CDB20\_Project\_Content   
**Project Title**

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| **Attribution:** | Smart Lock | | |
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| **Project Title**\* | QCA402x Smart Lock | | |
| **Description**\*  *High level description of the project* ***(75 words or less)*** | This demo consists of QCA4020 development kit, Servo motor and iPhone. The servo motor is designed to simulate a smart lock, and users can control it by using the “LightBlue” app on iPhone. | | |
| **Images**  *Upload up to 5 images of your project*  *Please submit/send the original JPEG/PNG files for all images included in the document* | 1536633158(1) 1536635554(1) 1536635578(1) 1536635972 | | |
| **Objective**   * *What inspired you to create this project?* * *What is your desired outcome?* | The main objective of this demo is to create a smart lock using the QCA4020 development board. This is done by using an application on the mobile phone to connect to the QCA4020 via BLE(Bluetooth Low Energy) and control the servo motor. | | |
| **Operation System**\*  (Android, Linux, Windows 10 IoT Core) | Android   Linux   RTOS | | Windows 10 IoT Core   Ubuntu Core |
| **Cloud Services/Platform**  AT&T M2X, AWS IoT, IBM Bluemix, IBM Watson IoT, Such as Microsoft Azure IoT) | Amazon AWS IoT   AT&T M2x   IBM Bluemix | | IBM Watson IoT    Microsoft Azure IoT  Google Cloud Platform |
| **Skill Level Required**  (Beginner, Intermediate, Advanced) | Advanced   Beginner | | Intermediate |
| **Areas of Focus**  (e.g., IoT, smart cities, smart home, robotics, hardware, gaming, healthcare, automotive, digital signage, etc.) | 3D Printing & Modeling   Alexa Voice Service   Bluetooth   Computer Vision   Digital Signage   Education   Embedded    Gaming | | Healthcare   IoT   Robotics   Security   Sensors   Smart Cities   Smart Home   Toys |
| **Materials Required / Parts List / Tools** | Part Name | Link | |
| QCA4020 board | https://www.qualcomm.com/products/qca4020 | |
| Servo motor | https://item.taobao.com/item.htm?spm=a230r.1.14.8.172923fcuRJD08&id=43036911007&ns=1&abbucket=3#detail | |
| Adaptor(5V,3A) | unspecified | |
| iPhone | unspecified | |
| Lightblue | AppStore | |
| **Source Code / Source Examples / Application Executable**  *Link to open source / shareable code repository* | Description | Link | |
| Source code | https://github.com/canyudeguang/Smart\_Lock | |
|  |  | |
| **Additional Resources**  *List related links or resources such as websites, videos, presentations, or other materials* | Resource Title | Link or File Name (and provide file) | |
| Video of “Smart Lock” | <https://pan.baidu.com/s/1vBwFW2ZZ1x-d3NusBmQE9A> Password:x6sa | |
|  |  | |
| **Build / Assembly Instructions** | 1536633158(1) 760866187568094928  Firstly,we should install the jumper of dev board according to the image and sheet above,then make sure the board can power on.  1536633129(1) 911740632802977309  Secondly, Connections between the servo and QCA4020 development board can be seen above. | | |
| **Usage Instructions** | 1.Downloading code from github according to the repository in “Additional resource” sheet  2.Compile the code and flash the image as described in “[Hello world with QCA4020 Development Kit](https://developer.qualcomm.com/project/hello-world-w-qca4020-dev-kit)” project.  3.Power on the QCA4020 via the power button  4.Find the app named “LightBlue” on iPhone and open it, “LightBlue”will search BLE automatically,then please connect the spot named “Ipw-spple-demo”.  5.The service we used is called “UUID:1815”,and we use the fourth characteristic to control the motor.  6.After the steps all above,when we input “FFFF”,the lock will be “open”, and “0000” the lock will be “closed”. | | |
| **Contributor(s) Info**  *Feel free to include headshots!* | Name | Title  Company | |
| Yang | Thundersoft | |
| FeiDing | Thundersoft | |
| Jay | Thundersoft | |