

NBA.com Internal API

Reference Guide

A comprehensive reference for accessing NBA statistics through the unofficial internal APIs used by NBA.com

Wrapped by the popular **nba_api** Python library

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1. Overview

NBA.com exposes an enormous amount of undocumented statistical data through internal JSON APIs. These endpoints power the stats.nba.com website and mobile apps. While unofficial, they provide access to:

- Player career and game statistics
- Team performance data
- Live game scores and play-by-play
- Shot chart coordinates (x, y locations)
- Advanced metrics (tracking, Synergy play types)
- Historical data back to 1946

Important Notes:

- These APIs are undocumented and may change without notice
- Rate limiting exists - be respectful with request frequency
- Some cloud providers (AWS, DigitalOcean, Heroku) may be blocked
- Always include proper headers to avoid 403 errors

2. API Domains

Domain	Purpose	Format
stats.nba.com/stats/	Primary statistics API	JSON
cdn.nba.com/static/json/liveData/	Real-time game data	JSON
data.nba.net/prod/	Legacy data feeds	JSON
data.nba.net/10s/	Alternative data feeds	JSON
api.nba.net	News and video content	JSON/XML

3. Required Headers

NBA.com blocks requests without proper headers. Always include these:

```
headers = {
  'Host': 'stats.nba.com',
  'User-Agent': 'Mozilla/5.0 (Windows NT 10.0; Win64; x64)...',
  'Accept': 'application/json, text/plain, */*',
  'Accept-Language': 'en-US,en;q=0.9',
  'Referer': 'https://www.nba.com/',
  'Origin': 'https://www.nba.com',
  'x-nba-stats-origin': 'stats',
  'x-nba-stats-token': 'true'
}
```

Tip: The nba_api library handles headers automatically.

4. Common Parameters

League IDs

ID	League
00	NBA
10	WNBA
20	G-League

Season Types

Value	Description
Regular Season	Regular season games
Playoffs	Playoff games
Pre Season	Preseason games
All Star	All-Star events

Per Mode Options

Value	Description
Totals	Cumulative totals
PerGame	Per-game averages
Per36	Per 36 minutes
Per48	Per 48 minutes
Per100Possessions	Per 100 possessions

Game ID Format

10-digit identifier: **00** + season type + season year (2 digits) + game number (5 digits)

Example: 0022400123 = Regular season (2), 2024-25 season, game 123

Prefix	Type
1	Preseason
2	Regular Season
3	All-Star
4	Playoffs
5	Play-In

5. Player Endpoints

Endpoint	Description	Key Parameters
commonplayerinfo	Basic player biography	PlayerID
playercareerstats	Career statistics by season	PlayerID, PerMode
playergamelog	Game-by-game stats	PlayerID, Season
playerawards	Awards and honors	PlayerID
playerdashboardbygeneralsplits	Splits by category	PlayerID, Season
playerdashboardbylastngames	Last N games performance	PlayerID, LastNGames
playerdashboardbyopponent	Stats by opponent	PlayerID, Season
playerdashptpass	Passing statistics	PlayerID, Season
playerdashptreb	Rebounding details	PlayerID, Season
playerdashptshots	Shot tracking details	PlayerID, Season
playerprofilev2	Comprehensive profile	PlayerID
playerfantasyprofile	Fantasy-relevant stats	PlayerID, Season
playervsplayer	Head-to-head comparison	PlayerID, VsPlayerID
shotchartdetail	Shot chart coordinates	PlayerID, Season
playergamelogs	Multiple season game logs	PlayerID, SeasonType
playercompare	Compare multiple players	PlayerIDList

6. Team Endpoints

Endpoint	Description	Key Parameters
teaminfocommon	Basic team information	TeamID
teamdetails	Detailed team info	TeamID
teamgamelog	Team game-by-game	TeamID, Season
teamyearbyyearstats	Historical stats	TeamID
teamroster	Current roster	TeamID, Season
teamdashboardbygeneralsplits	Team splits	TeamID, Season
teamdashboardbyopponent	Stats by opponent	TeamID, Season
teamdashlineups	Lineup statistics	TeamID, Season
teamplayerdashboard	Player stats for team	TeamID, Season
teamplayeronoffdetails	On/off court impact	TeamID, Season
teamdashptpass	Team passing stats	TeamID, Season
franchisehistory	Franchise history	LeagueID
franchiseleaders	All-time team leaders	TeamID

7. Game Endpoints

Endpoint	Description
boxscoretraditionalv2/v3	Traditional box score (pts, reb, ast, etc.)
boxscoreadvancedv2/v3	Advanced box score (ORtg, DRtg, TS%, etc.)
boxscoremiscv2/v3	Misc stats (2nd chance pts, fast break pts)
boxscorescoringv2/v3	Scoring breakdown
boxscoreusagev2/v3	Usage statistics
boxscorefourfactorsv2/v3	Four factors analysis
boxscoreplayertrackv2/v3	Player tracking data
boxscoresummaryv2/v3	Game summary
boxscoredefensivev2	Defensive stats
boxscorematchupsv3	Matchup data
boxscorehustlev2	Hustle stats
playbyplay	Basic play-by-play
playbyplayv2	Detailed play-by-play with player IDs
playbyplayv3	V3 play-by-play with shot locations
gamerotation	Player rotations
winprobabilitypbp	Win probability by play

