

PG SOFT

# PG Soft Integration Document

Seamless Wallet Mode v2.1.7.1

PG SOFT Tech Team

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## 1 Revision History

Version	Date	Author	Description
V1.01	2017-10-09	PG SOFT Tech Team	First Draft
V2.01	2018-04-02	PG SOFT Tech Team	<b>3.1 URL Scheme mode</b> -URL Scheme Format <b>4.2.1 Verify session API</b> - Request parameters and Response result <b>4.2.3 Get player wallet</b> - Request parameters and Response result <b>Deleted 4.2.4 to 4.2.12</b> <b>4.2.4 Bet</b> <b>4.2.5 Payout</b> <b>4.3.1 PG session token notification API</b> - URL & HTTP Method and Request parameters
V2.02	2018-06-25	PG SOFT Tech Team	<b>6. Currency code correspondence table</b> -Add new currencies
V2.1.0	2018-07-05	PG SOFT Tech Team	<b>3.1 Url Scheme Mode</b> -Add example of trial game launch URL - Amended API parameters - Added new health reminder screenshot <b>4.2.1 Verify session API</b> - Amended API parameters <b>4.2.2 WebView login page</b> - Amended description and request parameter <b>4.2.5 Payout</b> - Added new request parameter <b>4.4 Integrate PG Game into operator iOS Application</b> - Added new sub topic <b>5 Error code</b> - Added new error codes <b>6 Currency Code</b> - Added currency base unit <b>8 Bet Type</b> - Added new topic <b>9 Transaction Type</b> - Added new topic

			<b>10 Platform</b> - Added new topic <b>11 Games</b> - Added new topic
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2.1.2	2018-12-03	PG SOFT Tech Team	<b>3.2 PG Game Launch JS Library</b> - Amended content <b>4.2.4 Bet</b> - Amended response parameters - Amended sample response - Add note <b>4.2.5 Payout</b> - Amended response parameters - Add note <b>4.2.6 Bet and Payout Process Flow</b> - Add game disconnected content - Add failed transaction error handling <b>4.3.1 PG session token notification API</b> - Add playername format <b>4.2.2 Webview Login Page</b> - Revised login URL <b>4.2.3 Get player wallet</b> - Revised description <b>4.3.3 Get betting details</b> - Add new topic <b>6 Currency code correspondence table</b> - Update contains to latest <b>11 Games</b> - Update contains to latest <b>12 Languages</b> - Add new contains
2.1.3	2018-12-11	PG SOFT Tech Team	<b>4.2.4 Bet</b> - Amended is_validate_bet parameter description <b>4.2.5 Payout</b> - Amended is_validate_bet parameter description
2.1.4	2018-12-13	PG SOFT Tech Team	<b>Adjusted page layout</b> <b>3.1.1 URL Scheme mode</b> - Amended bet_type description
2.1.5	2019-03-28	PG SOFT Tech Team	<b>4.2.1 Verify session API</b> - Added note for request parameter

			<b>4.2.6 Bet and Payout Process Flow</b> - Added new error codes in failed transaction <b>4.3.2 Get Game List</b> - Amended API response <b>4.3.3 Get betting detail</b> - Amended content <b>4.3.4 Free Game</b> - Added new content <b>4.3.5 Bonus</b> - Added new content <b>4.3.6 Jackpot</b> - Added new content <b>4.3.7 Tournament</b> - Added new content <b>4.3.8 Tournament</b> - Added new content <b>5 Restrictions</b> - Added new topic <b>7 Currency code correspondence table</b> - Updated latest currency list <b>11 Games</b> - Updated latest game list
2.1.6	2019-04-16	PG SOFT Tech Team	<b>4.2.4 Bet</b> - Amended transaction id format <b>4.2.5 Payout</b> - Amended transaction id format <b>6 Error code correspondence table</b> - Removed redundant error code <b>7 Currency code correspondence table</b> - Removed SGD currency
2.1.7	2019-07-05	PG SOFT Tech Team	<b>3 System requirements</b> - Added content <b>4 How to login the game</b> - Amended description <b>4.1.2 Web Lobby mode</b> - Added content <b>5.2.1 Verify Session API</b> - Added validation <b>5.2.3 Get Player Wallet</b> - Added validation - Added note <b>5.2.4 Bet</b> - Amend request - Added validation <b>5.2.5 Payout</b> - Amend request - Added validation <b>5.3.3 Get betting details</b> - Amend description

			<b>5.3.14 Others</b> -Add content <b>6 Game State Resume and Reset</b> - Added content <b>7.2 Currency Restrictions</b> - Added new currency <b>7 Currency code correspondence table</b> - Updated latest currency list <b>12 Games</b> - Updated latest game list <b>All section number changes after “4 How to login the game”</b>
2.1.7.1	2020-10-02	PG SOFT Tech Team	<b>4.1 Game Launch Restrictions</b> - Add new content

## 2 Overview

This document details the integration of Seamless wallet model. So-called Seamless wallet model, means that every single transaction will be real time called from merchant's system while the player is playing games to achieve the addition or reduction of player's balance.

## 3 System requirements

### 3.1 Game size requirements

PG game are responsive H5 and displayed vertically, thus, minimum dimensions is required. The ideal size for PG game in iframe is 1280 x 720.

Minimum dimensions: 540X960

Maximum dimensions: 1080X2340

### 3.2 Hardware requirements

Android	iOS	Windows
OS Version 5.0 above	iOS Version 10.0 above	Windows: 7 above
RAM: 2GB	RAM: 1GB	RAM: 2GB
CPU: ARM Cortex-A9 above	iPhone 6 Above	CPU: 1 gigahertz (GHz) or faster .32-bit (x86) or 64-bit (x64) processor, dual-core at least.
STORAGE: 2GB above	STORAGE: 2GB above	HDD: 20 GB

### 3.3 Browser requirements

- Microsoft Edge 15.15063 and above
- Firefox 44 and above
- Google Chrome 40 and above
- Safari 10 and above
- Others browser that based on Chromium that equal to Google Chrome 40 and above



## 4 How to login the game

PG supports **three** kinds of login authorization modes:

- URL Scheme mode. URL Scheme mode is for iOS, Android and browser, it uses the token parameters to authorize and login;
- **Web lobby mode is a responsive web page which uses token parameters to authorize and login.**
- WebView mode is applicable to all platforms, it is the integration mode which embeds into the game interface and uses username and password to authorize players to login.

