# Migrating from spaCy 2.2.4 to the latest version of spaCy

1. **Change the requirements.txt file.**
   1. spaCy==3.5.4 (the latest one from the official page)
   2. Conflict in package dependencies between the spacy package (version 3.5.4) and the thinc package (version 7.4.5). The conflict arises because spacy version 3.5.4 requires thinc version to be less than 8.2.0 but greater than or equal to 8.1.8, while in requirement file is explicitly specified thinc==7.4.5.
      1. thinc>=7.4.5,<8.2.0
   3. numpy>=1.22.0
   4. plac>=0.9.6,<1.2.0
   5. tqdm>=4.38.0,<5.0.0
   6. affine==2.4.0
2. **train\_descriptions.py**
   1. zero\_init and create\_default\_optimizer functions are not imported from spacy.\_ml

OLD CODE: from spacy.\_ml import zero\_init, create\_default\_optimizer

* + 1. NEW: from spacy.initializer import zero\_init
    2. NEW: from spacy.training.optimizer import create\_default\_optimizer
    3. the zero\_init function is not directly available in spacy.\_ml. Instead, you can use the init\_zero function from thinc.api to initialize the parameters of a neural network layer with zero values.
       1. NEW implementation: from thinc.api import Affine, init\_zero

affine\_layer = Affine(orig\_width, hidden\_width, init\_W=init\_zero, init\_b=init\_zero)

* 1. the get\_cossim\_loss function is not imported from spacy.cli.pretrain. Instead, it has been moved to spacy.losses
     1. OLD: from spacy.cli.pretrain import get\_cossim\_loss
     2. NEW: from spacy.losses import get\_cossim\_loss

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| OLD | NEW |
| from spacy.\_ml import zero\_init | from spacy.initializer import zero\_init |
| from spacy.\_ml import create\_default\_optimizer | from spacy.training.optimizer import create\_default\_optimizer |
| from spacy.cli.pretrain import get\_cossim\_loss | from spacy.losses import get\_cossim\_loss |
| from thinc.v2v import Model | from thinc.model import Model |
| from thinc.neural.\_classes.affine import Affine | from thinc.layers import Affine – not work correctly |
|  | from affine import Affine |
|  | from thinc.api import chain |

1. **wikipedia\_processor.py**

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| OLD | NEW |
| from spacy.gold import GoldParse | from spacy.training.example import Example |