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3D SECURE 2.0

INTEGRATION MANUAL

Versions

| Version	Release	Date
1.0	Firts version english	2022 May 26

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OBJECTIVE

This document is a guide to a Merchant already registered in Banorte Payworks system (the Merchant has an afiliation ID provided by Banorte) in order to integrate their electronic commerce application with "3D Secure 2.0 program" and "Banorte Payworks System" , for processing secure e-commerce transactions, this mechanism authenticats "the client", who is buying through their Merchant system.

INTRODUCTION – MAIN CHARACTERISTICS OF THE PRODUCT

What is Payworks?

Banorte Payworks System is a payment engine process that allows the Merchant to receive digital operations of electronic commerce through internet with VISA and MasterCard Cards and transactions with the presence of plastic card (Credit/Debit Visa and MasterCard).
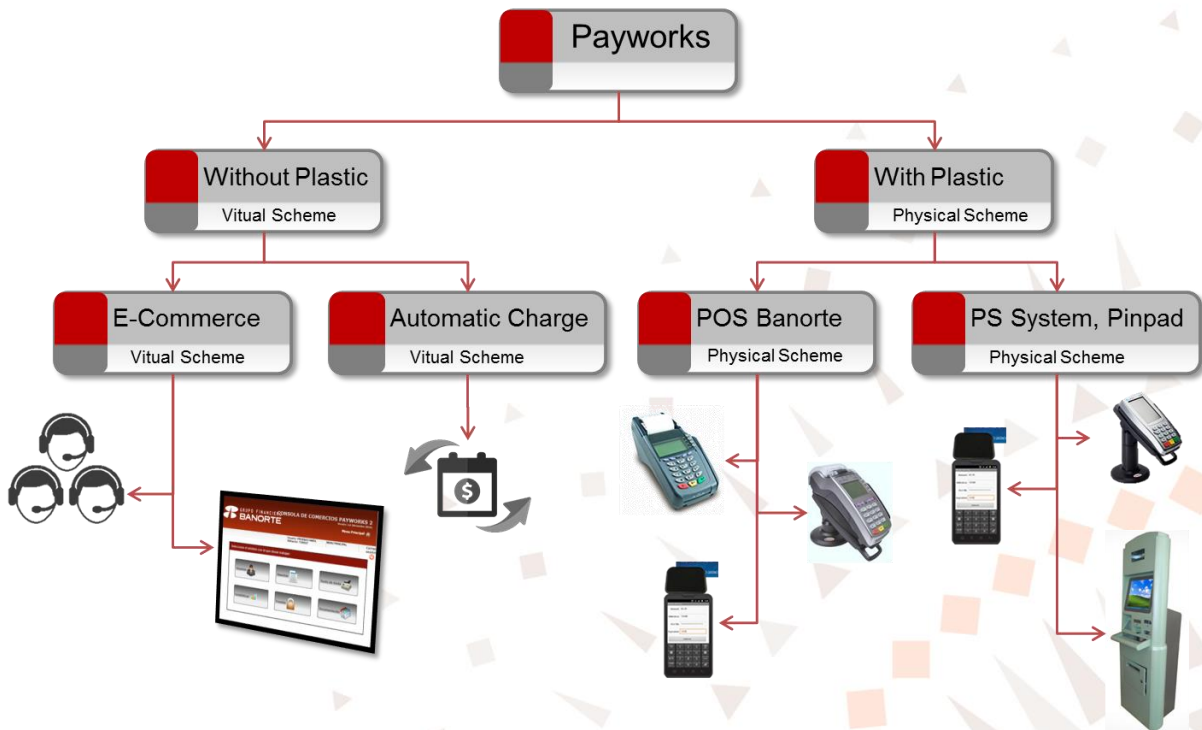
What is 3D Secure?