### 4.1 Game Launch Restrictions

Multiple windows or multiple game launch is unsupported by PG games. Player will be locked and kick out of games, and encounter error when multiple game session is detected:

**S1302**XXXXXXXX: Unsuccessful Game Authorization

**S1309**XXXXXXXX: Player account been suspended

**S1305**XXXXXXXX: Server request failure

When encountering the above errors, player may close the game windows and relaunch game to unlock player account:

**S1302**XXXXXXXX: Please relaunch game

**S1309**XXXXXXXX: Player account will be unlocked automatically after 10 minutes, please relaunch game after 10 minutes

**S1305**XXXXXXXX: Please relaunch game

## 4.2 Login the game

### 4.2.1 URL Scheme mode

For browser game client, the URL scheme format are:

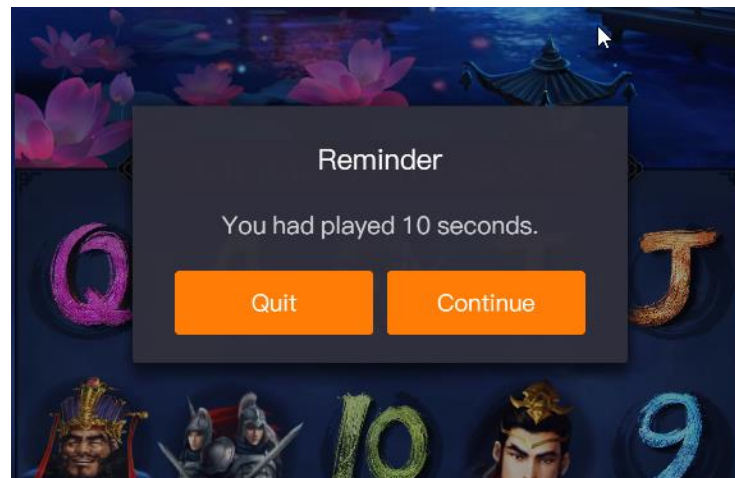
#### Real Game

`http(s)://host/{game_code}/index.html?language={0}&bet_type=1&operator_token={2}&operator_player_session={3}&time_elapsed={4}&reminder_interval={5}&operator_param={6}&from={7}`

#### Trial Game

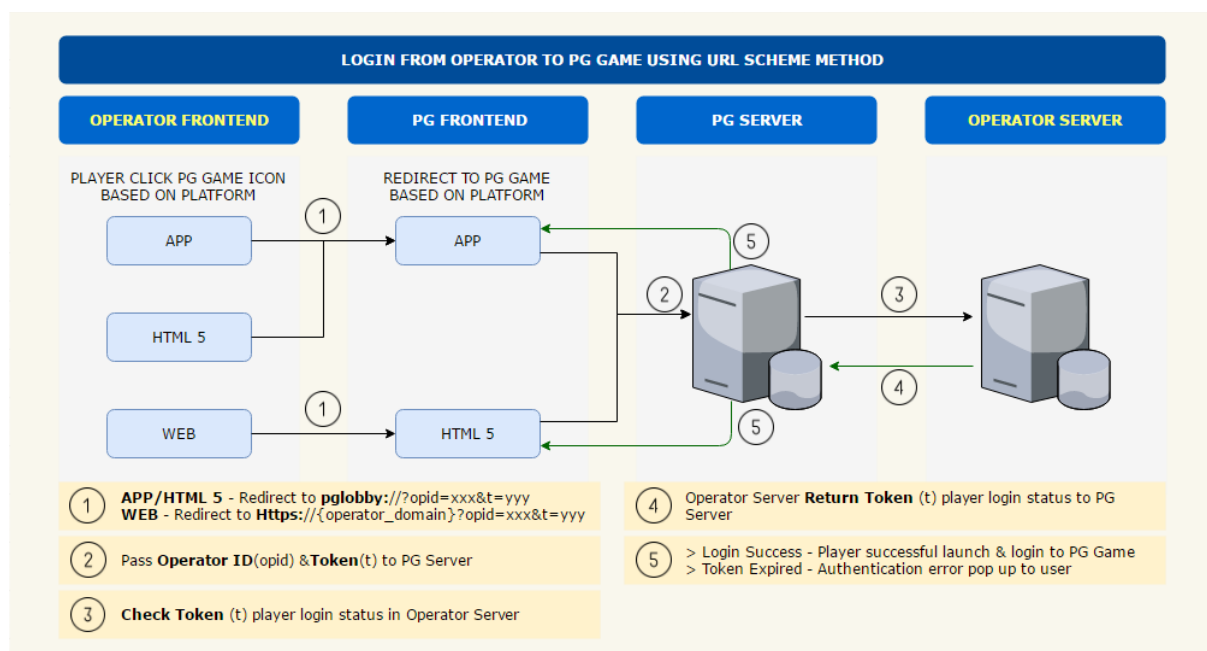
`http(s)://host/{game_code}/index.html?language={0}&bet_type=2&operator_token={2}&from={3}`

Parameter name	Data type	Description
game_code	string	Unique code for each game Please refer to appendix for complete list
language	String (optional)	Game language Please refer to appendix for complete list
bet_type	integer	Bet type Please refer to appendix for complete list
operator_token	String	Operator's unique identification in the PG system (provided by PG)
operator_player_session	string	Player token generated by operator <b>Note: Please encode the value with UriEncode to avoid unexpected error</b>
time_elapsed	Integer (optional)	Operator time elapsed for game health reminder in seconds
reminder_interval	Integer (optional)	Reminder interval for game health reminder in seconds
operator_param	string (optional)	Operator custom parameter, PG API will include parameter value upon verifying operator player session <b>Note: Please encode the value with UriEncode to avoid unexpected error</b>
from	String (optional)	Game exit URL (Game will exit to PG lobby by default). Assign value to <i>PGGameCloseUrl</i> to close game window. During Trial Game, this URL will be used for redirect during Real Game prompt.
real_url	String (optional)	This URL will be used for redirection during Real Game prompt (Game will redirect to PG lobby by default) <b>Note: For trial game only</b>



Health reminder

PG system will call the operator's API (Refer to [Verify session API](#)) to check the token parameter passed by the URL scheme. Login will be successful if the token is verified.



