



# sportsdataverse :: CHEAT SHEET

The tidyverse-style umbrella for the SportsDataVerse R packages: one `install.packages()` call attach the whole family — [baseballr](#), [cfbfastR](#), [fastRhockey](#), [hoopR](#), [oddsapiR](#), [sportyR](#), [wehoop](#) — sharing common data representations and API design. Python mirror: `sportsdataverse-py`. Page 1 of 2: install, attach behavior, the 7 exported helpers, the member roster.

v0.3.0

R ≥ 4.1.0 · MIT  
r.sportsdataverse.org

## INSTALL

```
# CRAN (stable)
install.packages("sportsdataverse")

# GitHub (dev)
if (!requireNamespace("pak", quietly = TRUE)) {
  install.packages("pak")
}
pak::pak("sportsdataverse/sportsdataverse-R")

# prebuilt from the SDV r-universe
install.packages("sportsdataverse",
  repos = c("https://sportsdataverse.r-universe.dev",
    getOption("repos")))
getOption("repos")))
```

Installing the umbrella pulls every member package (they are hard `Imports` in `DESCRIPTION`), so one install sets up the full family.

## ATTACH BEHAVIOR

```
library(sportsdataverse)
## -- Attaching packages -----
sportsdataverse 0.3.0 --
## v baseballr 1.6.0 v oddsapiR 0.0.3
## v cfbfastR 2.0.0 v sportyR 2.2.3
## ...

.onAttach() attaches every not-yet-loaded core package
(from the same library it was loaded from) and prints a
tidyverse-style banner of names + versions.

# silence the startup banner
options(sportsdataverse.quiet = TRUE)
```

The pipe `%>%` (magrittr) is re-exported, so pipelines work immediately after attach.

## EXPORTED HELPERS (ALL 7)

| Export                                  | Does                                                                                                                             |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <code>sportsdataverse_packages()</code> | member names parsed from <code>Imports</code> (tool pkgs excluded); <code>include_self = TRUE</code>                             |
| <code>get_core_functions()</code>       | vector of the 7 core CRAN package names                                                                                          |
| <code>sportsdataverse_deps()</code>     | data.frame package / cran / local / behind; args <code>recursive</code> , <code>pkg_list</code> , <code>repos</code>             |
| <code>sportsdataverse_update()</code>   | checks for out-of-date members, prints the <code>install.packages()</code> to run; <code>devel = TRUE</code> uses the r-universe |
| <code>sportsdataverse_sitrep()</code>   | situation report: R + RStudio versions, core vs non-core package versions                                                        |
| <code>sportsdataverse_logo()</code>     | ASCII package logo ( <code>unicode</code> arg)                                                                                   |
| <code>%&gt;%</code>                     | magrittr pipe re-export                                                                                                          |

## KEEP IT CURRENT

```
sportsdataverse_update()
# devel builds without GitHub/compilation:
sportsdataverse_update(devel = TRUE)

sportsdataverse_sitrep() # debugging
someone's setup
sportsdataverse_deps(recursive = TRUE)
```

Note: there is no `sportsdataverse_conflicts()` — the conflict reporter exists in source but is commented out and not exported (v0.3.0).

## MEMBER PACKAGES

| Package                     | Domain                                                                   | Min ver |
|-----------------------------|--------------------------------------------------------------------------|---------|
| <a href="#">baseballr</a>   | MLB (Stats API, Statcast, FanGraphs, Baseball-Reference) + NCAA baseball | 1.6.0   |
| <a href="#">cfbfastR</a>    | College football: ESPN + CollegeFootballData pbp, EPA/WP                 | 2.0.0   |
| <a href="#">fastRhockey</a> | NHL + PWHL (and PHF archive) hockey                                      | 0.4.0   |
| <a href="#">hoopR</a>       | NBA + men's college basketball (ESPN, NBA Stats, KenPom)                 | 3.0.0   |
| <a href="#">oddsapiR</a>    | Betting odds via The Odds API                                            | 0.0.3   |
| <a href="#">sportyR</a>     | ggplot2 field / court / rink / pitch plots                               | 2.2.3   |
| <a href="#">wehoop</a>      | WNBA + women's college basketball                                        | 2.1.0   |

### pkgdown sites

`cfbfastR` · `hoopR` · `wehoop` · `fastRhockey` · `oddsapiR` · `sportyR` all live at `<pkg>.sportsdataverse.org`; [baseballr](#) at `billpetti.github.io/baseballr`.