3D Secure is a new service based on XML technology that provides additional security when a purchase is done through internet with the use of a password associated to the customer card, It was developed by Visa and adopted for MasterCard, the basic concept of 3D Secure is to process the transaction with a secure procedure through an online authentication process protecting both the Cardholder and the Merchant.

3D SECURE 2.0 INTEGRATION PROCEDURE

Flowchart of a purchase in a Payworks 2- 3D Secure

Procedure

Below is defined the process that the customer should follow to purchase inside the Merchant web site previously integrated to Payworks 2 and 3D Secure 2.0 program:

1. The Cardholder buys online through a Merchant web site, this web site should be conected with Payworks 2 and 3D Secure 2.0 program.

2. The Cardholder provides the information of the payment like Credit Card Number, Expiration Date, CVV2 or other information requested by the Merchant site and clicks on Send or Pay button to process the transaction.

3. The Commerce application must sends the variables corresponding to the Payworks 2 and 3D Secure 2.0 program (see shipping variables) making a Post to: https://via.banorte.com/secure3d/Solucion3DSecure.htm

4. Once the variables are received by Banorte Payworks system, the information is resent to the issuing bank of the cardholder, then the 3D Secure popup is displayed in order to request the password associated to the registered credit/debit card into the 3D Secure program of the correspondig issuing bank.

5. Banorte Payworks 2 - 3D Secure 2.0 application will return the variables to the Merchant web application. The status variable will return the following: Status = 200 the authentication was succesful, other status means the authentication was not valid. (see return variables and status codes for more information).

6. If the authentication was successful (Status =200), Merchants web application must POST to Banorte Payworks system the variables received from 3D Secure (ECI, STATUS_3D, XID and CAVV) in addition to the variables required by Banorte Payworks System.

SEND AND RETURN VARIABLES

Best practice recomendation, before POST to Banorte Payworks system – 3D Secure program is recomended to save the information of the purchase, following at least the next actions

    a. Store the purchase information and customer data within a unique identifier.
    b. Implement a mechanism in order to send the 3D Secure mandatory parameters plus the merchant identification data.
    c. Invoque 3D Secure service in order to process and to validate the information.

Sending Variables

Note: Please do **not send** empty variables (blank or null) or additional data to those described in this manual in order to post to Banorte Payworks system 3D Secure 2.0

Variables	Description	Post	Length	Mandatory?
CARD_NUMBER	Card number with which the transaction is made	Hidden	16	Yes
CARD_EXP	Expiration date, in format: **MM/AA**	Hidden	5	Yes
AMOUNT	Total amount of the transaction.	Hidden	7 Digits Type Currency 5.00	Yes
CARD_TYPE	Card Type. Possible Values: Visa: **VISA** Mastercard: **MC**	Hidden	5	Yes
MERCHANT_ID	Affiliation number, provided by Banorte	Hidden	7	Yes
MERCHANT_NAME	Affiliation name	Hidden	25	Yes
MERCHANT_CITY	Commercial parent city	Hidden	40	Yes
FORWARD_PATH	Path response where the application will send the return variables of the authentication.	Hidden	40	Yes
3D_CERTIFICATION	Fixed value indicating the certified 3D Secure version. Value required in the variable: 03. Cert3D=**03**	Hidden	2	Yes
REFERENCE3D	Unique reference for each transaction.	Hidden	15	Yes
CITY	Cardholder City	Hidden	50	Yes
COUNTRY	Cardholder Country. Two digits. Example: Mexico = MX. **See** Annex 1 – Country codes. If is not in the table, you must follow the ISO 3166-2 format link: https://www.iso.org/search.html?q=3166-2	Hidden	2	Yes
EMAIL	Cardhorlder's Email. Use the format. name@host.domain (for example, banorte@banorte.com)	Hidden	255	Yes

