "111",
                 "bldgType": 1,
                "bldgTypeOther": "",
                "dateOfDeclarationByRea":  "20100101",
                "prevSubNo": "",
                "supersedePreviousForm":  "1",
                "dateOfDeclarationByReaInPreviousForm" :  "20100101",
                 "encloseEeel": "",
                "encloseEelg": "",
                "encloseEeac": "",
                "encloseEele": "",
                "encloseEepb": "",
                 "stageOneNo":"",
```

```
            "occuApprovalDate": "",
            "occuApprovalNo": "",
            "consetBldgArea":100.00,
            "exemptGrant": "",
            "exemptRefNo": "",
            "exemptDate": "20100101",
            "exemptInstallations": "",
             "chklistOccpApproval": "",
             "organizationEname":"",
            "organizationCname":"",
            "organizationResEname":"",
            "organizationResCname":""
        }
    }
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

11.4. Create Attachment

API Description

Name	Description
Service Full Name	For submitting the attachment to backend
URL	<Backend_Service_Domain>/{Version}/EE2/CreateAttachment
Request Type	POST
Service Version	1
Description of Service	This API is to validate the application data before submission.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.
fileName	String	Required	File name with extension of the attachment
shaFileChecksum	String	Required	The SHA file checksum of the attachment
type	String	Required	The type of the attachment
fileContent	String	Required	Base64 encoded content of the attachment
description	String	Required	Description of attachment

Response Parameters

Parameter	Type	Condition	Description

txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	The parameter "Key" is null. The parameter "applicationNo" is null. The parameter "FileName" is null. The parameter "File" is null.
D20002	Application is invalid	The application is not found. Application status is invalid.
D20003	File is invalid	File extension is invalid. File name is too long. File Name is invalid.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
  "applicationNo": "L160000001",
  "fileName": "",
  "shaFileChecksum": "",
  "type": ""
  "content": ""
  "description": ""
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
```