URL Scheme login flow diagram

#### 4.2.2 Web Lobby mode

PG web lobby is a responsive web page with all PG games which allow player to play PG games in one place. It provides brand new experience to player with beautiful, attractive, informative and effective UI design. We are recommended operator to integrate PG web lobby into their web site.

#### Request

API URL : {PgSoftPublicDomain}/web-lobby/{panel\_type}/?operator\_token={operator\_token}&operator\_player\_session={operator\_player\_session}& language={language}&width={width}

HTTP method : GET

Parameters:

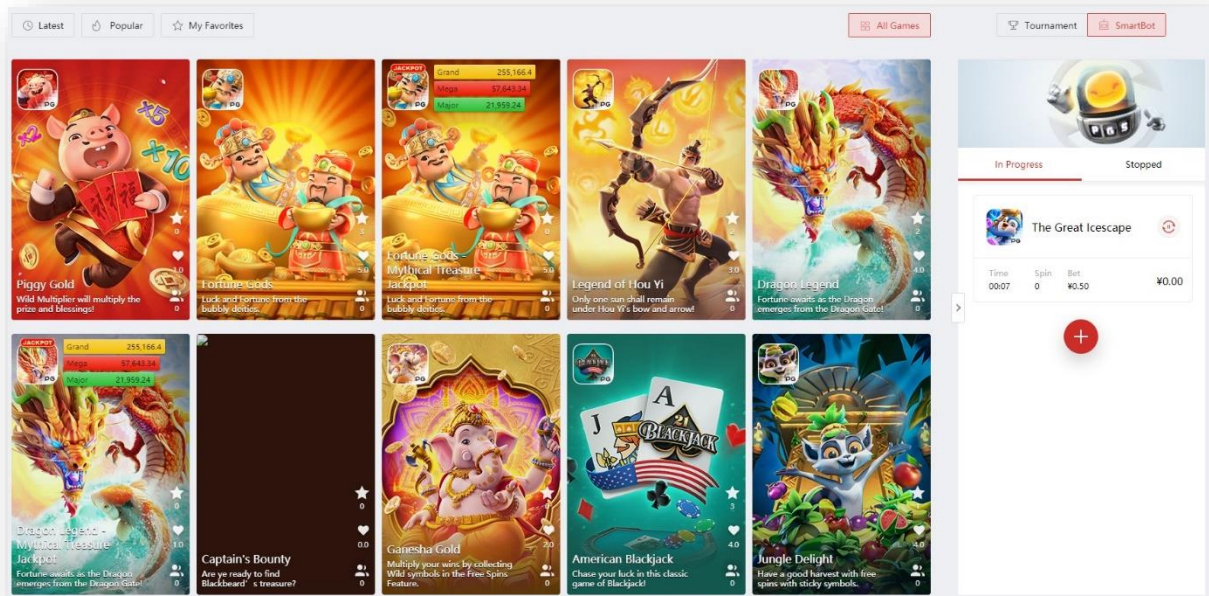
Parameter name	Data type	Mandatory	Description
panel_type	String	Yes	Display panel of web lobby at first load <i>None</i> : Default panel smartbot : Smartbot – In progress panel smartbot/history : Smartbot – Stopped panel tournament/open : Tournament – Open for entry panel tournament/process : Tournament – In progress panel tournament/end : Tournament – Ended panel games : Show only game
operator_token	String	Yes	Unique identity of operator
operator_player_session	String	Yes*	Player token generated by operator <b>Note: Please encode the value with UriEncode to avoid unexpected error</b>
language	String	No	Language of web lobby Default: English <b>Note: Please refer to appendix for complete list</b>
width	Integer	No	Page width of web lobby Default: Responsive <b>Value range: Value ≥ 930</b>

\*Real play mode will be deactivated if parameter value is invalid or not provided

Example:

[https://public.pg-redirect.us/web-lobby/smartbot/?operator\\_token=abc123&operator\\_player\\_session=abc123-abc123&language=en](https://public.pg-redirect.us/web-lobby/smartbot/?operator_token=abc123&operator_player_session=abc123-abc123&language=en)