NAME	Cardholder's name.	Hidden	60	Yes
LAST_NAME	Cardholder's lastname.	Hidden	60	Yes
POSTAL_CODE	Cardholder's zip code.	Hidden	10	Yes
STATE	Cardholder's state. Example: Nuevo Leon = NL. **See** Annex 2 –State codes for Mexico,EE.UU. and Canada. For others countries you must follow the ISO 3166-2 format link: https://www.iso.org/search.html?q=3166 -2	Hidden	2	Yes
STREET	Cardholder's Street	Hidden	60	Yes
THREED_VERSION	Version of 3D Secure. Fixed value: "**2**".	Hidden	1	Yes
MOBILE_PHONE	Cardholder's cell phone	Hidden	25	Yes
CREDIT_TYPE	Type of card being send, posible values: **CR**: Creditcard **DB**: Debitcard	Hidden	2	Yes
SHIPTO_CITY	City where the order wil be delivered	Hidden	50	No
SHIPTO_COUNTRY	Country where the order wil be delivered.	Hidden	2	No
SHIPTO_DESTINATIONCODE	Shipping destination code	Hidden	2	No
SHIPTO_FIRSTNAME	Customer's name (person who will receive the order).	Hidden	60	No
SHIPTO_LASTNAME	Customer's last name.	Hidden	60	No
SHIPTO_PHONENUMBER	Customer's telephone number. Just numbers are permited (do not use spaces, parentheses, hyphen, etc).	Hidden	14	No
SHIPTO_POSTALCODE	Customer's zip code.	Hidden	10	No
SHIPTO_SHIPPINGMETHOD	Shipping method: - **sameday**: Same day delivery - **oneday**: Next day delivery - **twoday**: Delivery in two days - **threeday**: Delivery in three days - **low cost**: The lowest cost of the service - **pickup**: Pick up in store - **other**: Other shipping method - **none**: Shipping is not used because it is a service or subscription	Hidden	8	No
SHIPTO_STATE	Delivery order's state.	Hidden	2	No
SHIPTO_STREET1	Delivery order's Street 1.	Hidden	40	No

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		Hidden		
SHIPTO_STREET2	Delivery order's Street 2.		40	No

Return variables

Variable	Description	Length	Value
ECI	Security Code	2 Characters	Possibles Values: 05, 06, 07, 01, 02
XID	Encrypted security information returned for Visa.	VISA: 40 characters MC: No returned	See table of the possible returned values
CAVV	Encrypted security information returned for Visa or MC	VISA: 40 characters MC: 28 characters	See table of the possible returned values
Status	Variable used to identify if a transaction was successfully authenticated. Status = 200, Successful Authentication Status <> 200 Authentication NOT successful	3 Digits	See table of Authentication values.
REFERENCE3D	Unique reference for each transaction	15 alphanumeric characters	Information according to data sent.
MESSAGE	Status variables description just if the value its different from 200, limited for a certain number of codes	100 alphanumeric characters	Variable returned only for the following status codes: 102, 451, 452, 453, 454, 455 456

NOTE: If the returned value of XID and CAVV Variables are Null or Blank in the 3D Secure 2.0 authentication response, do not send the message to Banorte Payworks system

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TABLE: EXAMPLE RETURNED VALUES FROM PAYWORKS AND 3D SECURE PROGRAM

Card Type	XID	CAVV
VISA	000001073155387256964011805553810C80AF80E	000001073155387256964011805553810C80AF80E
MC	No returned	kANhEbtWXSaEkicQK5jcC0hBw+s2