```
  "txID":"0514125f"
}
```

11.5. Acknowledge Submission Completed

API Description

Name	Description
Service Full Name	To acknowledge the backend submission has been completed.
URL	<Backend_Service_Domain>/{Version}/EE2/Status/SubmissionCompleted
Request Type	POST
Service Version	1
Description of Service	To acknowledge the backend after all attachments are submitted successfully.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is	The parameter "applicationNo" is null.

		null.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001"
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

12. EE3

12.1.   Request Form Data

API Description

Name	Description
Service Full Name	To get the form data
URL	<Backend_Service_Domain>/{Version}/EE3/GetForm
Request Type	POST
Service Version	1
Description of Service	To get the form data

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.

D20001	Parameter is null.	The parameter "applicationNo" is null.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001"
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

12.2. Create Form Data

API Description

Name	Description
Service Full Name	For submitting application form data.
URL	<Backend_Service_Domain>/{Version}/EE3/SubmitApplication
Request Type	POST
Service Version	1
Description of Service	This API is to submit the application from WBRS to the backend. It should not return a custom form validation error.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgEname	String(255)		Name of Proposed Building: English
bldgCname	String(255)		Name of Proposed Building: Chinese
startNo	Int		Street No
startNoAlpha	String(10)		Street No Alpha
endNo	Int		End No
endNoAlpha	String(10)		End No Alpha
stEname	String(255)		Street English
stCname	String(255)		Street Chinese
districtCd	String(3)		Options of District English Chinese
areaCd	Int		Options of Area English Chinese [1=Hong Kong 2 = Kowloon 3 = New

			Territories]
compBecEdition	String(30)		Company BEC Edition
compEname	String(256)		-Company Name of Developer Name English
compCname	String(256)		Company Name of Developer Name Chinese
represenTitleId	Int		Options of Representative Person Salutation, [1=Mr.,2=Miss,3=Ms.]
represenEname	String(256)		Representative Person English Name
represenCname	String(256)		Representative Person Chinese Name
represenPost	String(256)		Representative Position
corresAddrLang	String(1)		Options of Correspondence Address Language, [E,C]
corresAddrFlat	String(50)		Correspondence Address Room/Flat
corresAddrFloor	String(50)		Correspondence Address Floor
corresAddrBlock	String(50)		Correspondence Address Block
corresAddrBldg	String(255)		Correspondence Address Building
corresAddrStartNo	Int		Correspondence Address Street No.
corresAddrStartNoAlpha	String(10)		Correspondence Address Street No.
corresAddrEndNo	Int		Correspondence Address Street No.
corresAddrEndNoAlpha	String(10)		Correspondence Address Street
corresAddrSt	String(255)		Correspondence Address Street
corresAddrDistrictCd	String(3)		Options of Correspondence Address District
corresAddrAreaCd	Int		Options of Correspondence Address Area English Chinese
corresTelNo	String(20)		Correspondence Telephone No.
corresFaxNo	String(20)		Correspondence Fax No.
corresEmailAddr	String(100)		Correspondence E-mail Address
becEdition	String(10)		REA BEC Edition
becDate	String(8)		REA BEC building services installations covered Date *(yyyyMMdd)
reaTitleId	Int		Options of REA Salutation,

			[1=Mr.,2=Miss,3=Ms.]
reaEname	String(256)		Electrical Discipline of Registered Engineer Qualifications
reaCname	String(256)		REA Chinese Name
reaAddrLang	String(1)		Options of REA Correspondence Address Language, [E,C]
reaAddrFlat	String(50)		REA Correspondence Address Room/Flat
reaAddrFloor	String(50)		REA Correspondence Address Floor
reaAddrBlock	String(50)		REA Correspondence Address Block
reaAddrBldg	String(255)		REA Correspondence Address Building
reaAddrStartNo	Int		REA Correspondence Address Street No.
reaAddrStartNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrEndNo	Int		REA Correspondence Address Street No.
reaAddrEndNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrSt	String(255)		REA Correspondence Address Street
reaAddrDistrictCd	String(3)		REA Correspondence District
reaAddrAreaCd	Int		REA Correspondence Area English Chinese
reaTelNo	String(20)		REA Correspondence Telephone No.
reaFaxNo	String(20)		REA Correspondence Fax
reaEmailAddr	String(100)		REA Correspondence E-mail Address
reaRegNo	String(20)		REA Registration No.
reaExpiryDate	String(8)		REA Expiry Date(yyyyMMdd)
receiveDate	String(8)		Receipt Date(yyyyMMdd)
cocr	Array of Objects		Refer to: **Response–Content-COCR**
foc	Array of Objects		Refer to: **Response–Content-foc**
eesu	Object		Refer to: **Response–Content-eesu**

Request – Content–COCR

Parameter	Type	Condition	Description
submissionId	Int		Application

Parameter	Type	Condition	Description
			Submission ID
applicationNo	String(20)		WBRS Application Number
expiryDate	String(8)		Expiry Date(yyyyMMdd)
regNo	String(20)		Registration No.

Request – Content–FOC

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
workloc	String(1024)		Location of Works
commonArea	String(1)		Common Area
unit	String(1)		Unit
isTypeLg	String(1)		Lighting
isTypeAc	String(1)		Air Conditioning
isTypeEl	String(1)		Electrical
isTypeLe	String(1)		Lift & Escalator
issueDate	String(8)		Date of Issue(yyyyMMdd)
becEdition	String(20)		Edition of Code of Practice applied

Request – Content– eesu

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgType	Int		Type of Building
bldgTypeOther	String(255)		Type of Building Other
dateOfDeclarationByRea	String(8)		Date of Declaration by Registered Energy Assessor in Form EE1 / EE2 / EE3 / EE4 *(yyyyMMdd)
prevSubNo	String(100)		If EMSD's reference no. for the form submitted before is known, please provide
supersedePreviousForm	String(1)		this submission to supersede a form submitted before? (Please give a "✓" in the appropriate box)
dateOfDeclarationByReaInPreviousForm	String(8)		Otherwise, please provide the date of declaration by Registered Energy Assessor in the previous form: (yyyyMMdd)

encloseEeel	String(1)		Form EE-EL
encloseEelg	String(1)		Form EE-LG
encloseEeac	String(1)		Form EE-AC
encloseEele	String(1)		Form EE-LE
encloseEepb	String(1)		Form EE-PB
encloseEepb	String(1)		Form EE-PB
exemptGrant	String(1)		section b(e) Exemption previously granted by the Director of Electrical and Mechanic
exemptRefNo	String(20)		section b(e) Reference No.
exemptDate	String(8)		section b(e) Date(yyyyMMdd)
exemptInstallations	String(300)		section b(e) Installation(s) exempted
organizationEname	String(255)		section c Organization Name of Responsible Person# ENG
organizationCname	String(255)		section c Organization Name of Responsible Person# CHI
organizationResEname	String(255)		section c Name of Responsible Person' Representative# ENG
organizationResCname	String(255)		section c Name of Responsible Person' Representative# CHI

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".

details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	Parameter is null - (parameter name)
D20002	Already exists.	Parameter already exists - (parameter name)
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
 "category": "1",
 "seq": 1,
 "applicationNo": "ee307021510",
 "bldgEname": "bldgEname",
 "bldgCname": "bldgCname 中文",
 "startNo": "01",
 "startNoAlpha": "string",
 "endNo": "22",
 "endNoAlpha": "string",
 "stEname": "stEname",
 "stCname": "stCname 中文",
 "districtCd": "001",
 "areaCd": "1",
 "cocrRegNo": "string",
 "compBecEdition": "2012",
 "compEname": "compEname",
 "compCname": "compCname 中文",
 "represenTitleId": 0,
 "represenEname": "represenEname",
 "represenCname": "represenCname 中文",
 "represenPost": "string",
 "corresAddrLang": "E",
 "corresAddrFlat": "string",
```

```json
"corresAddrFloor": "string",
"corresAddrBlock": "string",
"corresAddrBldg": "string",
"corresAddrStartNo": 0,
"corresAddrStartNoAlpha": "string",
"corresAddrEndNo": 0,
"corresAddrEndNoAlpha": "stirng",
"corresAddrSt": "string",
"corresAddrDistrictCd": "001",
"corresAddrAreaCd": 1,
"corresTelNo": "stirng",
"corresFaxNo": "string",
"corresEmailAddr": "a@a.a",
"becdate": "20211119",
"corresSigndate": "20211119",
"recedate": "20211119",
"becEdition": "2012",
"inspectdate": "20211119",
"reaTitleId": 0,
"reaEname": "reaEname",
"reaCname": "reaCname 名字",
"reaAddrLang": "E",
"reaAddrFlat": "string",
"reaAddrFloor": "string",
"reaAddrBlock": "stirng",
"reaAddrBldg": "stirng",
"reaAddrStartNo": 0,
"reaAddrStartNoAlpha": "string",
"reaAddrEndNo": 0,
"reaAddrEndNoAlpha": "string",
"reaAddrSt": "string",
"reaAddrDistrictCd": "001",
"reaAddrAreaCd": 1,
"reaTelNo": "string",
"reaFaxNo": "string",
"reaEmailAddr": "string",
"reaRegNo": "string",
"reaExpirydate": "20211119",
"reaSigndate": "20211119",
"formstatus": 0,
"forwarduserid": "string",
"statusCode": "1",
"wbrsStatus": "0",
"eesu": {
  "applicationNo": "ee307021510",
  "category": "1",
  "seq": 1,
  "bldgType": 0,
  "submissionId": 0,
  "bldgTypeOther": "string",
```

```json
      "dateOfDdeclarationByRea": "20211119",
      "supersedePerviusForm": "1",
      "dateOfDdeclarationByReaInPreviousForm": "20211119",
      "prevSubNo": "string",
      "parentForm": "1",
      "stageOneNo": "1",
      "encloseEeel": "1",
      "encloseEelg": "1",
      "encloseEeac": "1",
      "encloseEele": "1",
      "encloseEepb": "1",
      "exemptGrant": "1",
      "exemptRefNo": "1",
      "ownerSingdate": "20211119",
      "reaSingdate": "20211119",
      "exemptdate": "20211119",
      "exemptInstallations": "exemptInstallations",
      "organizationEname": "organizationEname",
      "organizationCname": "organizationCname",
      "organizationResEname": "organizationResEname",
      "organizationResCname": "organizationResCname 名字",
      "statusCode": "1"
    },
    "foc": [
      {
        "category": "1",
        "seq": 1,
        "applicationNo": "ee307021510",
        "subSeq": 1,
        "refNo": "string",
        "issuedate": "20211119",
        "becEdition": "2012",
        "isTypeLg": "1",
        "isTypeAc": "1",
        "isTypeEl": "1",
        "isTypeLe": "1",
        "statusCode": "1"
      }
    ],
    "cocr": [
      {
        "category": "1",
        "seq": 1,
        "applicationNo": "ee307021510",
        "subSeq": 1,
        "regNo": "string",
        "expirydate": "20211119",
        "statusCode": "1"
      }
    ]
```

```
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":" D00000 "
}
```

