

# Index

- 0-Artin stack, 130
- 0-quasi-separated, 132
- 1-Cartesian fibration, 468
- 1-coCartesian fibration, 470
- 1-full subcategory, 19, 439
- 1-fully faithful, 19, 438
- 1-replete, 19, 439
- 2 out of 3 property, 335
- 2-Cartesian fibration, 465
- 2-Cartesian morphism, 465
- 2-categorical Yoneda functor, 488
- 2-coCartesian fibration, 470
- 2-full subcategory, 439
- 2-fully faithful, 439
- 2-replete, 439
  
- active, 442
- adjoint functor, 25
- Adjoint Functor Theorem, 32
- admits a left adjoint, 500
- admits a right adjoint, 500
- affine schematic, 100
- affine scheme, 100
- almost of finite type, 106
- anti-clockwise reversible, 457
- Artin stack, 131
- associative algebra, 37
- (smooth) atlas, 131
  
- Barr-Beck-Lurie theorem, 44
- base change morphism, 152
- Beck-Chevalley condition, 208
- bi-Cartesian fibration, 507
- bi-Cartesian fibration, 25
- bivariant extension, 354
- bounded above, 13
- bounded below, 13
  
- Cartesian fibration, 20
- Cartesian fibration in spaces, 20
- Cartesian morphism, 20
- Cartesian symmetric monoidal structure, 38
- category of correspondences, 296
  
- category of morphisms, 438
- category-object, 237
- Čech nerve, 112
- classical affine scheme, 101
- classical prestack, 102
- classical stacks, 116
- closed embedding, 196
- closure, 220
- cluster, 314
- co-tensor product, 86
- co-unit, 45
- coCartesian fibration, 20
- coCartesian fibration in spaces, 20
- coCartesian morphism, 20
- coCartesian symmetric monoidal structure, 39
- coconnective object, 13
- cofinal, 29
- colimit, 27
- commutative algebra, 38
- commutative monoid, 39
- compact object, 65
- compact relative to  $\mathbf{A}$ , 79
- compactly generated, 65
- complete Segal space, 432
- connective commutative DG algebra over  $k$ , 100
- connective object, 13
- conservative, 19
- continuous functor, 52
- contractible, 28
- contractible functor, 30
- convergent prestack, 103
- convolution, 239
- correspondence, 297
- covering, 111
  
- derived  $\infty$ -category, 87
- descent, 112
- DG category, 90
- Dold-Kan, 89
- double category, 455
- double Segal space, 317
- dualizable cocomplete stable category, 61

- dualization, 394
- equivalence, 17
- étale, 110
- étale equivalence, 112
- étale morphism, 130
- eventually coconnective, 13, 101
- eventually coconnective morphism, 187
- eventually coconnective prestack, 102
- eventually connective, 13
- exact functor, 51
- filtered  $\infty$ -category, 11
- finite type, 104
- flat map, 110
- flat morphism, 130
- full subcategory, 18
- full subspace, 19
- fully faithful, 18, 438
- generating objects, 55
- geometric realization, 27
- Gray product, 444
- Grothendieck construction, 22
- h-topology, 229
- heart of the t-structure, 13
- homotopy category, 17
- horizontal extension, 382
- idle, 391, 442
- ind-completion, 65
- inducing the module structure, 41
- inert, 391, 442
- invertible angle, 456
- isomorphism, 17
- $k'$ -quasi-separated, 132
- $k$ -Artin stack, 131
- $k$ -Artin stacks locally almost of finite type, 139
- $k$ -representable, 131
- $k$ -truncated, 109
- Kan extension, 27
- lax (symmetric) monoidal natural transformation, 393
- left adjoint, 25
- left adjoint 1-morphism, 499
- left adjointable functor, 500
- left Beck-Chevalley condition, 319
- left complete t-structure, 60
- left dual, 45
- left fibration, 20
- left-dualizable, 45
- left-lax functor, 443
- left-lax monoidal functor, 37
- limit, 27
- localization on 1-morphisms, 494
- locally 2-Cartesian fibration, 475
- locally almost of finite type, 106
- locally of finite type, 105
- Lurie tensor product, 57
- mapping space, 17
- monad, 43
- monad acting on  $s$ , 407
- monadic, 44
- monoid, 39
- monoidal  $(\infty, 1)$ -category, 35
- monomorphism, 18
- $n$ -coconnective, 101
- $n$ -coconnective scheme, 126
- $n$ -coconnective stack, 116
- $n$ -coconnective stacks locally of finite type, 118
- $n$ -coconnective prestack, 102
- nil-isomorphism, 202
- non-unital left-lax functor, 443
- non-unital right-lax functor, 443
- objects of an  $(\infty, 2)$ -category, 438
- open embedding, 110
- ordinary  $(\infty, 2)$ -category, 438
- partially defined left adjoint, 26
- partially defined right adjoint, 26
- passable stack, 162
- passage to adjoint 1-morphisms, 501
- passing to left adjoints, 31
- passing to right adjoints, 31
- perfect prestack, 165
- ppf, 110
- ppf morphism, 130
- prestack, 100
- projection formula, 159
- proper morphism, 196
- quasi-affine, 160
- quasi-compact, 122
- quasi-compact Artin stack, 132
- quasi-invertible 1-morphism, 493
- quasi-separated, 132
- relative inner Hom, 42
- restricting the module structure, 41
- reversed multiplication, 36
- reversible double category, 457
- right  $\mathcal{A}$ -modules, 42
- right adjoint, 25
- right adjoint 1-morphism, 499
- right adjointable functor, 500
- right Beck-Chevalley condition, 320
- right complete t-structure, 60
- right dual, 45
- right fibration, 20
- right Kan extension, 402
- right-dualizable, 45
- right-lax functor, 443

- right-lax monoidal functor, 37
- right-lax natural transformations, 445
- right-lax slice category, 485
- rigid monoidal category, 80
  
- schematic, 129
- schematic quasi-affine, 160
- scheme, 122
- Segal object, 237
- Serre duality, 235
- sheafification, 113
- sifted  $\infty$ -category, 11
- smooth, 110
- smooth morphism, 130
- sphere spectrum, 59
- stabilization, 59
- stable  $(\infty, 1)$ -category, 50
- stable monoidal categories, 72
- stable symmetric monoidal categories, 72
- stack, 112
- straightening, 22
- surjective map of schemes, 130
- symmetric monoidal  $(\infty, 2)$ -category, 393
- symmetric monoidal  $(\infty, 1)$ -category, 38
  
- t-structure, 13
- tensor product of modules, 48
- totalization, 27
- truncation functor, 13
- twisted arrow category, 398
  
- unit, 45
- unstraightening, 22
  
- Yoneda functor, 23
  
- Zariski morphism, 110, 130