REASON CODE/REPLY FLAG DESCRIPTIONS

Code	Description
102	Invalid card.
200	Indicates that the transaction is secure and can be sent to Payworks Payments
201	Indicates that the Visa or MasterCard Service have an error. It is recommended wait a few seconds to retry again.
421	Indicates that the 3DSecure service or the Visa or MasterCard Service is down. It is recommended wait a few seconds to retry again.
422	Invalid Authentication. The transaction must NOT be sent to the Payworks payment.
423	3D Secure authentication was not completed. The transaction should NOT be sent to the Payworks payment engine because the person is not entering the 3D Secure password correctly.
424	3D Secure authentication was not completed. The transaction should NOT be sent to the Payworks payment engine because the person is not entering the 3D Secure password correctly.
425	Invalid Authentication. Indicates that you should definitely NOT send the transaction to Payworks because the person is not entering the 3D Secure password correctly.
426	Affiliation not found. Indicates that the affiliation entered by the user in the 3D Secure program does NOT exist.
430	Null credit card. Indicates that the variable Card is being sent empty.
431	Date of expiration null. Indicates that the Expires variable is being sent empty.
432	Amount null. Indicates that the Total variable is being sent empty.
433	Merchant_id null. Indicates that the Merchant_Id variable is being sent empty.
434	Null return alloy. Indicates that the Forward Path variable where the response is returned is empty.
435	Merchant null. Indicates that the MerchantName variable is being sent empty.
436	Length TC invalid. Indicates that the credit card length data is sent than 16 characters.
437	Error expiration date format. Indicates that the format of the Expires variable is being sent as MM/YY. MM refers to the month and YY refers to the year card expires.
438	Expiry date invalid. Indicates that the expiration date is expired
439	Amount incorrect. Indicates that the format of the amount is incorrect. It is waiting as 999,999,999,999.## tow positions for decimals.
440	Length invalid merchant name. Indicates that the variable MerchantName must be a length inside than 25 characters.
441	Card Type null, Indicates that the CarType variable is being sent empty.
442	Card Type invalid, It must be one of the following values: VISA or MC (MasterCard).
443	CardType incorrect. Indicates than the card type has been specified as VISA, however, the BIN of card indicates that it is not Visa.
444	CardType incorrect, indicates than the card type has been specified as MC, however, the BIN of card indicates that it is not Master Card.

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445	Wrong CardType, CardType specified as AMEX, however the program does not accept this flag at this time.
446	Amount Incorrect, the Total variable must be higher than 1.0 pesos.
447	Null 3D reference, the reference3D variable was sent empty.
448	Cert3D null, Cert3D variable sent empty.
498	Transaction expired. Indicates that the transaction has passed the expected response time limit.
499	User exceeded response time. Indicates that the user is slow to capture 3D Secure information longer than expected.
450	The 3D Secure Plus module is disabled for the affiliation (MerchantId) entered.
451	'XXXX' – This field is required.
452	'XXXX' is too large (max length of 'XXXX' characters).
453	'XXXX' – This field only allows numeric values.
454	It can't reply cruise hybrid lookup response.
455	Failed creation JWT Claim.
456	JWT corrupted.

Note: Any Status Code distinct than 200 indicates that it should **NOT** be sent to process the transaction to Banorte Payworks System. If in any way the merchant wants to send to process the transaction, it will send also to the ISSUER as a NON SAFE trasaction, which may be charged/reinbursed to the cardholder for unreccognized sale and the merchant will have to absorb the chargeback. *The decision to send or not to send a transactions to be processed remains under the responsibility of the merchant.*

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INTERPRETATION OF RETURN VARIABLES

What to do with return variables?

Once the information has been processed by 3D Secure 2.0 and the merchant has recived response, the merchant site should do:

1. Retrieve the return variables, the 3D Secure 2.0 variables and the additional variables sent by the merchant.
2. Check the status variable, if the value is **200** the transaction was successfully authenticated. Remember, the status variable is the only one that indicates whether the transaction is authenticated or not
3. Compare and validate the values of the recieved variables against the variables stored inside the merchant system in your system, just in case the merchant had implemented the best practices suggested.
4. Send to Payworks 2 in order to process the transaction **ONLY IF** variable **Status** = **200**.

Process a transaction with successful authentication

How to process the transaction to Banorte Payworks System once the autentication was successful in the Banorte Payworks System and 3D Secure 2.0 program?

