Examples Given a set S

The set of all subsets of S, $\mathcal{P}(\mathcal{S})$, is a σ-field

The set $\{\emptyset, S\}$ is a σ-field

If S is countable, the σ-field generated by the singletons is $\mathcal{P}(\mathcal{S})$

If S is uncountable, the σ-field generated by the singletons is the set of all countable and cocountable elements of $\mathcal{P}(\mathcal{S})$