8. League Endpoints

Endpoint	Description
leaguegamefinder	Find games by criteria (season, team, player)
leaguegamelog	League-wide game logs
leagueleaders	Statistical leaders by category
leaguestandings/v3	Current standings
leaguedashplayerstats	All player stats
leaguedashteamstats	All team stats
leaguedashplayerbiostats	Player biographical stats
leaguedashplayerclutch	Clutch statistics
leaguedashplayerptshot	Player shot tracking
leaguedashptdefend	Defensive tracking
leaguedashlineups	All lineup stats
leaguehustlestatsplayer	Hustle stats
drafthistory	Historical draft data
commonallplayers	All players list

9. Live Data Endpoints

These use the CDN domain (`cdn.nba.com/static/json/liveData/`):

Endpoint	URL Pattern
todaysScoreboard	/scoreboard/todaysScoreboard_00.json
liveBoxscore	/boxscore/boxscore_{GameID}.json
livePlayByPlay	/playbyplay/playbyplay_{GameID}.json

10. Python Examples

Installation

```
pip install nba_api pandas
```

Find Player/Team IDs

```
from nba_api.stats.static import players, teams

# Get all players and find one
all_players = players.get_players()
lebron = [p for p in all_players if p['full_name'] == 'LeBron James'][0]
print(f"LeBron ID: {lebron['id']}") # 2544

# Search by name
matches = players.find_players_by_full_name('curry')

# Get team by abbreviation
warriors = teams.find_team_by_abbreviation('GSW')
```

Player Career Stats

```
from nba_api.stats.endpoints import playercareerstats

career = playercareerstats.PlayerCareerStats(player_id='2544')
df = career.get_data_frames()[0]
print(df[['SEASON_ID', 'TEAM_ABBREVIATION', 'GP', 'PTS', 'REB', 'AST']])
```

Game Box Score

```
from nba_api.stats.endpoints import boxscoretraditionalv2

box = boxscoretraditionalv2.BoxScoreTraditionalV2(game_id='0022400123')
player_stats = box.get_data_frames()[0]
team_stats = box.get_data_frames()[1]
```

Live Scoreboard

```
from nba_api.live.nba.endpoints import scoreboard

games = scoreboard.ScoreBoard()
data = games.get_dict()

for game in data['scoreboard']['games']:
    home = game['homeTeam']
    away = game['awayTeam']
    print(f"{away['teamTricode']} {away['score']} @ {home['teamTricode']} {home['score']}")
```

11. Raw URL Examples

Player Stats URLs

```
# Career Stats
https://stats.nba.com/stats/playercareerstats?PlayerID=2544&PerMode=Totals

# Player Info
https://stats.nba.com/stats/commonplayerinfo?PlayerID=2544

# Game Log
https://stats.nba.com/stats/playergamelog?PlayerID=2544&Season=2024-25
    &SeasonType=Regular+Season
```

Game Data URLs

```
# Traditional Box Score
https://stats.nba.com/stats/boxscoretraditionalv2?GameID=0022400123

# Play-by-Play
https://stats.nba.com/stats/playbyplayv2?GameID=0022400123&StartPeriod=0
    &EndPeriod=14

# Game Summary
https://stats.nba.com/stats/boxscoresummaryv2?GameID=0022400123
```

Live Data URLs (CDN)

```
# Today's Scoreboard
https://cdn.nba.com/static/json/liveData/scoreboard/todaysScoreboard_00.json

# Live Box Score
https://cdn.nba.com/static/json/liveData/boxscore/boxscore_0022400123.json

# Live Play-by-Play
https://cdn.nba.com/static/json/liveData/playbyplay/playbyplay_0022400123.json
```

12. Quick Reference Cards

Common Player IDs

Player	ID
LeBron James	2544
Stephen Curry	201939
Kevin Durant	201142
Giannis Antetokounmpo	203507
Nikola Jokic	203999
Luka Doncic	1629029
Joel Embiid	203954
Jayson Tatum	1628369

Common Team IDs

Team	ID
Atlanta Hawks	1610612737
Boston Celtics	1610612738
Brooklyn Nets	1610612751
Chicago Bulls	1610612741
Cleveland Cavaliers	1610612739
Dallas Mavericks	1610612742
Denver Nuggets	1610612743
Golden State Warriors	1610612744
Houston Rockets	1610612745
LA Clippers	1610612746
Los Angeles Lakers	1610612747
Miami Heat	1610612748
Milwaukee Bucks	1610612749
New York Knicks	1610612752
Oklahoma City Thunder	1610612760
Philadelphia 76ers	1610612755
Phoenix Suns	1610612756

13. Troubleshooting

403 Forbidden Error

Cause: Missing or incorrect headers

Solution: Include all required headers, especially Referer and User-Agent. Use `nba_api` which handles headers automatically.

Connection Timeout

Cause: Server rate limiting or slow response

Solution: Add delays between requests (600ms+) and increase timeout to 60 seconds.

Empty Response

Cause: Invalid parameters or no data available

Solution: Verify parameter values. Season format must be '2024-25' not '2024'. Season type must be exact match like 'Regular Season'.

Blocked on Cloud Providers

Cause: NBA blocks many cloud IP ranges (AWS, DigitalOcean, Heroku)

Solution: Use residential proxy or run locally.

Resources

- **nba_api (Python):** https://github.com/swar/nba_api
- **nba_api PyPI:** https://pypi.org/project/nba_api/
- **NBASense Reference:** <http://nbasense.com/nba-api/>
- **balldontlie.io:** Free alternative API, no auth required

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Note: This documentation is for educational purposes. These are unofficial APIs that may change without notice. Always respect rate limits and NBA's Terms of Service.