Once the authentication of the transaction has been validated (Status=200), the transaction to be processed can be sent to the payworks payment engine, within the variables required for Payworks 2 in order to complete payment information. The 3D variables are as follows:

Variable	Description	Length
XID	Encrypted information returned by Visa or MasterCard as the case may be. *Do not send if Null or blank*	VISA 40 Characters MC does not return
CAVV	Encrypted information returned by Visa or MasterCard as the case may be. *Do not send if Null or blank*	VISA 40 Characters MC 28 Characters
ECI	Security code	Possibles values: 05, 06, 07, 01, 02.
ESTATUS_3D	Variable used to identify if a transaction was successfully authenticated. Status = 200, Successful Authentication Status <> 200 Authentication NOT successful.	3 Digits
VERSION_3D	Indicates that the transaction has 3D Secure 2.0 features Possible values: **2**	1 Digit

Note: The response of Payworks 2 when processing the transaction is not modified so it will continue to be handled in the same way.

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CERTIFICATION AND RELEASE TO PRODUCTION

Before the process is launched to production, it is requiered to perform a certification and release process. The merchant is going to recieve a Test Matrix by the payworks support area, the merchant should perform and register the result of the payment transaction, the information collected should be sent to the paywoks support area. Once the information is received it will evaluated, and if it is complete and valid the merchant will recived the certification letter. For any question refers to **Banorte contact information**. (See next section)

> **Note:** Banorte is not responsable if the merchant goes to production without complete the certification process.

BANORTE CONTACT INFORMATION

TELEPHONE	EMAIL ADRESS
For Electronic Commerce customers directly connected to Banorte: Lada: +(52) Commutator: (81) 5102-1000 Ext – 2758 Ext – 1321 Ext – 1305 Banorte network 8800 - 2758 8800 - 1321 8800 - 1305	**For Electronic Commerce customers directly connected to Banorte:** L.Payworks_ComercioElectronico@banorte.com
For Electronic Commerce customers connected to Banorte through an Allied (Aggregator or Integrator): Lada: +(52) Commutator: (81) 5102-1000 Ext – 4277 Ext – 1424 Ext – 1069 Commutator: (55) 51746000 Ext – 4334 Banorte network 8800 - 4277 8800 - 1424 8800 -1069 8505 -4334	**For Electronic Commerce customers connected to Banorte through an Allied (Aggregator or Integrator):** L.Integraciones_Aliados@banorte.com
Business hours: Monday to Friday from 09:00 a.m. to 6:00 p.m Mexico Central Time	

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ANNEX 1 – COUNTRY CODES

Country	Code
Afghanistan	AF
Aland Islands	AX
Albania	AL
Algeria	DZ
American Samoa (US)	AS
Andorra	AD
Angola	AO
Anguilla (UK)	AI
Antarctica	AQ
Antigua and Barbuda	AG
Argentina	AR
Armenia	AM
Aruba	AW
Australia	AU
Austria	AT
Azerbaijan	AZ
Bahamas	BS
Bahrain	BH
Bangladesh	BD
Barbados	BB
Belarus	BY
Belgium	BE
Belize	BZ
Benin	BJ
Bermuda (UK)	BM
Bhutan	BT
Bolivia	BO
Bonaire, Sint Eustatius and Saba	BQ
Bosnia and Herzegovina	BA
Botswana	BW
Bouvet Island	BV
Brazil	BR
British Indian Ocean Territory	IO
British Virgin Islands (UK)	VG
Brunei Darussalam	BN
Bulgaria	BG
Burkina Faso	BF
Burundi	BI
Cambodia	KH
Cameroon	CM
Canada	CA

