local compactness is hereditary for locally closed subspaces

Canonical name	LocalCompactnessIsHereditaryForLocallyClosedSubspaces
Date of creation	2013-03-22 17:36:33
Last modified on	2013-03-22 17:36:33
Owner	asteroid (17536)
Last modified by	asteroid (17536)
Numerical id	5
Author	asteroid (17536)
Entry type	Theorem
Classification	msc 54D45
Related topic	LocallyCompactHausdorffSpace

Theorem - Let X be a locally compact space and $Y \subseteq X$ a subspace. If Y is locally closed in X then Y is also locally compact.

The converse of this theorem is also true with the additional assumption that X is Hausdorff.

Theorem 2 - Let X be a http://planetmath.org/LocallyCompactHausdorffSpacelocally compact Hausdorff space and $Y \subseteq X$ a subspace. If Y is locally compact then Y is locally closed in X.