What happens if the battery is connected directly to the power supply

What happens if a battery runs off a power supply?
If the device is running off battery, the output voltage of the battery will be increased by circuitry to run the device at the required level, however the voltage of the batteries themselves decreases as they loose power (and this is how the amount of charge left is calculated) When you have a power supply, it needs to provide the correct voltage.

How does a power supply work?
When you have a power supply,it needs to provide the correct voltage. If there is enough current it will run the computer. If there is more current available then the computer requires to run it will charge the battery with the excess,and if it's not enough,the battery will provide power to top up the difference.

How does a battery work?
Between the positive and negative ends of the battery is some kind of wall that prevents the electrons from diffusing, so they have to go the long way (through a wire to the other end of the battery) to diffuse and reach the receiver atoms/molecules.

What happens when a car is on battery power?
The only time you're exclusively on battery power is when the engine is off(or,of course,if the alternator has failed). With the engine running the alternator supplies current that both recharges the battery- or,once it's recharged,maintains the charge - and runs the rest of the stuff on the car.

Is it bad if a laptop battery is fully charged?
This page has a good answer: "it depends" The answer is: YES and NO,it depends on the situation. Having a battery fully charged and the laptop plugged in is not harmful,because as soon as the charge level reaches 100% the battery stops receiving charging energy and this energy is bypassed directly to the power supply system of the laptop.

What happens when a battery reaches 100 volts?
As soon as the battery hits 100% mark,the internal circuit disconnects the power source from sending any other current. The power circuit is designed to detect the upper limit and will cut off the power connection when it reaches the limit. So as soon as the battery is ultimately charged,it stops receiving charging energy.

If we connect a battery with an AC source (say 120V or 230V AC from a wall plug), It may heat up and explode with a boom having risk of serious injuries and hazardous fire.

For that reason, you might intentionally discharge the battery halfway and remove it, to extend its life, but the disadvantage is that it no longer functions as a UPS. A ...

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There"s a tiny deficit of electrons on the battery"s positive side, but once that equalizes (very quickly) there"s now a tiny surplus of electrons on the battery"s negative side. Or in other words the positive side is now at 0 volts and the negative side is now at -5 volts and no current is flowing.

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The circuit bypasses current directly to the power supply system of the laptop. It breaks one of the laptop battery myths that the battery always powers laptops.

Suppose if you are connecting battery of voltage greater than the ac supply voltage, the battery starts discharging until the battery voltage reaches supply voltage. If the battery discharges below the rated voltage,there might be chances of the battery"s lifetime getting decreased.

For that reason, you might intentionally discharge the battery halfway and remove it, to extend its life, but the disadvantage is that it no longer functions as a UPS. A better option would be to find a utility similar to the Samsung Battery Life Extender that would keep the battery at ~50-80% charge.

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When a battery is connected to an AC supply, the direction of the current reverses rapidly. Batteries, which only accept DC input, cannot handle this fluctuating current, leading to several consequences: Chemical Instability: The electrolyte solution within the battery is not equipped to handle alternating currents.

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The battery may discharge to a low voltage and the power supply will charge the battery instead of providing enough power to the inverter. This connection may overcharge the battery in the long run. The system may become unstable due to different voltage levels (due to battery discharge.)

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