12.3. Validate Form Data

API Description

Name	Description
Service Full Name	For validating the application data before submission.
URL	<Backend_Service_Domain>/{Version}/EE3/ValidateFormData
Request Type	POST
Service Version	1
Description of Service	This API is to validate the application data before submission.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgEname	String(255)		Name of Proposed Building: English
bldgCname	String(255)		Name of Proposed Building: Chinese
startNo	Int		Street No
startNoAlpha	String(10)		Street No Alpha
endNo	Int		End No
endNoAlpha	String(10)		End No Alpha
stEname	String(255)		Street English
stCname	String(255)		Street Chinese r
districtCd	String(3)		Options of District English Chinese
areaCd	Int		Options of Area English Chinese

			[1=Hong Kong 2 = Kowloon 3 = New Territories]
compBecEdition	String(30)		Company BEC Edition
compEname	String(256)		-Company Name of Developer Name English
compCname	String(256)		Company Name of Developer Name Chinese
represenTitleId	Int		Options of Representative Person Salutation, [1=Mr.,2=Miss,3=Ms.]
represenEname	String(256)		Representative Person English Name
represenCname	String(256)		Representative Person Chinese Name
represenPost	String(256)		Representative Position
corresAddrLang	String(1)		Options of Correspondence Address Language, [E,C]
corresAddrFlat	String(50)		Correspondence Address Room/Flat
corresAddrFloor	String(50)		Correspondence Address Floor
corresAddrBlock	String(50)		Correspondence Address Block
corresAddrBldg	String(255)		Correspondence Address Building
corresAddrStartNo	Int		Correspondence Address Street No.
corresAddrStartNoAlpha	String(10)		Correspondence Address Street No.
corresAddrEndNo	Int		Correspondence Address Street No.
corresAddrEndNoAlpha	String(10)		Correspondence Address Street
corresAddrSt	String(255)		Correspondence Address Street
corresAddrDistrictCd	String(3)		Options of Correspondence Address District
corresAddrAreaCd	Int		Options of Correspondence Address Area English Chinese
corresTelNo	String(20)		Correspondence Telephone No.
corresFaxNo	String(20)		Correspondence Fax No.
corresEmailAddr	String(100)		Correspondence E-mail Address
becEdition	String(10)		REA BEC Edition
becDATE	String(8)		REA BEC building services installations covered

Parameter	Type	Condition	Description
			Date(yyyyMMdd)
reaTitleId	Int		Options of REA Salutation, [1=Mr.,2=Miss,3=Ms.]
reaEname	String(256)		Electrical Discipline of Registered Engineer Qualifications
reaCname	String(256)		REA Chinese Name
reaAddrLang	String(1)		Options of REA Correspondence Address Language, [E,C]
reaAddrFlat	String(50)		REA Correspondence Address Room/Flat
reaAddrFloor	String(50)		REA Correspondence Address Floor
reaAddrBlock	String(50)		REA Correspondence Address Block
reaAddrBldg	String(255)		REA Correspondence Address Building
reaAddrStartNo	Int		REA Correspondence Address Street No.
reaAddrStartNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrEndNo	Int		REA Correspondence Address Street No.
reaAddrEndNoAlpha	String(10)		REA Correspondence Address Street No.
reaAddrSt	String(255)		REA Correspondence Address Street
reaAddrDistrictCd	String(3)		REA Correspondence District
reaAddrAreaCd	Int		REA Correspondence Area English Chinese
reaTelNo	String(20)		REA Correspondence Telephone No.
reaFaxNo	String(20)		REA Correspondence Fax
reaEmailAddr	String(100)		REA Correspondence E-mail Address
reaRegNo	String(20)		REA Registration No.
reaExpiryDate	String(8)		REA Expiry Date(yyyyMMdd)
receiveDate	String(8)		Receipt Date(yyyyMMdd)
cocr	Array of Objects		Refer to: **Request – Content–COCR**
foc	Array of Objects		Refer to: **Request – Content–FOC**
eesu	Object		Refer to: **Request – Content–eesu**

Request – Content–COCR

Parameter	Type	Condition	Description

submissionId	Int		Application Submission ID
applicationNo	String(20)		WBRS Application Number
expiryDate	String(8)		Expiry Date(yyyyMMdd)
regNo	String(20)		Registration No.

Request – Content–FOC

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
workloc	String(1024)		Location of Works
commonArea	String(1)		Common Area
unit	String(1)		Unit
isTypeLg	String(1)		Lighting
isTypeAc	String(1)		Air Conditioning
isTypeEl	String(1)		Electrical
isTypeLe	String(1)		Lift & Escalator
issueDate	String(8)		Date of Issue(yyyyMMdd)
becEdition	String(20)		Edition of Code of Practice applied

Request – Content–eesu

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgType	Int		Type of Building
bldgTypeOther	String(255)		Type of Building Other
dateOfDeclarationByRea	String(8)		Date of Declaration by Registered Energy Assessor in Form EE1 / EE2 / EE3 / EE4 *(yyyyMMdd)
prevSubNo	String(100)		If EMSD's reference no. for the form submitted before is known, please provide
supersedePreviousForm	String(1)		this submission to supersede a form submitted before? (Please give a "✓" in the appropriate box)
dateOfDeclarationByReaInPreviousForm	String(8)		Otherwise, please provide the date of declaration by Registered Energy Assessor in the previous form: (yyyyMMdd)

encloseEeel	String(1)		Form EE-EL
encloseEelg	String(1)		Form EE-LG
encloseEeac	String(1)		Form EE-AC
encloseEele	String(1)		Form EE-LE
encloseEepb	String(1)		Form EE-PB
exemptGrant	String(1)		section b(e) Exemption previously granted by the Director of Electrical and Mechanic
exemptRefNo	String(20)		section b(e) Reference No.
exemptDate	String(8)		section b(e) Date(yyyyMMdd)
exemptInstallations	String(300)		section b(e) Installation(s) exempted
organizationEname	String(255)		section c Organization Name of Responsible Person# ENG
organizationCname	String(255)		section c Organization Name of Responsible Person# CHI
organizationResEname	String(255)		section c Name of Responsible Person' Representative# ENG
organizationResCname	String(255)		section c Name of Responsible Person' Representative# CHI

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message	
D00000	Success Result.	D00000	Success Result.
D20001	Parameter is null.	CE2001	The parameter "Key" is null.
		CE2002	The parameter "WBRSApplicationNo" is null.

		CE2003	The parameter "Submission Time" is null.
D20002	Already exists.	CE2011	The value of "WBRSApplicationNo" already exists.
D30001	Header is null	CE3001	The header "clientID" is null.
		CE3002	The header "signature" is null.
		CE3003	The header "nonce " is null.
D30002	Header is wrong	CE3011	The header "clientID" is not found in the list.
		CE3012	The header "signature" is incorrect. (MITM Attack)
		CE3013	The header "nonce "is already used. (Replay Attack)
D40001	Form Validation	CE4001	Lift location not found.
			Other Validations
D90000	Unknown Exception	E9999	Runtime Exception.