Tool dependencies (not attached as "members"): cli, crayon, magrittr, rlang, rstudioapi.

## QUICK START

```
library(sportsdataverse)

# one loader per sport, same shape everywhere
cfb <- load_cfb_pbp(seasons = 2024)
wbb <- load_wbb_pbp(seasons = 2024)
nba <- load_nba_pbp(seasons = 2024)
nhl <- load_nhl_pbp(seasons = 2024)

# current-season helpers
most_recent_mlb_season()
most_recent_nhl_season()

load_*_pbp() loaders read prebuilt parquet/RDS from the
SportsDataVerse data-release repos — no scraping, seasons
in seconds.
```

## API KEYS

```
# in ~/.Renviro (usethis::edit_r_environ())
CFBD_API_KEY = XXXX # cfbfastR / CFBD
ODDS_API_KEY = XXXX # oddsapiR
KP_USER = you@x.com # hoopR / KenPom
KP_PW = XXXX
```

ESPN endpoints and the `load_*` release loaders need no key.

## THE WIDER VERSE

Ecosystem hub: [sportsdataverse.org](#) · GitHub org: [github.com/sportsdataverse](#).  
Mirrors: Python `sportsdataverse-py` (`pip install sportsdataverse`) · Node `sportsdataverse-js`.  
Affiliated R packages (not attached): [usfootballR](#), [recruitR](#), [cfbplotR](#), [cfb4th](#), [mlbplotR](#), [softballR](#), [nwsIR](#) — see page 2.



## FOOTBALL · CFBFASTR

### COLLEGE FOOTBALL

```
pbp <- load_cfb_pbp(seasons = 2024)
sch <- load_cfb_schedules(seasons = 2024)
ros <- load_cfb_rosters(seasons = 2024)
```

Release loaders read `sportsdataverse/cfbfastR-data` — full seasons of EPA/WP-enriched `pbp` with no scraping.

#### Live sources

```
# ESPN (no key)
espn_cfb_pbp(game_id = 401628334)
espn_cfb_calendar(year = 2024)
# CollegeFootballData (CFBD_API_KEY)
cfbd_pbp_data(year = 2024, week = 1)
cfbd_game_info(year = 2024)
cfbd_betting_lines(year = 2024)
cfbd_rankings(year = 2024, week = 5)
```

Ratings: `espn_ratings_fpi()` . Key check:  
`has_cfb_key()` / `cfbd_key()` .

### FOOTBALL FRIENDS (NOT ATTACHED)

[usfootballR](#) (spring leagues) · [recruitR](#) (recruiting) · [cfbplotR](#) / [mlbplotR](#) (logo plotting) · [cfb4th](#) (4th-down decisions) · NFL: the [nflverse](#) family. Linked from the pkgdown "SDV" network menu.

## BASKETBALL · HOOPR + WEHOOP

### HOOPR — NBA + MBB

```
nba <- load_nba_pbp(seasons = 2024)
mbb <- load_mbb_pbp(seasons = 2024)
espn_mbb_pbp(game_id = 401584793)
# NBA Stats API
nba_leaguegame_log(season = "2023-24")
nba_shotchartdetail(player_id = 2544)
# KenPom (subscription; auth via login())
kp_efficiency(min_year = 2024)
kp_fourfactors(min_year = 2024)
```

Season helpers: `most_recent_nba_season()` ,  
`most_recent_mbb_season()` . Basketball-Reference:  
`bref_players_stats()` .

### WEHOOP — WNBA + WBB

```
wnba <- load_wnba_pbp(seasons = 2024)
wbb <- load_wbb_pbp(seasons = 2024)
load_wbb_player_box(seasons = 2024)
espn_wnba_pbp(game_id = 401620440)
wnba_shotchartdetail(player_id = 4433403)
```

Also: `load_wnba_schedule()` , `load_wbb_team_box()` ,  
`most_recent_wnba_season()` . Data: `wehoop-wnba-data` / `wehoop-wbb-data` releases.

## DIAMOND & ICE

### BASEBALLR — MLB + NCAA

```
# Statcast pitch-level search
statcast_search(start_date = "2024-06-01",
                 end_date   = "2024-06-07")
# MLB Stats API
mlb_pbp(game_pk = 745444)
mlb_schedule(season = 2024)
# FanGraphs + college
fg_batter_leaders(startseason = "2024")
ncaa_baseball_pbp(game_pk = 5342336)
```

Loaders: `load_ncaa_baseball_pbp()` · data repo  
`baseballr-data` . Softball sibling: [softballR](#).

