

RPG Weapons

Version 1.0.0 · Unity 6 · URP · documentation

In the box: 73 weapons in 9 families (the bows come with their arrows), each with 3 LODs, sockets and a grip preset · runtime scripts that put any weapon in any Humanoid's hand correctly (fist, fingers, the other hand on two-handed grips), draw the bows and reload the crossbow · a showcase scene.
No animations and no character are included: `WeaponHolder` works with the Humanoid animations you already use.

1. Quick start

1. Open `RPGWeapons/Demo/RPGWeapons_Showcase` to see every weapon.
2. Drag a prefab into a scene, or parent it to a hand bone - the pivot is at the grip.
3. On a Humanoid character: add `WeaponHolder`, drag a weapon prefab into *Weapon* (shields and bows: a second `WeaponHolder` with *Hand = Left*). It closes the fist and fingers on the grip in whatever pose your animation is in. Tick **IK Pass** on your Animator Controller's base layer (`WeaponHolder` tells you if it is off).

2. The weapons

Modelled by our own procedural weapon generator: low-poly stylised, painted-look albedo textures (1024 or 2048 px, plus an emission map on the glowing ones), one URP Lit material per weapon, LOD Group with three levels (LOD1 = 50 %, LOD2 = 25 % of LOD0). LOD0: 208-13454 triangles (median 4638). Real-world size (1 unit = 1 m).

Pivot: every weapon's pivot is at its **grip** (where the hand closes) - parent it to a hand bone and it sits in the hand. Three empty child transforms help with the rest: `Socket_Grip` (the hand), `Socket_Tip` (the striking end - for trails and hit tests), `Socket_Back` (where to hang it on the back or hip). Shields: the grip socket is behind the handle.

WeaponGrip (on every prefab): the style it is made for, the hand, and the grip values `WeaponHolder` uses.

Family	Prefab	Tris LOD0	LOD1	LOD2	Textures	Size (m)
Axes	DoubleBitGreatAxe	4638	2318	1158	Albedo 2048	0.46 × 1.38 × 0.05
Axes	DwarvenStarstoneAxe	4378	2188	1094	Albedo 2048, Emission 2048	0.29 × 0.80 × 0.06
Axes	FrostvaleBeardedAxe	4370	2184	1092	Albedo 2048, Emission 2048	0.21 × 0.89 × 0.05
Axes	KnightBattleAxe	4256	2128	1064	Albedo 2048	0.23 × 1.09 × 0.05
Axes	Tomahawk	3990	1994	996	Albedo 1024	0.21 × 0.49 × 0.05
Axes	VillageHatchet	822	410	204	Albedo 1024	0.15 × 0.46 × 0.05
Axes	WoodsmenAxe	3998	1998	998	Albedo 2048	0.22 × 0.84 × 0.05
Blunt	DwarvenStarstoneHammer	4080	2040	1020	Albedo 2048, Emission 2048	0.26 × 0.86 × 0.15
Blunt	Flail	6262	3130	1564	Albedo 2048	0.16 × 0.81 × 0.13
Blunt	FlangedMace	4148	2074	1036	Albedo 2048	0.12 × 0.79 × 0.13
Blunt	Maul	4056	2028	1014	Albedo 2048	0.28 × 1.27 × 0.12
Blunt	Morningstar	4368	2184	1092	Albedo 2048	0.17 × 0.86 × 0.16
Blunt	VillageClub	5016	2508	1254	Albedo 2048	0.11 × 0.69 × 0.11