Sample Request

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
"category": "4",
"seq": 1,
"applicationNo": "4",
"bldgEname": "4",
"bldgCname": "4",
"startNo": 1,
"startNoAlpha": "4",
"endNo": 1,
"endNoAlpha": "4",
"stEname": "4",
"stCname": "4",
"districtCd": "4",
"areaCd": 1,
"cocrRegNo": "4",
"compBecEdition": "4",
"compEname": "4",
"compCname": "4",
"represenTitleId": 1,
"represenEname": "4",
"represenCname": "4",
"represenPost": "4",
"corresAddrLang": "4",
"corresAddrFlat": "4",
"corresAddrFloor": "4",
"corresAddrBlock": "4",
"corresAddrBldg": "4",
```

```
  "corresAddrStartNo": 1,
  "corresAddrStartNoAlpha": "4",
  "corresAddrEndNo": 1,
  "corresAddrEndNoAlpha": "4",
  "corresAddrSt": "4",
  "corresAddrDistrictCd": "4",
  "corresAddrAreaCd": 1,
  "corresTelNo": "4",
  "corresFaxNo": "4",
  "corresEmailAddr": "4",
  "becDate": "20211119",
  "becEdition": "4",
  "reaTitleId": 1,
  "reaEname": "4",
  "reaCname": "11",
  "reaAddrLang": "4",
  "reaAddrFlat": "4",
  "reaAddrFloor": "4",
  "reaAddrBlock": "4",
  "reaAddrBldg": "4",
  "reaAddrStartNo": 1,
  "reaAddrStartNoAlpha": "4",
  "reaAddrEndNo": 1,
  "reaAddrEndNoAlpha": "4",
  "reaAddrSt": "4",
  "reaAddrDistrictCd": "4",
  "reaAddrAreaCd": 1,
  "reaTelNo": "4",
  "reaFaxNo": "4",
  "reaEmailAddr": "4",
  "reaRegNo": "4",
  "reaExpiryDate": "20211119",
  "formstatus": 1,
  "forwarduserid": "4",
  "statusCode": "1        ",
  "submissionId": 1,
  "receiveDate": "20211119",
  "wbrsStatus": "4",
  "eesu": {
    "applicationNo": "4",
    "category": "4",
    "seq": 1,
    "bldgType": 0,
    "submissionId": 1,
    "bldgTypeOther": "4",
    "dateOfDdeclarationByRea": "20211122",
    "supersedePerviusForm": "4",
    "dateOfDdeclarationByReaInPreviousForm": "20211122",
    "prevSubNo": "4",
    "parentForm": "4",
```

```
    "encloseEeel": "4",
    "encloseEelg": "4",
    "encloseEeac": "4",
    "encloseEele": "4",
    "encloseEepb": "4",
    "exemptGrant": "4",
    "exemptRefNo": "4",
    "ownerSingDate": "20211122",
    "reaSingDate": "20211122",
    "exemptDate": "20211122",
    "exemptInstallations": "4",
    "organizationEname": "4",
    "organizationCname": "4",
    "organizationResEname": "4",
    "organizationResCname": "4",
    "statusCode": "1        ",
  },
  "foc": [
    {
      "category": "4",
      "seq": 1,
      "applicationNo": "4",
      "subSeq": 1,
      "refNo": "4",
      "issueDate": "20211122",
      "becEdition": "4",
      "isTypeLg": "4",
      "isTypeAc": "4",
      "isTypeEl": "4",
      "isTypeLe": "4",
      "statusCode": "1        ",
      "submissionId": 1,
    },
    {
      "category": "4",
      "seq": 1,
      "applicationNo": "4",
      "subSeq": 1,
      "refNo": "4",
      "issueDate": "20211122",
      "becEdition": "4",
      "isTypeLg": "4",
      "isTypeAc": "4",
      "isTypeEl": "4",
      "isTypeLe": "4",
      "statusCode": "1        ",
      "submissionId": 1,

    }
  ],
```

```
  "cocr": [
    {
     "category": "4",
     "seq": 1,
     "applicationNo": "4",
     "subSeq": 1,
     "regNo": "4",
     "expiryDate": "20211119",
     "statusCode": "1        ",
     "submissionId": 1,


    }
  ],
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

12.4. Create Attachment

API Description

Name	Description
Service Full Name	For submitting the attachment to backend
URL	<Backend_Service_Domain>/{Version}/EE3/CreateAttachment
Request Type	POST
Service Version	1
Description of Service	This API is to validate the application data before submission.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.
fileName	String	Required	File name with extension of the attachment
shaFileChecksum	String	Required	The SHA file checksum of the attachment
type	String	Required	The type of the attachment
fileContent	String	Required	Base64 encoded content of the attachment

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID

			during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message	
D00000	Success Result.	D00000	Success Result.
D20001	Parameter is null.	CE2001	The parameter "Key" is null.
		CE2002	The parameter "WBRSApplicationNo" is null.
		CE2003	The parameter "Submission Time" is null.
		CE2004	The parameter "FileName" is null.
		CE2005	The parameter "File" is null.
D20002	Application is invalid	CE2011	The application is not found.
		CE2012	Application status is invalid.
D20003	File is invalid	CE2021	File extension is invalid.
		CE2022	File name is too long.
		CE2023	File Name is invalid.
D30001	Header is null	CE3001	The header "clientID" is null.
		CE3002	The header "signature" is null.
		CE3003	The header "nonce " is null.
D30002	Header is wrong	CE3011	The header "clientID" is not found in the list.
		CE3012	The header "signature" is incorrect. (MITM Attack)
		CE3013	The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	E9999	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
  "appno": "L160000001",
  "attpath": "",
  "type": "",
  "remark": ""
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

12.5.   Acknowledge Submission Completed

PI Description

Name	Description
Service Full Name	To acknowledge the backend submission has been completed.
URL	<Backend_Service_Domain>/{Version}/EE3/Status/SubmissionCompleted
Request Type	POST
Service Version	1
Description of Service	To acknowledge the backend after all attachments are submitted successfully.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is	The parameter "applicationNo" is null.

	null.	
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001"
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

13. EE4

13.1. Request Form Data

API Description

Name	Description
Service Full Name	To get the form data
URL	<Backend_Service_Domain>/{Version}/EE4/GetForm
Request Type	POST
Service Version	1
Description of Service	To get the form data

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.

