Magic: The Gathering Database Schema Overview

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Contents

1 Overall Structure

A CARD can be in more than one set. CARDs are identified by their name and the SET they are printed in. FORMATs have a list of allowed SETs. CARDs can be Restricted in a FORMAT (limited to 1 copy) or Banned in a FORMAT. SETs contain CARDs.

2 Entities

2.1 FORMAT

FORMATs have names that identify them. A FORMAT is a game type with a set of rules and a list of allowed SETs. FORMATs also have a list of restricted cards and banned cards. Entire sets are not necessarily illegal as a whole because cards in a set that is not allowed may show up in a set that is allowed. FORMATs have a predetermined deck size. FORMATs have a maximum number of players per game (can be ∞).

2.2 SET

A SET has a unique number, name, and the year it was released.

2.3 CARD

A CARD has a name but could be in multiple SETs so the SET name is used in conjunction to make a unique CARD identification. CARD cost is NA$\star$ where $N \in \mathbb{Z}_{\geq 0}$ and $A \in B, U, R, G, W$ for black, blue, red, green, white and $\star$ is zero or more. Converted cost is a calculated attribute and is the numerical count of the colorless cost plus color cost. Super type can be Legendary, Snow, or other super types. CARD text can may extra information about the card and its abilities. A card is associated with a color, (including colorless) but may not have a casting cost (e.g. Swamp).

2.3.1 Type: Creature

A CREATURE has the attributes of power and toughness. A CREATURE can have subtypes, e.g., Merfolk or Slivers.

2.3.2 Type: Planeswalker

PLANESWALKERs have subtype, e.g., Ajani or Angrath. PLANESWALKERs have the unique attribute of Loyalty.

2.3.3 Type: Land

All LANDs inherit from CARD. Color identity can be one or more of the five colors (RUBWG) or colorless, e.g. Mountains would be associated with R. LANDs have a subtype, e.g. Gate or "Swamp Mountain" (Badlands, a true dual land). LANDs may be basic or non-basic, each has a set of subtypes associated with it.

3 Relationships

3.1 CONTAINS

SETs must Contain CARDs. CARDs must be a part of some SET, and could be in more that one.

3.2 DOUBLE_CARD

3.3 IS_ALLOWED

One or more SETs can be allowed in gameplay in one or more FORMATs.

3.4 LIMITATION

A FORMAT can limit the CARDs used by restricting them, banning them, or deeming them illegal to use. Restricted means only one copy of any nonbasic land CARD allowed in a deck. A banned CARD is where the CARD is contained in an allowed SET, but is not allowed in gameplay. An illegal CARD is one that is not allowed for other reasons such as being in a SET that is not allowed in the FORMAT.

3.5 SUBTYPE

4 Lists of Type Instances

4.1 Supertype

- Basic
- Host
- Legendary
- Snow
- World

4.2 Artifact

- Clue
- Contraption
- Equipment
- Food
- Fortification
- Gold
- Key
- Treasure
- Vehicle

4.3 Creature

- Advisor
- Aetherborn
- Ally
- Angel
- Antelope
- Ape
- Archer
- Archon
- Army
- Artificer
- Assassin
- Assembly-Worker
- Atog
- Aurochs
- Avatar
- Azra
- Badger
- Barbarian
- Basilisk
- Bat
- Bear
- Beast
- Beeble
- Berserker
- Bird
- Blinkmoth
- Boar
- Bringer
- Brushwagg
- Camarid
- Camel
- Caribou
- Carrier
- Cat
- Centaur
- Cephalid
- Chimera
- Citizen
- Cleric
- Cockatrice
- Construct
- Coward
- Crab
- Crocodile
- Cyclops
- Dauthi
- Demigod
- Demon
- Deserter
- Devil
- Dinosaur
- Djinn
- Dragon
- Drake
- Dreadnought
- Drone
- Druid
- Dryad
- Dwarf
- Efreet
- Egg
- Elder
- Eldrazi
- Elemental
- Elephant
- Elf
- Elk
- Eye
- Faerie
- Ferret
- Fish
- Flagbearer
- Fox
- Frog
- Fungus
- Gargoyle
- Germ
- Giant
- Gnome
- Goat
- Goblin
- God