### FASTRHOCKEY — NHL + PWHL

```
nhl <- load_nhl_pbp(seasons = 2024)
load_nhl_player_box(seasons = 2024)
espn_nhl_pbp(game_id = 401559593)
# PWHL (and archived PHF)
pwhl_pbp(game_id = 32)
load_pwhl_pbp(seasons = 2024)
```

Shifts + boxscores: `load_nhl_shifts()` ,  
`load_nhl_team_box()` . Data repos: `fastRhockey-data` ,  
`fastRhockey-nhl-data` .

## ODDS · PLOTS · MIRRORS

### ODDSAPIR — BETTING LINES

```
Sys.setenv(ODDS_API_KEY = "XXXX")
toa_sports()              # sport keys
toa_sports_odds(
  sport_key = "basketball_nba",
  regions = "us", markets = "spreads")
toa_event_odds(sport_key, event_id)
toa_requests()            # quota used
```

### SPORTYR — SURFACE PLOTS

```
geom_basketball(league = "NBA")
geom_football(league = "NFL")
geom_hockey(league = "NHL")
# also: baseball, soccer, curling,
# lacrosse, tennis, volleyball
```

`ggplot2` layers — add shot charts / tracking data on top.

### DATA RELEASES & MIRRORS

Loaders read `parquet`/`RDS` from GitHub-release repos:  
`cfbfastR-data` , `hoopR-data` , `wehoop-**-data` ,  
`fastRhockey-**-data` , `baseballr-data` ,  
`sportsdataverse-data` .

Python: `sportsdataverse-py` — polars-first mirror, same  
release data ([py.sportsdataverse.org](#)) . Node:  
`sportsdataverse-js` ([js.sportsdataverse.org](#)) .

Community: [sportsdataverse.org](#) ·  
[github.com/sportsdataverse](#) · [@sportsdataverse](#) .



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v0.3.0

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r.sportsdataverse.org

## INSTALL

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pak::pak("sportsdataverse/sportsdataverse-R")

# prebuilt from the SDV r-universe
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Installing the umbrella pulls every member package (they are hard `Imports` in `DESCRIPTION`), so one install sets up the full family.

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(from the same library it was loaded from) and prints a
tidyverse-style banner of names + versions.

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options(sportsdataverse.quiet = TRUE)

```

The pipe `%>%` (magrittr) is re-exported, so pipelines work immediately after attach.

## EXPORTED HELPERS (ALL 7)

| Export                                   | Does                                                                                                                                                                      |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>sportsdataverse_package_s()</code> | member names parsed from <code>Imports</code> (tool pkgs excluded); <code>include_self = TRUE</code>                                                                      |
| <code>get_core_functions()</code>        | vector of the 7 core CRAN package names                                                                                                                                   |
| <code>sportsdataverse_deps()</code>      | <code>data.frame</code> package / <code>cran</code> / <code>local</code> / <code>behind</code> ; args <code>recursive</code> , <code>pkg_list</code> , <code>repos</code> |
| <code>sportsdataverse_update()</code>    | checks for out-of-date members, prints the <code>install.packages()</code> to run; <code>devel = TRUE</code> uses the r-universe                                          |
| <code>sportsdataverse_sitrep()</code>    | situation report: R + RStudio versions, core vs non-core package versions                                                                                                 |
| <code>sportsdataverse_logo()</code>      | ASCII package logo (unicode <code>arg</code> )                                                                                                                            |
| <code>%&gt;%</code>                      | magrittr pipe re-export                                                                                                                                                   |

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| oddsapiR    | Betting odds via The Odds API                                            | 0.0.3   |
| sportyR     | ggplot2 field / court / rink / pitch plots                               | 2.2.3   |
| wehoop      | WNBA + women's college basketball                                        | 2.1.0   |

### pkgdown sites

cfbfastR · hoopR · wehoop · fastRhockey · oddsapiR · sportyR all live at `<pkg>.sportsdataverse.org`; **baseballr** at `billpetti.github.io/baseballr`.

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load_*_pbp() loaders read prebuilt parquet/RDS from the
SportsDataVerse data-release repos — no scraping, seasons
in seconds.

```

## API KEYS

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CFBD_API_KEY = XXXX # cfbfastR / CFBD
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```

ESPN endpoints and the `load_*` release loaders need no key.