## Screenshot



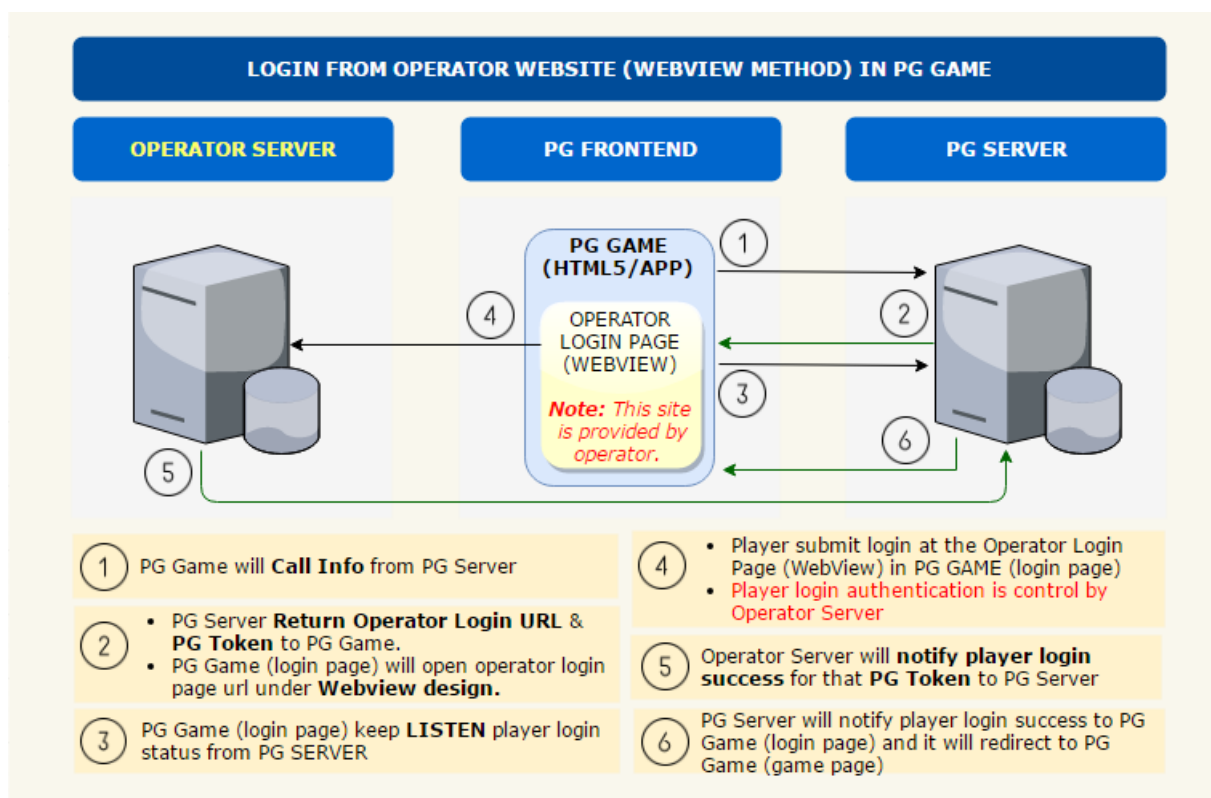
### 4.2.3 Webview mode

The operator will provide the login page URL which is running on operator's server. This login page will be embedded into PG game client interface with PG Token, to achieve the seamlessly login-effect. Once the player tries to log in, he will submit the PG token generated by PG system and call the PG token notification API provided by PG system, while submit the PG token and player's basic information after the operator-server verifies the password of player's account. Once the verification is successful, PG game client will detect the message, then give permission to the player to enter the game. The detailed flow please refer to the WebView login flow diagram below:

e.g.:

If the login page URL provided by operator is: <https://pglogin.operatordomain.com/login>; PGSoft will embed login page URL with player session token parameter to the game client:

[https://pglogin.operatordomain.com/login?token=pg\\_token xxx;](https://pglogin.operatordomain.com/login?token=pg_token xxx;)




WebView login flow diagram

Login

Reload

< Back

Log in



Username

Password

Forgot Password?

Log in

Don't have an account? [Sign up](#)

WebView mode Login flow diagram

### 4.3 PG Game Launch JS Library

Operator is required to launch game by using PG JS library to provide the best gaming experience to player:

- Implementation of automatically adapting pop-up window according to the user's display size.
- PG games are all designed to be displayed vertically, the pop-up window format is consistent with product design.
- Achieving the optimal gaming interface height will allow users to feel visually comfortable, in line with usage habits.
- Presenting the best in-game visual quality to the players, providing the best gaming experience

#### Avoid browser pop-up blockers

The general rules that popup blockers will engage are:

- Invoked from JavaScript that is not invoked by direct user action
- Pop-up content are not from same domain as source

Operator is recommended to follow the instruction below to avoid browser pop-up blockers:

- Create a redirection page and redirect to game launch URL in 3.1
- When player click the game launch button/link, use the PG JS function (PGSDK.launchGame) and launch the redirection page.

#### Implementation

1. Include the following line in the HTML <head> tags.

```
<script defer src="https://public.pg-redirect.us/sdk/main.min.js"></script>
```

**Note:**

Operator can self-host the JS library as well:

<https://public.pg-redirect.us/sdk/main.min.js>



- Operator is required to create self-host redirection page to bypass popup blocker on web browser

Sample code of redirect page:

```
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<script>
    window.location.replace("https://m.pg-
redirect.us/diaochan/index.html?language=en&bet_type=1&opera
tor_token=12345abcde&operator_player_session=abcde-12345-
abcde-12345");
</script>
</head>
</html>
```

- Use the following JS script to launch PG game. Operator is required to create self-host redirection page to bypass popup blocker on web browser

```
PGSDK.launchGame('{operator_redirection_URL}');
```

Parameters

Parameter name	Data type	Description
operator_redirection_URL	string	Operator self-host page which will redirect to game launch URL in 3.1

Example:

```
PGSDK.launchGame('https://[OperatorDomain]/redirect.html');
```

## 5 Integration API

### 5.1 Interface format and description

All interfaces communicate through the [HTTPS protocol](#), request parameters in the form of [Form](#), and [JSON](#) format to return the results.

The response result is a fixed JSON structure with two key names: 'data' and 'error'. The key 'error' is response error message for the API. It is a JSON object that contains two key names: 'code' and 'message'. The key 'code' is the API response error code, the key 'message' is the API response error description. API will response data content into the 'data' key value when the key 'error' is null. 'data' key value is according to the API function, the detail content will be described in the [interface description](#).