Blunt	WarHammer	4138	2068	1034	Albedo 2048	$0.27 \times 1.00 \times 0.06$
Daggers	DwarfKnife	7770	3884	1942	Albedo 1024, Emission 1024	$0.09 \times 0.39 \times 0.04$
Daggers	Jambiya	8046	4022	2010	Albedo 1024	$0.11 \times 0.39 \times 0.03$
Daggers	Kris	12110	6054	3026	Albedo 1024	$0.10 \times 0.50 \times 0.03$
Daggers	RondelDagger	6506	3252	1626	Albedo 1024	$0.08 \times 0.47 \times 0.08$
Daggers	Stiletto	7076	3538	1768	Albedo 1024	$0.08 \times 0.37 \times 0.03$
Daggers	ThrowingKnife	7214	3606	1802	Albedo 1024	$0.03 \times 0.27 \times 0.03$
Daggers	VillageDagger	7772	3886	1942	Albedo 1024	$0.11 \times 0.40 \times 0.03$
Magic	ApprenticeStaff	4446	2222	1110	Albedo 2048, Emission 2048	$0.14 \times 1.76 \times 0.15$
Magic	ConcordRingStaff	5402	2700	1350	Albedo 2048	$0.30 \times 1.90 \times 0.07$
Magic	ElvenLivingStaff	5810	2904	1452	Albedo 2048, Emission 2048	$0.20 \times 1.88 \times 0.21$
Magic	FireWand	4166	2082	1040	Albedo 1024	$0.20 \times 0.53 \times 0.03$
Magic	LumenTideStaff	5888	2944	1472	Albedo 2048, Emission 2048	$0.17 \times 1.85 \times 0.17$
Magic	RimeholdFrostStaff	4446	2222	1110	Albedo 2048, Emission 2048	$0.14 \times 1.89 \times 0.15$
Magic	SunforgeSunStaff	4438	2218	1108	Albedo 2048	$0.30 \times 1.77 \times 0.07$
Magic	WaterWand	3890	1944	972	Albedo 2048, Emission 2048	$0.09 \times 0.57 \times 0.10$
Polearms	AldenholdHalberd	3284	1642	820	Albedo 2048	$0.31 \times 2.52 \times 0.05$
Polearms	ElvenLeafGlaive	966	482	240	Albedo 2048, Emission 2048	$0.14 \times 2.46 \times 0.05$
Polearms	FrostvaleBardiche	838	418	208	Albedo 2048, Emission 2048	$0.16 \times 2.11 \times 0.05$
Polearms	KnightLance	4900	2450	1224	Albedo 2048	$0.14 \times 3.03 \times 0.14$
Polearms	KnightWingedSpear	6836	3418	1708	Albedo 2048	$0.19 \times 2.48 \times 0.05$
Polearms	LumenPartisan	922	460	230	Albedo 2048	$0.15 \times 2.60 \times 0.05$
Polearms	MilitiaBillhook	720	360	180	Albedo 2048	$0.15 \times 2.36 \times 0.05$
Polearms	MilitiaSpear	3556	1778	888	Albedo 2048	$0.07 \times 2.38 \times 0.05$
Polearms	MilitiaWarScythe	758	378	188	Albedo 2048	$0.12 \times 2.60 \times 0.05$
Polearms	SeaTrident	1698	848	424	Albedo 2048	$0.27 \times 2.30 \times 0.05$
Ranged	AldenholdCrossbow	2312	1156	578	Albedo 2048	$0.60 \times 0.84 \times 0.13$
Ranged	AldermereLongbow	3756	1878	938	Albedo 2048	$0.11 \times 1.67 \times 0.04$
Ranged	ElvenArrow	208	104	52	Albedo 2048	$0.03 \times 0.83 \times 0.03$
Ranged	ElvenRecurveBow	3756	1878	938	Albedo 2048	$0.27 \times 1.34 \times 0.07$
Ranged	HunterArrow	208	104	52	Albedo 2048	$0.03 \times 0.79 \times 0.03$
Ranged	HunterShortBow	3756	1878	938	Albedo 2048	$0.17 \times 1.12 \times 0.04$
Shields	AldenholdTowerShield	4600	2300	1150	Albedo 2048	$0.49 \times 0.85 \times 0.15$
Shields	AldermereHeaterShield	6624	3312	1656	Albedo 2048	$0.67 \times 0.61 \times 0.21$
Shields	Buckler	9402	4700	2350	Albedo 1024	$0.33 \times 0.33 \times 0.14$
Shields	DwarvenRuneShield	3724	1862	930	Albedo 2048, Emission 2048	$0.58 \times 0.70 \times 0.18$
Shields	ElvenLeafShield	9376	4688	2344	Albedo 2048, Emission 2048	$0.49 \times 0.76 \times 0.17$
Shields	KharunSunShield	10732	5366	2682	Albedo 2048, Emission 2048	$0.65 \times 0.65 \times 0.23$
Shields	KiteShield	5626	2812	1406	Albedo 2048	$0.62 \times 0.90 \times 0.19$
Shields	VillageRoundShield	10106	5052	2526	Albedo 2048	$0.69 \times 0.69 \times 0.21$