D20001	Parameter is null.	The parameter "applicationNo" is null.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001"
}
```

Sample Response

```
{
    "code":"D00000",
    "message":"D00000",
    "txID":"0514125f"
}
```

13.2. Create Form Data

API Description

Name	Description
Service Full Name	For submitting application form data.
URL	<Backend_Service_Domain>/{Version}/EE4/SubmitApplication
Request Type	POST
Service Version	1
Description of Service	This API is to submit the application from WBRS to the backend. It should not return a custom form validation error.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String(20)		WBRS Application Number
bldgEname	String(255)		Name of Proposed Building: English
bldgCname	String(255)		Name of Proposed Building: Chinese
stEname	String(255)		Street English Name
stCname	String(255)		Street Chinese Name
streetNo	int		Street no
EndNo	int		END NO
endNoAlpha	string(10)		END NO ALPHA
stEname	String(255)		Street English
stCname	String(255)		Street Chinese
AreaCd	Int		Options of Area English Chinese
compEname	String(255)		Company Name of Developer Name English
compCname	String(255)		Company Name of

			Developer Name Chinese
conpFlat	String(50)		Company Flat
conpFloor	String(50)		Company Floor
conpBlock	String(50)		Company Block
otherDescription	String(255)		Other Description
represenEname	String(255)		Name of Responsible Person English
represenCname	String(255)		Name of Responsible Person Chinese
reaTitleId	Int		Options of Representative Person Salutation
responEname	String(255)		Representative Person English name
represenCname	String(255)		Representative Person Chinese name
represenPost	String(256)		Position
corresAddrFlat	String(1)		Correspondence Address Room/Flat
corresAddrFloor	String(50)		Correspondence Address Floor
corresAddrBlock	String(50)		Correspondence Address Block
corresAddrBldg	String(256)		Correspondence Address Building
corresAddrStartNo	int		Correspondence Address Street No.
corresAddrStartNoAlpha	String(10)		Correspondence Address Street No.
corresAddrDistrictCd	String(3)		Options of Correspondence Address District,
corresTelNo	String(100)		Correspondence Telephone No
corresFaxNo	String(100)		Correspondence Fax No
corresEmailAddr	String(100)		Correspondence E-mail Address
compBecEdition	String(100)		Company BEC Edition
becEdition	String(10)		EDITION
inspectDate	String(8)		Personally check the time of building equipment installation covered by this form(yyyyMMdd)
reaEname	String(255)		English name of registered energy appraiser
reaCname	String(255)		Chinese name of registered energy appraiser
reaTitleId	int		Salutation of registered energy appraiser
reaAddrFlat	String(50)		REA Correspondence Address Room/Flat

reaAddrFloor	String(50)		REA Correspondence Address Floor
reaAddrBlock	String(50)		REA Correspondence Address Block
reaAddrBldg	String(50)		REA Correspondence Address Building
reaAddrStartNo	String(255)		REA Correspondence Address Street No.
reaAddrStartNoAlpha	String(20)		REA Correspondence Address Street No.
reaTelNo	String(20)		REA Correspondence Telephone No.
reaFaxNo	String(20)		REA Correspondence Fax
reaEmailAddr	String(100)		REA Correspondence E-mail Address
reaRegNo	String(20)		REA Registration No.
reaExpiryDate	String(8)		REA Expiry Date(yyyyMMdd)
submissionId	Int		Application Submission ID

Response – Content– eesu

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgType	Int		Type of Building
bldgTypeOther	String(255)		Type of Building Other
dateOfDeclarationByRea	String(8)		Date of Declaration by Registered Energy Assessor in Form EE1 / EE2 / EE3 / EE4 *(yyyyMMdd)
prevSubNo	String(100)		If EMSD's reference no. for the form submitted before is known, please provide
supersedePreviousForm	String(1)		this submission to supersede a form submitted before? (Please give a "✓" in the appropriate box)
dateOfDeclarationByReaInPreviousForm	String(8)		Otherwise, please provide the date of declaration by Registered Energy Assessor in the previous form:

			(yyyyMMdd)
encloseEeel	String(1)		Form EE-EL
encloseEelg	String(1)		Form EE-LG
encloseEeac	String(1)		Form EE-AC
encloseEele	String(1)		Form EE-LE
encloseEepb	String(1)		Form EE-PB
exemptGrant	String(1)		section b(e) Exemption previously granted by the Director of Electrical and Mechanic
exemptRefNo	String(20)		section b(e) Reference No.
exemptDate	String(8)		section b(e) Date
exemptInstallations	String(300)		section b(e) Installation(s) exempted
declareInfOcorrect1	String(1)		ee4,section c checkbox 4
declareInfOcorrect2	String(1)		ee4,section c checkbox 5
declareInfOcorrect3	String(1)		ee4,section c checkbox 5-1
declareInfOcorrect4	String(1)		ee4,section c checkbox 5-2
declareInfOcorrect5	String(1)		ee4,section c checkbox 5-3
organizationEname	String(255)		section c Organization Name of Responsible Person# ENG
organizationCname	String(255)		section c Organization Name of Responsible Person# CHI
organizationResEname	String(255)		section c Name of Responsible Person' Representative# ENG
organizationResEname	String(255)		section c Name of Responsible Person' Representative# CHI

Response – Content– WORK

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
seq	Int		
subseq	Int		
workloc	String(1024)		Location of Works
commonArea	String(1)		Common Area
unit	String(1)		Unit
isTypeLg	String(1)		Lighting
isTypeAc	String(1)		Air Conditioning
isTypeEl	String(1)		Electrical
isTypeLe	String(1)		Lift & Escalator
completeDate	String(8)		Work Completion Date(yyyyMMdd)

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is null.	Parameter is null - (parameter name)
D20002	Already exists.	Parameter already exists - (parameter name)
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack)

		The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "LE08021526",
    "bldgEname": "1",
    "bldgCname": "1",
    "startNo": 0,
    "startNoAlpha": "1",
    "endNo": 0,
    "endNoAlpha": "1",
    "stEname": "1",
    "stCname": "1",
    "districtCd": "1",
    "areaCd": 0,
    "locEname": "1",
    "locCname": "1",
    "locFlat": "1",
    "locFloor": "1",
    "locBlock": "1",
    "locDesc": "1",
    "isOwnerCommonArea": "1",
    "isOwnerCentralBs": "1",
    "isTenantUnit": "1",
    "isOccuiperUnit": "1",
    "isOwnerUnit": "1",
    "responTitleId": 0,
    "responEname": "1",
    "responCname": "1",
    "represenTitleId": 0,
    "represenEname": "1",
    "represenCname": "1",
    "represenPost": "1",
    "corresAddrLang": "1",
    "corresAddrFlat": "1",
    "corresAddrFloor": "1",
    "corresAddrBlock": "1",
    "corresAddrBldg": "1",
    "corresAddrStartNo": 0,
    "corresAddrStartNoAlpha": "1",
    "corresAddrEndNo": 0,
    "corresAddrEndNoAlpha": "1",
    "corresAddrSt": "1",
```

```
    "corresAddrDistrictCd": "1",
    "corresAddrAreaCd": 0,
    "corresTelNo": "1",
    "corresFaxNo": "1",
    "corresEmailAddr": "1",
    "becEdition": "1",
    "inspectDate": "20211119",
    "reaTitleId": 0,
    "reaEname": "1",
    "reaCname": "1",
    "reaAddrLang": "1",
    "reaAddrFlat": "1",
    "reaAddrFloor": "1",
    "reaAddrBlock": "1",
    "reaAddrBldg": "1",
    "reaAddrStartNo": 0,
    "reaAddrStartNoAlpha": "1",
    "reaAddrEndNo": 0,
    "reaAddrEndNoAlpha": "1",
    "reaAddrSt": "1",
    "reaAddrDistrictCd": "1",
    "reaAddrAreaCd": 0,
    "reaTelNo": "1",
    "reaFaxNo": "1",
    "reaEmailAddr": "1",
    "reaRegNo": "1",
    "reaExpiryDate": "20211119",
    "formstatus": 0,
    "seq": 0,
    "forwarduserid": "1",
    "receiveDate": "20211119",
    "wbrsStatus": "1",
    "eesu": {
        "applicationNo": "1",
        "seq": 1,
        "parentForm": "1",
        "bldgType": 0,
        "bldgTypeOther": "1",
        "dateOfDdeclarationByRea": "20211214",
        "supersedePerviusForm": "1",
        "dateOfDdeclarationByReaInPreviousForm": "20211214",
        "prevSubNo": "1",
        "encloseEeel": "1",
        "encloseEelg": "1",
        "encloseEeac": "1",
        "encloseEele": "1",
        "encloseEepb": "1",
        "exemptGrant": "1",
        "exemptRefNo": "1",
        "exemptdate": "20211214",
```

```json
      "exemptInstallations": "1",
      "declareInfoCorrect1": "1",
      "declareInfoCorrect2": "1",
      "declareInfoCorrect3": "1",
      "declareInfoCorrect4": "1",
      "declareInfoCorrect5": "1",
      "organizationEname": "1",
      "organizationCname": "1",
      "organizationResEname": "1",
      "organizationResCname": "1"
    },
    "work": [
      {
        "applicationNo": "LE08021526",
        "seq": 1,
        "subSeq": 1,
        "worKoc": "1",
        "commonArea": "1",
        "unit": "1",
        "workArea": 0,
        "isTypeLg": "1",
        "isTypeAc": "1",
        "isTypeEl": "1",
        "isTypeLe": "1",
        "completedate": "20211214"
      }
    ]
}
```

