In On-The-Fly service markets, OTF providers use service matching, in order to perform service discovery and service composition. For matching, an OTF provider translates the specifications of providers' services and requesters' requirements into her own specification language, in order to check their compliance using matchers. The success of an OTF provider depends on the configuration of her language and her matchers because they influence such important properties like the accuracy and runtime of service matching. Our fully automated approach Lm OPtimizer supports the OTF providers to find an optimal configuration of a language and its matchers for a given service market. The approach is based on configuration properties, which formalize the properties of a service market, and configuration rules, which contain the configuration logic depending on a certain setting of configuration properties. Thus, our approach allows OTF providers to obtain the best possible results in service matching and, thus, improve the service discovery and composition.