None error response result template:

```
{
  "data": {
    "total_balance": 0,
    "balance_history": {
      "cash_balance": 0,
      "bonus_balance": 0,
      "cash_balance_before": 0,
      "bonus_balance_before": 0
    }
  },
  "error": null
}
```

Error response result template:

```
{
  "data": null,
  "error": {
    "code": "3001",
    "message": "Value cannot be null."
  }
}
```

## 5.2 Operator provided API list

### 5.2.1 Verify session API

PG game system will call this operator API to check the player session token generated when player login the game. (Refer to the URL Scheme login flow diagram)

- URL & HTTP Method

POST{OperatorAPIDomain}/VerifySession

- Request parameters

Parameter name	Data type	Description
traceld	string (QueryString)	Identifier of the request
operator_token	string	Operator's unique identification in the PG system (provided by PG)
secret_key	string	Operator secret key
operator_player_session	string	token generated by operator system <b>Note: Max 200 characters</b>
ip	string	Player IP address
custom_parameter	string	<i>operator_param</i> values when launching game (Refer to 3.1URL Scheme mode)

Operator is required to perform validation to the following parameters:

Parameter name	Comment	Expected behaviour
operator_token	Make sure the operator_token is exactly same as PG provided.	Return error when not match.
secret_key	Make sure the secret_key is exactly same as PG provided.	Return error when not match.
operator_player_session	Make sure the operator_player_session is exactly same as token generated by operator system. Should be same as the operator_player_session in 3.1URL Scheme mode	Return error when not match.

- Response result

```
{
  "data": {
    "player_name": "player1",
    "nickname": "nickname"
    "currency": "USD"
  }
}
```

```
"reminder_time":"1522250955000"

},

"error": null

}
```

- Response error list
  - 1034 - Invalid request.
  - 1200 - Internal server error.

### 5.2.2 WebView login page

WebView login method provides seamless login experience to player. Through this method, players are able to login with their operator account inside PG soft game client, PG soft game client Webview will load a login page URL which is provided by Operator and running in the operator's server. PG system will create a player session token, it will be passed to operator server through query string. After operator server verified the authorization of username and password, operator's server will call the PG API (Refer to the 4.3.1 PG session token notification API) to notify PG system that the player successfully login. (Refer to the webview login flow diagram.)

- URL & HTTP Method
 

GET{OperatorLoginDomain}?pgsoft\_token={player\_session}
- Request parameters

Parameter name	Data type	Description
player_session	string	token generated by PG system

### 5.2.3 Get player wallet

Operators will provide the total balance of wallets which can be used by all PG games. It includes total cash wallet.

- URL & HTTP Method  
POST{OperatorAPIDomain}/Cash/Get
- Request parameters

Parameter name	Data type	Description
secret_key	string	provided by PG soft
operator_token	string	provided by PG soft
player_name	string	player's username
operator_player_session	string	provided by operator
game_id	Int(optional)	game ID of PG games

Operator is required to perform validation to the following parameters:

Parameter name	Comment	Expected behaviour
operator_token	Make sure the operator_token is exactly same as PG provided.	Return error when not match.
secret_key	Make sure the secret_key is exactly same as PG provided.	Return error when not match.
operator_player_session	Make sure the operator_player_session is exactly same as token generated by operator system. Should be same as the operator_player_session in 3.1URL Scheme mode	Return error when not match.
player_name	Make sure the player_name is exactly same as operator's record.	Return error when not match.

- Response result

```
{
  "data": {
    "currency_code": "string",
    "balance_amount": 0,
    "updated_time": 1530879795000
  },
  "error": null
}
```

```
}
}
```

- Response error list
  - 3001 - Value cannot be null.
  - 3005 - Player wallet doesn't exist.

**Note:**

- PG will not round off the amount. Example: balance\_amount is 11.125, PG game will show 11.12, not 11.13.

#### 5.2.4 Bet

PG Soft system will be real time called from merchant's system while the player is betting to achieve the addition or reduction of player's balance.

- URL & HTTP Method  
POST{OperatorAPIDomain}/Cash/TransferOut
- Request parameters

Parameter name	Data type	Description
secret_key	string	provided by PG soft
operator_token	string	provided by PG soft
operator_player_session	string	token generated by operator
player_name	string	player's username
game_id	int	game ID of PG games
parent_bet_id	string	PG system parent bet ID
bet_id	string	PG system bet ID
bet_type	int (optional)	bet type
currency_code	string	currency
platform	string (optional)	platform type
jackpot_rtp_contribution_amount	double (optional)	Jackpot contribution amount
jackpot_win_amount	double (optional)	Jackpot win amount
create_time	long	bet created time (timestamp, milliseconds)
updated_time	long	bet updated time (timestamp, milliseconds)
transfer_amount	double	bet amount
transaction_id	string	transaction id Format: <b>{BetId}-{ParentBetId}-transactionType}-</b>

		<b>{balanceId}</b>  Transaction type: 101: payout 201: bet 400: BonusToCash 403: FreeGameToCash
is_validate_bet	boolean	To indicate if the request is re-sent transaction for validation <b>True:</b> Resend transaction <b>False:</b> Normal transaction
free_game_transaction_id	string (optional)	Transaction id for Free Game. It only can be seen when the Free Game is assigned to player
bonus_transaction_id	String (optional)	Transaction id for Bonus. It only can be seen when the Bonus is assigned to player

Operator is required to perform validation to the following parameters:

Parameter name	Comment	Expected behaviour
operator_token	Make sure the operator_token is exactly same as PG provided.	Return error when not match.
secret_key	Make sure the secret_key is exactly same as PG provided.	Return error when not match.
operator_player_session	Make sure the operator_player_session is exactly same as token generated by operator system. Should be same as the operator_player_session in 3.1URL Scheme mode	Return error when not match.
player_name	Make sure the player_name is exactly same as operator's record.	Return error when not match.
currency_code	Make sure the currency_code is exactly same as player's currency.	Return error when not match.
transaction_id	Make sure the transaction_id is unique for every transaction.	When the transaction_id exist in operator record, please return idempotent response to PG. (Please refer to 4.2.6 Bet and Payout Process Flow)
updated_time		Return same updated_time as request for transaction

		reference.
is_validate_bet		When is_validate_bet= true, operator may skip verify operator_player_session and proceed transaction.