Sample Response

```json
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

13.3. Validation Form Data

API Description

Name	Description
Service Full Name	For validating the application data before submission.
URL	<Backend_Service_Domain>/{Version}/EE4/ValidateFormData
Request Type	POST
Service Version	1
Description of Service	This API is to validate the application data before submission.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String(20)		WBRS Application Number
bldgEname	String(255)		Name of Proposed Building: English
bldgCname	String(255)		Name of Proposed Building: Chinese
stEname	String(255)		Street English Name
stCname	String(255)		Street Chinese Name
streetNo	int		Street no
endNo	int		END NO
endNoAlpha	string(10)		END NO ALPHA
stEname	String(255)		Street English
stCname	String(255)		Street Chinese
areaCd	Int		Options of Area English Chinese
compEname	String(255)		Company Name of Developer Name English

compCname	String(255)		Company Name of Developer Name Chinese
conpFlat	String(50)		Company Flat
conpFloor	String(50)		Company Floor
conpBlock	String(50)		Company Block
otherDescription	String(255)		Other Description
represenEname	String(255)		Name of Responsible Person English
represenCname	String(255)		Name of Responsible Person Chinese
reaTitleId	Int		Options of Representative Person Salutation
responEname	String(255)		Representative Person English name
represenCname	String(255)		Representative Person Chinese name
represenPost	String(256)		Position
corresAddrFlat	String(1)		Correspondence Address Room/Flat
corresAddrFloor	String(50)		Correspondence Address Floor
corresAddrBlock	String(50)		Correspondence Address Block
corresAddrBldg	String(256)		Correspondence Address Building
corresAddrStartNo	int		Correspondence Address Street No.
corresAddrStartNoAlpha	String (10)		Correspondence Address Street No.
corresAddrDistrictCd	String (3)		Options of Correspondence Address District,
corresTelNo	String (100)		Correspondence Telephone No
corresFaxNo	String (100)		Correspondence Fax No
corresEmailAddr	String (100)		Correspondence E-mail Address
compBecEdition	String (100)		Company BEC Edition
becEdition	String (10)		EDITION
inspectDate	String(8)		Personally check the time of building equipment installation covered by this form(yyyyMMdd)
reaEname	String(255)		English name of registered energy appraiser
reaCname	String(255)		Chinese name of registered energy appraiser
reaTitleId	int		Salutation of registered energy appraiser
reaAddrFlat	String(50)		REA Correspondence

			Address Room/Flat
reaAddrFloor	String(50)		REA Correspondence Address Floor
reaAddrBlock	String(50)		REA Correspondence Address Block
reaAddrBldg	String(50)		REA Correspondence Address Building
reaAddrStartNo	String(255)		REA Correspondence Address Street No.
reaAddrStartNoAlpha	String(20)		REA Correspondence Address Street No.
reaTelNo	String(20)		REA Correspondence Telephone No.
reaFaxNo	String(20)		REA Correspondence Fax
reaEmailAddr	String(100)		REA Correspondence E-mail Address
reaRegNo	String(20)		REA Registration No.
reaExpiryDate	String(8)		REA Expiry Date(yyyyMMdd)

Response – Content– eesu

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
bldgType	Int		Type of Building
bldgTypeOther	String(255)		Type of Building Other
dateOfDeclarationByRea	String(8)		Date of Declaration by Registered Energy Assessor in Form EE1 / EE2 / EE3 / EE4 *(yyyyMMdd)
prevSubNo	String(100)		If EMSD's reference no. for the form submitted before is known, please provide
supersedePreviousForm	String(1)		this submission to supersede a form submitted before? (Please give a "√" in the appropriate box)
dateOfDeclarationByReaInPreviousForm	String(8)		Otherwise, please provide the date of declaration by Registered Energy Assessor in the previous form:

			(yyyyMMdd)
encloseEeel	String(1)		Form EE-EL
encloseEelg	String(1)		Form EE-LG
encloseEeac	String(1)		Form EE-AC
encloseEele	String(1)		Form EE-LE
encloseEepb	String(1)		Form EE-PB
exemptGrant	String (1)		section b(e) Exemption previously granted by the Director of Electrical and Mechanic
exemptRefNo	String(20)		section b(e) Reference No.
exemptDate	String(8)		section b(e) Date (yyyyMMdd)
exemptInstallations	String(300)		section b(e) Installation(s) exempted
declareInfOcorrect1	String(1)		ee4,section c checkbox 4
declareInfOcorrect2	String(1)		ee4,section c checkbox 5
declareInfOcorrect3	String(1)		ee4,section c checkbox 5-1
declareInfOcorrect4	String(1)		ee4,section c checkbox 5-2
declareInfOcorrect5	String(1)		ee4,section c checkbox 5-3
organizationEname	String(255)		section c Organization Name of Responsible Person# ENG
organizationCname	String(255)		section c Organization Name of Responsible Person# CHI
organizationResEname	String(255)		section c Name of Responsible Person' Representative# ENG
organizationResEname	String(255)		section c Name of Responsible Person' Representative# CHI

Response – Content– WORK

Parameter	Type	Condition	Description
applicationNo	String(20)		Reference Number
seq	Int		
subseq	Int		
workloc	String(1024)		Location of Works
commonArea	String (1)		Common Area
unit	String (1)		Unit
isTypElg	String (1)		Lighting
isTypeAc	String (1)		Air Conditioning
isTypeEl	String (1)		Electrical
isTypEle	String (1)		Lift & Escalator
completeDate	String(8)		Work Completion Date(yyyyMMdd)

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message	
D00000	Success Result.	D00000	Success Result.
D20001	Parameter is null.	CE2001	The parameter "Key" is null.
		CE2002	The parameter "WBRSApplicationNo" is null.
		CE2003	The parameter "Submission Time" is null.
D20002	Already exists.	CE2011	The value of "WBRSApplicationNo" already exists.
D30001	Header is null	CE3001	The header "clientID" is null.
		CE3002	The header "signature" is null.
		CE3003	The header "nonce " is null.
D30002	Header is wrong	CE3011	The header "clientID" is not found in the list.
		CE3012	The header "signature" is incorrect. (MITM Attack)
		CE3013	The header "nonce "is already used. (Replay Attack)
D40001	Form Validation	CE4001	Lift location not found.
			Other Validations
D90000	Unknown Exception	E9999	Runtime Exception.

Sample Request