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Cape Verde	CV
Cayman Islands (UK)	KY
Central African Republic	CF
Chad	TD
Chile	CL
China	CN
Christmas Island (AU)	CX
Cocos (Keeling) Islands (AU)	CC
Colombia	CO
Comoros	KM
Congo, Democratic Republic of the	CD
Congo, Republic of the	CG
Cook Islands (NZ)	CK
Costa Rica	CR
Côte D'Ivoire	CI
Croatia	HR
Cuba	CU
Curaçao	CW
Cyprus	CY
Czech Republic	CZ
Denmark	DK
Djibouti	DJ
Dominica	DM
Dominican Republic	DO
Ecuador	EC
Egypt	EG
El Salvador	SV
Equatorial Guinea	GQ
Eritrea	ER
Estonia	EE
Ethiopia	ET
Falkland Islands (UK)	FK
Faroe Islands (DK)	FO
Fiji	FJ
Finland	FI
France	FR
French Guiana (FR)	GF
French Polynesia (FR)	PF
French Southern Territories	TF
Gabon	GA
Gambia	GM
Georgia	GE
Germany	DE
Ghana	GH

Gibraltar (UK)	GI
Greece	GR
Greenland (DK)	GL
Grenada	GD
Guadeloupe (FR)	GP
Guam (US)	GU
Guatemala	GT
Guernsey	GG
Guinea	GN
Guinea-Bissau	GW
Guyana	GY
Haiti	HT
Heard Island and McDonald Islands	HM
Holy See (Vatican City)	VA
Honduras	HN
Hong Kong (CN)	HK
Hungary	HU
Iceland	IS
India	IN
Indonesia	ID
Iran	IR
Iraq	IQ
Ireland	IE
Isle of Man	IM
Israel	IL
Italy	IT
Jamaica	JM
Japan	JP
Jersey	JE
Jordan	JO
Kazakhstan	KZ
Kenya	KE
Kiribati	KI
Korea, Democratic People's Republic (North)	KP
Korea, Republic of (South)	KR
Kuwait	KW
Kyrgyzstan	KG
Laos	LA
Latvia	LV
Lebanon	LB
Lesotho	LS
Liberia	LR
Libya	LY

Liechtenstein	LI
Lithuania	LT
Luxembourg	LU
Macau (CN)	MO
Macedonia	MK
Madagascar	MG
Malawi	MW
Malaysia	MY
Maldives	MV
Mali	ML
Malta	MT
Marshall Islands	MH
Martinique (FR)	MQ
Mauritania	MR
Mauritius	MU
Mayotte (FR)	YT
Mexico	MX
Micronesia, Federated States of	FM
Moldova Republic of	MD
Monaco	MC
Mongolia	MN
Montenegro	ME
Montserrat (UK)	MS
Morocco	MA
Mozambique	MZ
Myanmar	MM
Namibia	NA
Nauru	NR
Nepal	NP
Netherlands	NL
New Caledonia (FR)	NC
New Zealand	NZ
Nicaragua	NI
Niger	NE
Nigeria	NG
Niue	NU
Norfolk Island (AU)	NF
Northern Mariana Islands (US)	MP
Norway	NO
Oman	OM
Pakistan	PK
Palau	PW
Palestinian Territories	PS
Panama	PA

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Papua New Guinea	PG
Paraguay	PY
Peru	PE
Philippines	PH
Pitcairn Islands (UK)	PN
Poland	PL
Portugal	PT
Puerto Rico (US)	PR
Qatar	QA
Reunion (FR)	RE
Romania	RO
Russia	RU
Rwanda	RW
Saint Barthelemy	BL
Saint Helena (UK)	SH
Saint Kitts and Nevis	KN
Saint Lucia	LC
Saint Martin (French Part)	MF
Saint Pierre & Miquelon (FR)	PM
Saint Vincent and the Grenadines	VC
Samoa	WS
San Marino	SM
Sao Tome and Principe	ST
Saudi Arabia	SA
Senegal	SN
Serbia	RS
Seychelles	SC
Sierra Leone	SL
Singapore	SG
Sint Maarten (Dutch Part)	SX
Slovakia	SK
Slovenia	SI
Solomon Islands	SB
Somalia	SO
South Africa	ZA
South Georgia & South Sandwich Islands (UK)	GS
South Sudan	SS
Spain	ES
Sri Lanka	LK
Sudan	SD
Suriname	SR
Svalbard and Jan Mayen	SJ
Swaziland	SZ