Swords	AldenholdGreatsword	7608	3804	1902	Albedo 2048	$0.38 \times 1.63 \times 0.05$
Swords	AldermereFlamberge	13454	6726	3362	Albedo 2048	$0.34 \times 1.47 \times 0.04$
Swords	AldermereKnightLongsword	9082	4540	2270	Albedo 2048	$0.28 \times 1.29 \times 0.04$
Swords	AldermereMilitiaSword	11596	5798	2898	Albedo 2048	$0.18 \times 0.90 \times 0.04$
Swords	ConcordRelicBlade	8210	4104	2052	Albedo 2048, Emission 2048	$0.26 \times 1.17 \times 0.04$
Swords	ElvenLeafSword	8518	4258	2128	Albedo 2048	$0.19 \times 1.02 \times 0.03$
Swords	FrostvaleRuneSword	7822	3910	1954	Albedo 2048, Emission 2048	$0.16 \times 0.98 \times 0.05$
Swords	KharunKilij	8046	4022	2010	Albedo 2048	$0.20 \times 1.00 \times 0.04$
Swords	KharunScimitar	7960	3980	1990	Albedo 2048	$0.20 \times 0.88 \times 0.04$
Swords	LumenDuelistRapier	8704	4352	2176	Albedo 2048	$0.22 \times 1.15 \times 0.05$
Swords	Moonblade	10268	5134	2566	Albedo 2048	$0.09 \times 1.04 \times 0.08$
Swords	RangerSabre	7740	3870	1934	Albedo 2048	$0.19 \times 0.94 \times 0.04$
Swords	SeaCutlass	12868	6434	3216	Albedo 2048	$0.12 \times 0.77 \times 0.04$
Villains	DemonHornStaff	5054	2526	1262	Albedo 2048, Emission 2048	$0.22 \times 1.85 \times 0.07$
Villains	DemonThornBlade	11300	5650	2824	Albedo 2048, Emission 2048	$0.21 \times 1.26 \times 0.04$
Villains	HollowBoneClub	4558	2278	1138	Albedo 2048, Emission 2048	$0.15 \times 0.73 \times 0.15$
Villains	HollowCrystalSpear	722	360	180	Albedo 2048, Emission 2048	$0.18 \times 2.52 \times 0.16$
Villains	HollowRustedCleaver	3446	1722	860	Albedo 2048	$0.12 \times 0.57 \times 0.04$
Villains	UnboundHookedBlade	11508	5754	2876	Albedo 2048, Emission 2048	$0.16 \times 1.17 \times 0.04$
Villains	UnboundReaper	988	494	246	Albedo 2048, Emission 2048	$0.92 \times 2.21 \times 0.05$
Villains	UnboundRitualSickle	3362	1680	840	Albedo 1024, Emission 1024	$0.12 \times 0.44 \times 0.03$
Villains	UnboundSpikedShield	10150	5074	2536	Albedo 2048, Emission 2048	$0.63 \times 0.63 \times 0.25$

3. WeaponHolder, WeaponGrip, BowString, WeaponEvents

Component	What it does
WeaponHolder (on the character)	Equips a weapon in the right or left hand: the grip runs through the closed fist the same way on every Humanoid (it reads the hand in Unity's normalized Humanoid space), the fingers and thumb close on the weapon's real grip every frame, and on two-handed grips the other hand is pulled onto the grip by IK only while the animation brings it there. <code>Equip(prefab)</code> , <code>Unequip()</code> , <code>Held</code> , <code>Bow</code> .
WeaponGrip (on each weapon)	Style, hand, <i>bladeTilt</i> (how the grip crosses the fist: blades 20°, poles 40°, staffs/shields/bows 0°, crossbow 58°) and <i>offHandOffset</i> (where the other hand holds: two-handed -0.13 m, poles 0.42, staffs 0.35, crossbow 0.2). WeaponHolder applies it on Equip (<i>Use Weapon Grip</i>).
BowString (added to bows / the crossbow)	Bows: the string follows the drawing hand's fingers once they hook it and snaps back when they open; the limbs bend; an arrow (<code>WeaponHolder.arrow</code>) rides on the string. Crossbow: <code>Fire()</code> snaps the string forward and hides the bolt; <code>Reload()</code> lets the other hand take the string and pull it back to the nut, where it latches. Or drive <i>draw</i> yourself.
WeaponEvents (added to the character)	Receives your clips' animation events (Hit, Release, Fire, Reload ...) and exposes them as UnityEvents (Inspector) and the C# event <code>Fired</code> ; drives the bow and crossbow strings on Release / Fire / Reload.

4. Pipelines, requirements

- Unity 6 or newer; Universal Render Pipeline (materials are URP Lit). Built-in pipeline: set the materials' shader to *Standard* (albedo + emission only, so nothing is lost).
- WeaponHolder needs a Humanoid avatar on your character; the prefabs alone work anywhere.
- No dependencies, no external packages.

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