```
{
   "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
 "applicationNo": "12",
 "bldgEname": "12",
 "bldgCname": "12",
 "startNo": 12,
 "startNoAlpha": "12",
 "endNo": 12,
 "endNoAlpha": "12",
 "stEname": "12",
 "stCname": "12",
 "districtCd": "12",
 "areaCd": 12,
 "locEname": "12",
 "locCname": "12",
 "locFlat": "1",
 "locFloor": "1",
 "locBlock": "1",
 "locDesc": "1",
 "isOwnerCommonArea": "1",
 "isOwnerCentralBs": "1",
 "isTenantUnit": "1",
 "isOccuiperUnit": "1",
 "isOwnerUnit": "1",
 "responTitleId": 1,
 "responEname": "1",
 "responCname": "1",
 "represenTitleId": 1,
 "represenEname": "1",
 "represenCname": "1",
 "represenPost": "1",
 "corresAddrLang": "1",
 "corresAddrFlat": "1",
 "corresAddrFloor": "1",
 "corresAddrBlock": "1",
 "corresAddrBldg": "1",
 "corresAddrStartNo": 1,
 "corresAddrStartNoAlpha": "11",
 "corresAddrEndNo": 1,
 "corresAddrEndNoAlpha": "1",
 "corresAddrSt": "1",
 "corresAddrDistrictCd": "1",
 "corresAddrAreaCd": 1,
 "corresTelNo": "1",
```

```
  "corresFaxNo": "1",
  "corresEmailAddr": "1",
  "becEdition": "1",
  "inspectDate": "20211117",
  "reaTitleId": 1,
  "reaEname": "1",
  "reaCname": "1",
  "reaAddrLang": "1",
  "reaAddrFlat": "1",
  "reaAddrFloor": "1",
  "reaAddrBlock": "1",
  "reaAddrBldg": "1",
  "reaAddrStartNo": 1,
  "reaAddrStartNoAlpha": "1",
  "reaAddrEndNo": 1,
  "reaAddrEndNoAlpha": "1",
  "reaAddrSt": "1",
  "reaAddrDistrictCd": "1",
  "reaAddrAreaCd": 1,
  "reaTelNo": "1",
  "reaFaxNo": "1",
  "reaEmailAddr": "1",
  "reaRegNo": "1",
  "reaExpiryDate": "20211117",
  "formstatus": 1,
  "seq": 1,
  "forwarduserid": "1",
  "receiveDate": "20211117",
  "eesu": {
    "applicationNo": "12",
    "seq": 1,
    "parentForm": "1",
    "bldgType": 1,
    "bldgTypeOther": "1",
    "dateOfDdeclarationByRea": "20211119",
    "supersedePerviusForm": "1",
    "dateOfDdeclarationByReaInPreviousForm": "20211119",
    "prevSubNo": "1",
    "encloseEeel": "1",
    "encloseEelg": "1",
    "encloseEeac": "1",
    "encloseEele": "1",
    "encloseEepb": "1",
    "exemptGrant": "1",
    "exemptRefNo": "1",
    "exemptDate": "20211119",
    "exemptInstallations": "1",
    "declareInfoCorrect1": "1",
    "declareInfoCorrect2": "1",
    "declareInfoCorrect3": "1",
```

```json
    "declareInfoCorrect4": "1",
    "declareInfoCorrect5": "1",
    "organizationEname": "1",
    "organizationCname": "1",
    "organizationResEname": "1",
    "organizationResCname": "1",


  },
  "work": [
    {
      "applicationNo": "12",
      "seq": 1,
      "subSeq": 1,
      "worKoc": "1",
      "commonArea": "1",
      "unit": "1",
      "isTypeLg": "1",
      "isTypeAc": "1",
      "isTypeEl": "1",
      "isTypeLe": "1",
      "completeDate": "20211119",