- Response result

```
{
  "data": {
    "currency_code": "string",
    "balance_amount": 0,
    "updated_time": 1530879795000
  },
  "error": null
}
```

Note:

- PG will send a bet request with **ZERO** transfer amount for free spin
- Response updated\_time must same with request updated\_time for transaction reference

Response error list

- 3001 - Value cannot be null.
- 3004 - Player isn't exist.
- 3005 - Player wallet isn't exist
- 3021 - No bet exist.
- 3033 - Bet failed.
- 3202 - No enough cash balance to bet.



### 5.2.5 Payout

PG Soft system will be real time called from merchant's system while payout to achieve the addition or reduction of the system wallet of operator (cash wallet, bonus wallet).

- URL & HTTP Method  
POST{OperatorAPIDomain}/Cash/TransferIn
- Request parameters

Parameter name	Data type	Description
secret_key	string	provided by PG soft
operator_token	string	provided by PG soft
operator_player_session	string	token generated by operator
player_name	string	player's username
game_id	int	game ID of PG games
parent_bet_id	string	PG system parent bet ID
bet_id	string	PG system bet ID
bet_type	int (optional)	bet type
currency_code	string	currency
platform	string (optional)	platform type
jackpot_rtp_contribution_amount	double (optional)	Jackpot contribution amount
jackpot_win_amount	double (optional)	Jackpot win amount
create_time	long	bet created time (timestamp, milliseconds)
updated_time	long	bet updated time (timestamp, milliseconds)
transfer_amount	double	transfer amount
transaction_id	string	transaction id Format: <b>{BetId}-{ParentBetId}-transactionType}-{balanceId}</b>  Transaction type: 101: payout 201: bet 400: BonusToCash 403: FreeGameToCash
is_validate_bet	boolean	To indicate if the request is re-sent transaction for validation <b>True:</b> Resend transaction <b>False:</b> Normal transaction
is_end_round	boolean	To indicate if the current game round is end
free_game_transaction_id	String (optional)	Transaction id for Free Game. It only can be seen when the Free Game is assigned

		to player
bonus_transaction_id	string (optional)	Transaction id for Bonus. It only can be seen when the Bonus is assigned to player
is_feature	boolean (optional)	To indicate the spin type True: Feature spin False: Normal spin

Operator is required to perform validation to the following parameters:

Parameter name	Comment	Expected behaviour
operator_token	Make sure the operator_token is exactly same as PG provided.	Return error when not match.
secret_key	Make sure the secret_key is exactly same as PG provided.	Return error when not match.
operator_player_session	Make sure the operator_player_session is exactly same as token generated by operator system. Should be same as the operator_player_session in 3.1URL Scheme mode	Return error when not match.
player_name	Make sure the player_name is exactly same as operator's record.	Return error when not match.
currency_code	Make sure the currency_code is exactly same as player's currency.	Return error when not match.
transaction_id	1. Make sure the transaction_id is unique for every transaction.  2. Make sure allow to proceed for payout request without bet request for "convert to cash" action in free game & bonus	1. When the transaction_id exist in operator record, please return idempotent response to PG. (Please refer to 4.2.6 Bet and Payout Process Flow) 2. Return success response for transactionType 400 & 403.
updated_time		Return same updated_time as request for transaction reference.
is_validate_bet		When is_validate_bet= true, operator may skip verify operator_player_session and proceed transaction.

- Response result

```
{  
  "data": {  
    "currency_code": "string",  
    "balance_amount": 0,  
    "updated_time": 1530879795000  
  },  
  "error": null  
}
```

Note:

- PG may send a payout request **WITHOUT** bet request for the following:
  - When player perform “convert to cash” action in bonus game
  - When player perform “convert to cash” action in free game
- PG may send a payout request with **ZERO** transfer amount for the following:
  - Every action (e.g.: split card) performed by player in card game
  - Special feature in some slot games
- Response updated\_time must same with request updated\_time for transaction reference

#### Response error list

- 3001 - Value cannot be null.
- 3004 - Player isn't exist.
- 3005 - Player wallet isn't exist
- 3021 - No bet exist.
- 3034 - Payout failed.

### 5.2.6 Bet and Payout Process Flow

PG system are expecting **idempotent operations** for all API operation. Operator is required to perform duplicate request checking for all incoming transaction request.

PG may resend the transaction due to network difficulties or other unforeseen circumstances. Please refer to the following for the precautions and correct process flow to handle duplicate request:

- Operator is required to perform validation of operator\_token and secret\_key for every transaction request.
- **transaction\_id** is the only unique identifier for every transaction request, including bet and payout
- In the case request with same transaction id is found and operator had proceeded the previous request, please ignore the duplicate request and return previous success response for duplicate request.
- **In the case request with same transaction id is found and previous request was failed, please retry and return correspond result to PG**
- In the case request with new transaction id, operator may proceed to wallet addition or reduction accordingly, and return success response to PG.

#### Game Disconnected

In the case player encountering error and disconnected from game, PG system will auto resume game from previous stage (including free spin, bonus, free game) without any alert on next player login. Player will see same screen before error happen and able to continue game from previous stage.