Sweden	SE
Switzerland	CH
Syria	SY
Taiwan	TW
Tajikistan	TJ
Tanzania	TZ
Thailand	TH
Timor-Leste	TL
Togo	TG
Tokelau	TK
Tonga	TO
Trinidad and Tobago	TT
Tunisia	TN
Turkey	TR
Turkmenistan	TM
Turks and Caicos Islands (UK)	TC
Tuvalu	TV
Uganda	UG
Ukraine	UA
United Arab Emirates	AE
United Kingdom	GB
United States	US
United States Minor Outlying Islands	UM
Uruguay	UY
Uzbekistan	UZ
Vanuatu	VU
Venezuela	VE
Vietnam	VN
Virgin Islands (US)	VI
Wallis and Futuna (FR)	WF
Western Sahara	EH
Yemen	YE
Zambia	ZM
Zimbabwe	ZW

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ANNEX 2 – STATE CODES FOR MEXICO, EE.UU AND CANADA

State	Code
Aguascalientes	AG
Baja California	BC
Baja California Sur	BS
Campeche	CM
Chiapas	CS
Chihuahua	CH
Ciudad de México	CX
Coahuila	CO
Colima	CL
Durango	DG
Guanajuato	GT
Guerrero	GR
Hidalgo	HG
Jalisco	JC
Estado de México	EM
Michoacán	MI
Morelos	MO
Nayarit	NA
Nuevo León	NL
Oaxaca	OA
Puebla	PU
Querétaro	QT
Quintana Roo	QR
San Luis Potosí	SL
Sinaloa	SI
Sonora	SO
Tabasco	TB
Tamaulipas	TM
Tlaxcala	TL
Veracruz	VE
Yucatán	YU
Zacatecas	ZA

US States	Codes	US States	Codes
Alabama	AL	Montana	MT
Alaska	AK	Nebraska	NE
American Samoa	AS	Nevada	NV
Arizona	AZ	New Hampshire	NH
Arkansas	AR	New Jersey	NJ

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California	CA	New Mexico	NM
Colorado	CO	New York	NY
Connecticut	CT	North Carolina	NC
Delaware	DE	North Dakota	ND
District of Columbia	DC	Northern Mariana Islands	MP
Federated States of Micronesia	FM	Ohio	OH
Florida	FL	Oklahoma	OK
Georgia	GA	Oregon	OR
Guam	GU	Palau	PW
Hawaii	HI	Pennsylvania	PA
Idaho	ID	Puerto Rico	PR
Illinois	IL	Rhode Island	RI
Indiana	IN	South Carolina	SC
Iowa	IA	South Dakota	SD
Kansas	KS	Tennessee	TN
Kentucky	KY	Texas	TX
Louisiana	LA	Utah	UT
Maine	ME	Vermont	VT
Marshall Islands	MH	Virgin Islands	VI
Maryland	MD	Virginia	VA
Massachusetts	MA	Washington	WA
Michigan	MI	West Virginia	WV
Minnesota	MN	Wisconsin	WI
Mississippi	MS	Wyoming	WY
Missouri	MO		

States of Canada (English)	States of Canada (French)	Codes
Alberta	Alberta	AB
British Columbia	Columbie-Britannique	BC
Manitoba	Manitoba	MB
New Brunswick	Nouveau-Brunswick	NB
Newfoundland and Labrador	Terre-Neuve-et-Labrador	NL
Northwest Territories	Territoires du Nord-Ouest	NT
Nova Scotia	Nouvelle-Écosse	NS
Nunavut	Nunavut	NU
Ontario	Ontario	ON
Prince Edward Island	Île-du-Prince-Édouard	PE

Quebec	Québec	QC
Saskatchewan	Saskatchewan	SK
Yukon	Yukon	YT