    }
  ],

}
```

Sample Response

```json
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

13.4. Create Attachment

API Description

Name	Description
Service Full Name	For submitting the attachment to backend
URL	\<Backend_Service_Domain>/{Version}/EE4/CreateAttachment
Request Type	POST
Service Version	1
Description of Service	This API is to validate the application data before submission.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.
fileName	String	Required	File name with extension of the attachment
shaFileChecksum	String	Required	The SHA file checksum of the attachment
type	String	Required	The type of the attachment
fileContent	String	Required	Base64 encoded content of the attachment
description	String	Required	Description of attachment

Response Parameters

Parameter	Type	Condition	Description

txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message	
D00000	Success Result.	D00000	Success Result.
D20001	Parameter is null.	CE2001	The parameter "Key" is null.
		CE2002	The parameter "WBRSApplicationNo" is null.
		CE2003	The parameter "Submission Time" is null.
		CE2004	The parameter "FileName" is null.
		CE2005	The parameter "File" is null.
D20002	Application is invalid	CE2011	The application is not found.
		CE2012	Application status is invalid.
D20003	File is invalid	CE2021	File extension is invalid.
		CE2022	File name is too long.
		CE2023	File Name is invalid.
D30001	Header is null	CE3001	The header "clientID" is null.
		CE3002	The header "signature" is null.
		CE3003	The header "nonce " is null.
D30002	Header is wrong	CE3011	The header "clientID" is not found in the list.
		CE3012	The header "signature" is incorrect. (MITM Attack)
		CE3013	The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	E9999	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001",
    "fileName": "",
    "shaFileChecksum": "",
    "type": ""
    "content": ""
    "description": ""
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

13.5. Acknowledge Submission Completed

API Description

Name	Description
Service Full Name	To acknowledge the backend submission has been completed.
URL	\<Backend_Service_Domain\>/{Version}/EE4/Status/SubmissionCompleted
Request Type	POST
Service Version	1
Description of Service	To acknowledge the backend after all attachments are submitted successfully.

Request Headers

Parameter	Type	Condition	Description
signature	String	Required	It is a signature of the submitted data. WBRS uses clientSecret to sign the concatenated string of **nonce** and **encrypted content** to get the signature.
clientID	String	Required	Client identifier for finding out the client secret in the backend.
nonce	String	Required	A nonce is a random string, uniquely generated for each request by WBRS. It is used to prevent replay attack. A nonce can be an ASCII string of any length less than or equal to 36 (UUID string length) as long as the uniqueness requirement is met.

Request Parameters

Parameter	Type	Condition	Description
encryptedContent	String	Required	Encrypted content

Request - Content

Parameter	Type	Condition	Description
applicationNo	String	Required	WBRS Application No.

Response Parameters

Parameter	Type	Condition	Description
txID	String	Required	Unique ID for logging. Please provide this ID during system support.
code	Option	Required	Code to indicate the result. Details please refer to below section "Response – Code & Message".
details	String	Required	Details code (For example: CE2001). Details please refer to below section "Response – Code & Message".

Response – Code & Message

Code	Description	Message
D00000	Success Result.	Success Result.
D20001	Parameter is	The parameter "applicationNo" is null.

		null.
D30001	Header is null	The header "clientID" is null. The header "signature" is null. The header "nonce " is null.
D30002	Header is wrong	The header "clientID" is not found in the list. The header "signature" is incorrect. (MITM Attack) The header "nonce " is already used. (Replay Attack)
D90000	Unknown Exception	Runtime Exception.

Sample Request (with encryption)

```
{
    "encryptedContent":"sqS0rzo3U5r8G9rc7nvNJQnd973fpD3v1k3Qp4u/F8Y= "
}
```

Sample Request (without encryption)

```
{
    "applicationNo": "L160000001"
}
```

Sample Response

```
{
  "code":"D00000",
  "message":"D00000",
  "txID":"0514125f"
}
```

14. PAYMENT COMPLETED

API Description

Name	Description
Service Full Name	Payment Completed
URL	\<Backend_Service_Domain>/{Version}/payment/submitData
Request Type	POST
Service Version	1
Description of Service	To change the status of record after payment has been completed and save payment record to E-payment table.

Request Headers

Parameter	Type	Condition	Description
clientID	String	Required	Client identifier for finding out the client secret in the backend.

Request Parameters

Parameter	Type	Condition	Description
action	String	Required	Action to be done
state	String	Required	State
data	Data object	Required	Refer to: Request – Content – Date

Request – Content – Data

Parameter	Type	Condition	Description
division_code	String(20)	Required	Division Code of the form
form_code	String(60)	Required	Form Code
app_no	String(10)	Required	WBRS Application Number
name	String(200)	Optional	Applicant Name
address	String(400)	Optional	Applicant Address
tel	String(17)	Optional	Applicant Telephone Number
email	String(150)	Optional	Applicant Email
lang	String(2)	Required	Language
expiry_date	String(8)	Optional	Expiry Date(yyyyMMdd)
result_return_url	String(400)	Required	Result Return URL
receipt_return_url	String(400)	Optional	Receipt Return URL
remark	String(4000)	Optional	Remarks
sender	String(150)	Optional	Sender

Response Parameters

Parameter	Type	Condition	Description
state	String	Required	State of result
status	String	Required	Status of result, "0" for Success Case and "1" for Error Case
expiry_date	String	Required	Expiry Date, returned when Success
error_code	String	Required	Error Code, returned when have Error
error_message	String	Required	Error Message, returned when have Error

Response – Code & Message

Code	Description	Message
003	Incorrect Parameter	Request parameter not correct

Sample Request

```
{
        "action": "submitRequestByWBRSApplication",
        "state": "e893647dc4204eb9b7b8eddd527b687c",
        "data": {
                "division_code": "EA",
                "form_code": "FORM1",
                "app_no": "L160000001",
                "name": "Chan Tai Man",
                "address": "address",
                "tel": "21234567",
                "email": "test@email.com.hk",
                "lang": "en",
                "expiry_date": "20211122",
                "result_return_url": "https://{end_point}/1/payment/result",
                "receipt_return_url": "https://{end_point}/1/form/receipt",
                "remark": "remarks",
                "sender": "testsender@email.com.hk"
        }
}
```

Sample Response (Success Case)

```
{
    "state": "e893647dc4204eb9b7b8eddd527b687c",
    "status": 0,
    "expiry_date": "20211122"
}
```

Sample Response (Error Case)

```
{
    "state": "e893647dc4204eb9b7b8eddd527b687c",
    "status": 1,
    "error_code": "003",
    "error_message": "Request parameter not correct"
}
```