#### Failed Transaction

PG game will stop and show error when receive the following error code during bet and payout transaction:

- 3004 PlayerNotFoundException
- 3005 WalletNotFoundException
- 3008 BonusNotFoundException
- 3009 FreeGameNotFoundException
- 3019 NotEnoughFreeGameException
- 3021 BetNotFoundException
- 3055 SnapshotNotFoundException
- 3059 BetLimitExceededException
- 3062 TransactionRolledBackException
- 3073 BetFailedException
- 3200 NotEnoughBalanceException
- 3201 NotEnoughBonusBalanceException
- 3202 NotEnoughCashBalanceException
- 3094 MaximumBetLimitReachErrorCode
- 3095 BalanceDecreasesLimitReachErrorCode

### 5.3 PG provided API list

#### 5.3.1 PG session token notification API

Operator's server will notify PG server that the player's login has been successfully authorized, and PG server will notify PG client the player has successfully login. (Refer to the webview login flow diagram)

- URL & HTTP Method

POST{PgSoftAPIDomain}/v1/Login/LoginGame

- Request parameters

Parameter name	Data type	Description
secret_key	string	provided by PG soft
operator_token	string	provided by PG soft
player_session	string	PG system session token
operator_player_session	string	token generated by operator
reminder_time	int (optional)	Player reminder time in unix time stamp (milliseconds)
player_name	string	player's username <ul style="list-style-type: none"> <li>• player name is not case sensitive</li> <li>• Only alphabet, number, and "@" , "-" , "_" symbols are allowed</li> <li>• Maximum 50 characters</li> </ul>
nickname	string(optional)	player's nickname
currency	string	Currency

- Response result

```
{
  "data": {
    "player_name": "player1",
    "player_session": "28860417-4921-412A-AD2F-5988A41AA4BD"
  },
  "error": null
}
```

- Response error list

- 1034 - Invalid request.
- 1200 - Internal server error.

### 5.3.2 Get betting detail (Optional)

Step 1: Before getting betting detail, operator is required to call this API to get operator's session (Session timeout: 30 minutes).

- **URL & HTTP Method**  
POST{PgSoftAPIDomain}/v1/Login/LoginProxy

- **Request parameters**

Parameter name	Data type	Description
secret_key	string	Provided by PG soft
operator_token	string	Provided by PG soft

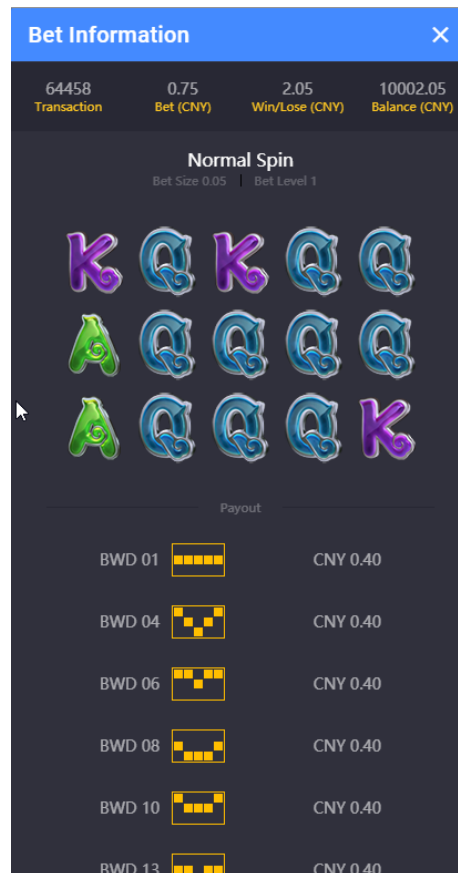
- Response result

```
{
  "data": {
    "operator_session": E4ECB5CF-0BC6-4DA8-8551-8526F48AB9CD
  },
  "error": null
}
```

Step 2: Get betting detail by  
{PgSoftPublicDomain}/redirect.html?t={0}&psid={1}&sid={2}&gid={3}&type=operator.

- **Request parameters**

Parameter name	Data type	Description
t	string	Get by /Login/loginProxy
psid	string	Parent Bet ID
sid	string	Bet ID
gid	string	Game ID



Screenshot of betting detail

#### 5.3.4 Others (Optional)

PG provides several APIs for different modules and it is optional for integration. Operator may choose to integrate based on requirements:

- **Bet History** : To get player bet history
- **Game List** : To get latest game list and available bet size
- **Free Game** : To perform several actions (For example create free game, assign player into free game, cancel free game, etc.) through API
- **Bonus** : To perform several actions (For example create bonus, assign player into bonus, cancel bonus, etc.) through API.
- **Jackpot** : To get jackpot information through API
- **Tournament** : To get tournament list, add player into tournament and get tournament ranking through API

## 5.4 Integrate PG Game into operator iOS Application

Operator's application have to meet the following requirements in order to launch PG game in application client

- iOS 8.0 or above
- WKWebView

PG game will prompt a "Poor Visit Experience" message if it does not meet the minimum requirements. Player is allowed to continue launching game but it may not guarantee a stable, and high performance experience of the PG games.

To ensure application client pass the PG game requirement checking, operator is required to include the following codes when initializing WKWebView component in application:

```
WKUserContentController *controller = [[WKUserContentController alloc] init];
[controller addScriptMessageHandler: self name: @"Could be any string value"];

WKWebViewConfiguration *configuration = [[WKWebViewConfiguration alloc] init];
configuration.userContentController = controller;

WKWebView *webView = [[WKWebView alloc] initWithFrame: CGRectZero
configuration:
configuration];
webView.uiDelegate = self;
self.view = webView;
```

This is to construct a `WKUserContentController` object and set its `userContentController` property on the configuration. Please take note that the `userContentController` must have at least one `scriptMessageHandler` (assign through `addScriptMessageHandler`)

For more details regarding WKWebView, please refer to [Apple Developer Documentation](https://developer.apple.com/documentation/webkit)



## 6 Game State Resume and Reset

All games are supporting resume feature which allow returning players to continue a game at their last game state from any device. For example, player will be able to continue a game with bonus stage few days after even player had closed game the time when player won bonus stage.

However, player game state will be reset for every 90 days. All incomplete bets will mark as pending status and player will not be able to continue a game after that.