## THE WIDER VERSE

Ecosystem hub: **sportsdataverse.org** · GitHub org: **github.com/sportsdataverse**.  
Mirrors: Python `sportsdataverse-py` (`pip install sportsdataverse`) · Node `sportsdataverse-js`.  
Affiliated R packages (not attached): **usfootballR**, **recruitR**, **cfbplotR**, **cfb4th**, **mlbplotR**, **softballR**, **nwsIR** — see page 2.



FOOTBALL · CFBFASTR

COLLEGE FOOTBALL

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Live sources

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cfbd_game_info(year = 2024)
cfbd_betting_lines(year = 2024)
cfbd_rankings(year = 2024, week = 5)
```

Ratings: `espn_ratings_fpi()`. Key check: `has_cfb_key() / cfbd_key()`.

FOOTBALL FRIENDS (NOT ATTACHED)

`usfootballR` (spring leagues) · `recruitR` (recruiting) · `cfbplotR` / `mlbplotR` (logo plotting) · `cfb4th` (4th-down decisions) · NFL: the `nflverse` family. Linked from the pkgdown "SDV" network menu.

BASKETBALL · HOOPR + WEHOOP

HOOPR — NBA + MBB

```
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mbb <- load_mbb_pbp(seasons = 2024)
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# NBA Stats API
nba_leaguegame_log(season = "2023-24")
nba_shotchartdetail(player_id = 2544)
# KenPom (subscription; auth via login())
kp_efficiency(min_year = 2024)
kp_fourfactors(min_year = 2024)
```

Season helpers: `most_recent_nba_season()`, `most_recent_mbb_season()`. Basketball-Reference: `bref_players_stats()`.

WEHOOP — WNBA + WBB

```
wnba <- load_wnba_pbp(seasons = 2024)
wbb <- load_wbb_pbp(seasons = 2024)
load_wbb_player_box(seasons = 2024)
espn_wnba_pbp(game_id = 401620440)
wnba_shotchartdetail(player_id = 4433403)
```

Also: `load_wnba_schedule()`, `load_wbb_team_box()`, `most_recent_wnba_season()`. Data: `wehoop-wnba-data` / `wehoop-wbb-data` releases.

DIAMOND & ICE

BASEBALLR — MLB + NCAA

```
# Statcast pitch-level search
statcast_search(start_date = "2024-06-01",
                 end_date   = "2024-06-07")
# MLB Stats API
mlb_pbp(game_pk = 745444)
mlb_schedule(season = 2024)
# FanGraphs + college
fg_batter_leaders(startseason = "2024")
ncaa_baseball_pbp(game_pk = 5342336)
```

Loaders: `load_ncaa_baseball_pbp()` · data repo `baseballr-data`. Softball sibling: `softballR`.

FASTRHOCKEY — NHL + PWHL

```
nhl <- load_nhl_pbp(seasons = 2024)
load_nhl_player_box(seasons = 2024)
espn_nhl_pbp(game_id = 401559593)
# PWHL (and archived PHF)
pwhl_pbp(game_id = 32)
load_pwhl_pbp(seasons = 2024)
```

Shifts + boxscores: `load_nhl_shifts()`, `load_nhl_team_box()`. Data repos: `fastRhockey-data`, `fastRhockey-nhl-data`.

ODDS · PLOTS · MIRRORS

ODDSAPIR — BETTING LINES

```
Sys.setenv(ODDS_API_KEY = "XXXX")
toa_sports()              # sport keys
toa_sports_odds(
  sport_key = "basketball_nba",
  regions = "us", markets = "spreads")
toa_event_odds(sport_key, event_id)
toa_requests()            # quota used
```

SPORTYR — SURFACE PLOTS

```
geom_basketball(league = "NBA")
geom_football(league = "NFL")
geom_hockey(league = "NHL")
# also: baseball, soccer, curling,
# lacrosse, tennis, volleyball
```

`ggplot2` layers — add shot charts / tracking data on top.

DATA RELEASES & MIRRORS

Loaders read `parquet`/`RDS` from GitHub-release repos: `cfbfastR-data`, `hoopR-data`, `wehoop*-data`, `fastRhockey*-data`, `baseballr-data`, `sportsdataverse-data`.

Python: `sportsdataverse-py` — `polars`-first mirror, same release data (`py.sportsdataverse.org`). Node: `sportsdataverse-js` (`js.sportsdataverse.org`).

Community: `sportsdataverse.org` · `github.com/sportsdataverse` · `@sportsdataverse`.