- Golem
- Gorgon
- Graveborn
- Gremlin
- Griffin
- Hag
- Harpy
- Hellion
- Hippo
- Hippogriff
- Homarid
- Homunculus
- Horror
- Horse
- Hound
- Human
- Hydra
- Hyena
- Illusion
- Imp
- Incarnation
- Insect
- Jackal
- Jellyfish
- Juggernaut
- Kavu
- Kirin
- Kithkin
- Knight
- Kobold
- Kor
- Kraken
- Lamia
- Lammasu
- Leech
- Leviathan
- Lhurgoyf
- Licid
- Lizard
- Manticore
- Masticore
- Mercenary
- Merfolk
- Metathran
- Minion
- Minotaur
- Mole
- Monger
- Mongoose
- Monk
- Monkey
- Moonfolk
- Mouse
- Mutant
- Myr
- Mystic
- Naga
- Nautilus
- Nephilim
- Nightmare
- Nightstalker
- Ninja
- Noble
- Noggle
- Nomad
- Nymph
- Octopus
- Ogre
- Ooze
- Orb
- Orc
- Orgg
- Ouphe
- Ox
- Oyster
- Pangolin
- Peasant
- Pegasus
- Pentavite
- Pest
- Phelddagrif
- Phoenix
- Pilot
- Pincher
- Pirate
- Plant

- Praetor
- Prism
- Processor
- Rabbit
- Rat
- Rebel
- Reflection
- Rhino
- Rigger
- Rogue
- Sable
- Salamander
- Samurai
- Sand
- Saproling
- Satyr
- Scarecrow
- Scion
- Scorpion
- Scout
- Sculpture
- Serf
- Serpent
- Servo
- Shade
- Shaman
- Shapeshifter
- Sheep
- Siren
- Skeleton
- Slith
- Sliver
- Slug
- Snake
- Soldier
- Soltari
- Spawn
- Specter
- Spellshaper
- Sphinx
- Spider
- Spike
- Spirit
- Splinter
- Sponge
- Squid
- Squirrel
- Starfish
- Surrakar
- Survivor
- Tentacle
- Tetravite
- Thalakos
- Thopter
- Thrull
- Treefolk
- Trilobite
- Triskelavite
- Troll
- Turtle
- Unicorn
- Vampire
- Vedalken
- Viashino
- Volver
- Wall
- Warlock
- Warrior
- Weird
- Werewolf
- Whale
- Wizard
- Wolf
- Wolverine
- Wombat
- Worm
- Wraith
- Wurm
- Yeti
- Zombie
- Zubera

4.4 Enchantment

- Aura
- Carouche
- Curse
- Saga
- Shrine

4.5 Land

4.5.1 Basic

- Plains
- Island
- Swamp
- Mountain
- Forest

4.5.2 Non-Basic

- Desert
- Gate
- Lair
- Locus
- Urza's
- Mine
- Power-Plant
- Tower

4.6 Planeswalker

- Ajani
- Aminatou
- Angrath
- Arlinn
- Ashiok
- Bolas
- Chandra
- Dack
- Daretti
- Davriel
- Domri
- Dovin
- Elspeth
- Estrid
- Freyalise
- Garruk
- Gideon
- Huatli
- Jace
- Jaya
- Karn
- Kasmina
- Kaya
- Kiora
- Koth
- Liliana
- Nahiri
- Narset
- Nissa
- Nixilis
- Oko
- Ral
- Rowan
- Saheeli
- Samut
- Sarkhan
- Serra
- Sorin
- Tamiyo
- Teferi
- Teyo
- Tezzeret

- Tibalt
- Ugin
- Venser
- Vivien

- Vraska
- Will
- Windgrace
- Wrenn

- Xenagos
- Yanggu
- Yanling

4.7 Instant

- Adventure
- Arcane
- Trap

4.8 Sorcery

- Adventure
- Arcane