## 7 Restrictions

### 7.1 IP Restrictions

Players from the following restriction area are not able to access PG game:

- Latvia
- Malaysia
- Singapore
- Taiwan
- United States of America

### 7.2 Currency Restrictions

Please find the following for the currencies not supported by PGSoft:

- HKD
- MOP
- MYR
- SGD
- TWD
- PHP

## 8 Error code correspondence table

Error code	Description
1034	Invalid request.
1035	Operation Failed
1200	Internal server error.
1204	Invalid operator
1300	Invalid player session
1301	Player session token is empty
1302	Invalid player session
1303	Server error occurs
1305	Invalid player
1306	Player is blocked to access current game
1307	Invalid player session
1308	Player session is expired
1309	Player is inactive
1310	Failed to verify operator player session
1400	Game is under maintenance
1401	Game is inactive
1402	Game is not exist
3001	Value cannot be null.
3004	Player doesn't exist
3005	Player wallet doesn't exist
3006	Player wallet already exists.
3009	Free game doesn't exist
3013	Out of the balance amount to transfer out.
3014	Free game cannot be cancelled.
3019	No enough free game
3021	No bet exists
3022	Bet already payout
3030	Free game expired
3031	Free game already converted
3032	Bet already existed
3033	Bet failed
3034	Payout failed
3035	Invalid multiplier
3036	No enough balance to convert.
3202	No enough cash balance to bet.

## 9 Currency code correspondence table

Currency Code	Currency Name	Base Unit
ALL	Albanian Lek	1
AMD	Armenian Dram	1
ARS	Argentine Peso	1
AUD	Australian Dollar	1

AZN	Azerbaijani Manat	1
BAM	Bosnian Convertible Marka	1
BIF	Burundian Franc	1000
BND	Brunei Dollar	1
BRL	Brazil Real	1
CAD	Canadian Dollar	1
CHF	Swiss Franc	1
CLP	Chilean Peso	1
CNY	Chinese Yuan	1
COP	Colombian Peso	1000
CZK	Czech Koruna	1
DKK	Danish Krone	1
EUR	Euro	1
GBP	British Pound	1
GEL	Georgian Lari	1
GHS	Ghanaian Cedi	1
HNL	Honduran Lempira	1
HRK	Croatian Kuna	1
HUF	Hungarian Forint	1
IDR	Indonesian Rupiah	1000
INR	Indian Rupee	1
IRR	Iranian Rial	1000
JPY	Japanese Yen	1
KES	Kenyan Shilling	1
KHR	Cambodian Riel	1000
KRW	South Korean Won	1000
KZT	Kazakhstani Tenge	1
MAD	Moroccan Dirham	1
MBTC	Milli Bitcoin	1
MMK	Burmese Kyat	1000
MNT	Mongolian Tughrik	1000
MWK	Malawian Kwacha	1
MXN	Mexican Peso	1
MZN	Mozambican Metical	1
NGN	Nigerian Naira	1
NOK	Norwegian Krone	1
PEN	Peruvian Sol	1
PLN	Poland Złoty	1
RON	Romanian Leu	1
RSD	Serbian Dinar	1
RUB	Russian Ruble	1

SCR	Seychellois Rupee	1
SEK	Swedish Krona	1
THB	Thai Baht	1
TRY	Turkish Lira	1
TZS	Tanzanian Shilling	1000
UAH	Ukrainian Hryvnia	1
UBTC	United Bitcoin	1
UGX	Uganda Shilling	1000
USD	United States Dollar	1
VND	Vietnamese Dong	1000
XAF	Central African CFA Franc BEAC	1
ZMW	Zambian Kwacha	1

## 10 Bet Type

Bet Type	Game Mode
1	Real game
2	Trial game
3	Tournament game

## 11 Transaction Type

Code	Transaction type
1	Cash
2	Bonus
3	Free game

## 12 Platform

Code	Category	Platform
1	Web	Windows
2		macOS
3		Android
4		iOS
5		others
6	Cordova	Android
7		iOS
8	Electron	Windows
9		macOS
10	Native	Windows
11		macOS
12		Android
13		iOS
99	others	Robot

## 13 Games

Game Type	Game	Game Id	Game Code
Slot Game	Game Lobby	0	lobby
	Honey Trap of Diao Chan	1	diaochan
	Gem Saviour	2	gem-saviour
	Fortune Gods	3	fortune-gods
	Summon & Conquer	4	summon-conquer
	Medusa 2	6	medusa2
	Medusa 1	7	medusa
	Peas Fairy	8	peas-fairy

	Wizdom Wonders	17	wizdom-wonders
	Hood vs Wolf	18	hood-wolf
	Steampunk	19	steam-punk
	Win Win Won	24	win-win-won
	Plushie Frenzy	25	plushie-frenzy
	Tree of Fortune	26	fortune-tree
	Restaurant Craze	27	restaurant-craze
	Hotpot	28	hotpot
	Dragon Legend	29	dragon-legend
	Hip Hop Panda	33	hip-hop-panda
	Legend of Hou Yi	34	legend-of-hou-yi
	Mr. Hallow-Win	35	mr-hallow-win
	Prosperity Lion	36	prosperity-lion
	Santa's Gift Rush	37	santas-gift-rush
	Gem Saviour Sword	38	gem-saviour-sword
	Piggy Gold	39	piggy-gold
	Jungle Delight	40	jungle-delight
	Symbols of Egypt	41	symbols-of-egypt
	Ganesha Gold	42	ganesha-gold
	Three Monkeys	43	three-monkeys
	Emperor's Favour	44	emperors-favour
	Tomb of Treasure	45	tomb-of-treasure
	Double Fortune	48	double-fortune
	Wild Inferno	52	wild-inferno
	The Great Icescape	53	the-great-icescape
Card Game	Joker Wild	10	joker-wild
	American Blackjack	11	blackjack-us

	European Blackjack	12	blackjack-eu
	Baccarat Deluxe	31	baccarat-deluxe



## 14 Languages

Code	Language
en	English (default)
da	Danish
de	German
es	Spanish
fi	Finnish
fr	French
id	Indonesian
it	Italian
ja	Japanese
ko	Korean
nl	Dutch
no	Norwegian
pl	Polish
pt	Portuguese
ro	Romanian
ru	Russian
sv	Swedish
th	Thai
tr	Turkish
vi	Vietnamese
zh	Chinese